General music articles from Rees Cyclopædia – Final consolidated version
by Dr Charles Burney, John Farey Sr, & John Farey Jr
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The general music articles from Rees’s Cyclopædia (1802–1819) by Dr Charles Burney, John Farey Sr, & John Farey Jr
Edited by A. P. Woolrich 2018

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INTRODUCTION

The publication of a consolidated edition of Burney’s music contributions to the Cyclopædia has only become feasible since the digitisation of both editions of the work in about 2010. It is now possible to easily produce an electronic version of the texts by using the Optical Character Recognition (OCR) facility of the digitised editions.

The American edition was augmented by the addition of American material so the work was expanded by 2 more volumes to make 41. This is noted in the Appendices 1 & 2 of the introduction showing the topics covered by each Volume.

The digital versions used for this project are on the Internet Archive and the Hathi Trust websites. The Internet Archive volumes of the English edition are a hybrid made from scans of volumes in different university libraries:- The University of Toronto, The University of California, The Missouri Botanical Garden. The Hathi Trust volumes of the American edition are scans from a full set in the library of the University of Princeton.

Subsequently, both editions have been offered as paperback reprints by various publishers through Amazon.[1]

The English edition of the Cyclopædia, (printed 1802-1819), used a font with a long S, and various ligatures which can cause problems in the OCR conversion. In particular, the lower case character long S which looks like a lower case F, but with half the crossbar, frequently is OCRd as a regular lower case F, and needs manual correction. Similar problems can be caused by blemishes in the hand-made paper of the original volumes.

The American edition of the Cyclopædia (printed 1806-1820) used a modern font with a regular S and without most of the ligatures, so the OCR version of the Princeton University copy on the Hathi Trust’s web site and used here is very clean, and required little editing. The text of the American edition is virtually identical to the Editor’s personal copy of the English edition. [2]

The following examples compare the two printings. It is the very last music biography in the Cyclopædia, and occurs in Vol 39 (addenda) and Vol 41 (addenda) of the American edition.
WHITE, John, in Biography, a Quaker, at whose shop in Newgate-street ladies were furnished with straw hats. This worthy man was a great collector of ancient rarities, as well as natural productions of the most curious and extraordinary kind; no one of which, however, was more remarkable than the obliging manner with which he allowed them to be viewed by his friends and examined by strangers. Among his old books and MSS. he was in possession of a very scarce and valuable music-book, which once appertained to Dr. Robert Fayrfax, an eminent English composer during the reigns of Henry VII. and Henry VIII.; it was afterwards in the possession of general Fayrfax, and upon his demise became a part of the Thoresby collection, at the sale of which it was purchased by honest John White.

John White English printing OCR – uncorrected
Note the substitution of the lower case F for the lower case long S throughout.

WHITE, John, in Biography, a Quaker, at whose shop in Newgate-street ladies were furnished with straw hats. This worthy man was a great collector of ancient rarities, as well as natural productions of the most curious and extraordinary kind; no one of which, however, was more remarkable than the obliging manner with which he allowed them to be viewed by his friends and examined by strangers. Among his old books and MSS. he was in possession of a very scarce and valuable music-book, which once appertained to Dr. Robert Fayrfax, an eminent English composer during the reigns of Henry VII. and Henry VIII.; it was afterwards in the possession of general Fayrfax, and upon his demise became a part of the Thoresby collection, at the sale of which it was purchased by honest John White.

John White American printing OCR – uncorrected

THE EDITING METHODS

The editing procedure was straightforward but time-consuming. The articles were identified in the online American edition and the OCRd version brought up on the screen. These were copied and pasted into a Text editor – in this case NoteTab Pro, which had the effect of stripping out all the hidden HTML coding of the web-page, leaving it in pure TEXT format. This in turn was copied and pasted into the word processor – Libre Office Writer which enabled the text to be properly formatted and edited with features like italics and bolds. A number of the articles, especially those written by John Farey Sr, include numerical figures, where fractions abound. Libre Office Writer, the word processor program...
used for the project, has the facility to write mathematical notation in the text.

A number of the texts include typeset music examples. These were obtained by saving the original page image as a JPEG, using the art programme, Paint.Net, to crop the page, leaving the music behind, and saving that as a JPEG, ready for inserting (after cleaning up the image) into the text at the appropriate place. A similar procedure was applied to engravings, which were extracted from the music plates and inserted in the texts.

The digitisation of the plates was not of good quality, and in some instances lettering on them could not be read. Should formal publication be contemplated they will need re-digitising to a standard suitable for printing.

Very few special music characters used, such as those indicating sharps and flats and the clefs, ♭, ♮, ♯, ♭♭, ♭♯, ♮♯ are included in desk-top publishing character sets, so they were found using the specialist fonts, discussed below.

The texts here pretty well match the pages of the original in layout. The desk-top publishing typeface used (Palatino Linotype) was chosen because it has a good range of Greek characters. The text is set to A4 format in double column, roughly the same size as the original, Long Primer, equivalent to the present-day 10pt. The original was set justified with frequent use of hyphens but in this version the text has been set flush left.

The spellings are as Burney wrote – achieved for achieved, awkward for awkward, batchelor for bachelor, choiristers for choristers, chuse for choose, cotemporary for contemporary, croud for crowd, demonstration for judgement, shewn for shown, for example.

Burney coined at least one un-recorded portmanteau word – 'catalographers'. This appeared in Vol 29, article QUATUOR Principalia Artis Musicæ, an account of an early MS about music, reputedly by Simon Tunsted, which was then in the Bodleian Library, Oxford. The material had earlier appeared in the General History. [3]

Burney's use of language is fresh to the modern reader – which makes him such an entertaining writer, but his discussion of technical matters can be daunting, particularly for readers with no musical background. In a number of lives of people who had died around the time he was writing he commented on the manner of their passing – indigence, drink or even the Guillotine!

**TYPESETTING GREEK**

Throughout Burney’s general articles and biographies there are occasional words, phrases and even verse in polytonic classical Greek and Hebrew. These have been carefully copied letter by letter with the use of a magnifying glass and a character map program, then pasted into the text. The font used in the original printing has not been identified, but as well as the usual letters and diacritical signs, there are two styles of the lower-case Greek Tau τ, and there was occasional use of contractions which are not in modern fonts.

Greek was simplified in the 20th century, and the Unicode character set used on modern word-processing programs today reflects this. The best range of Greek characters is to be found in font Palatino Linotype, which is the typeface used for this project. It has a range of basic Greek and a large range of extended Greek with the diacritical marks.

**Roman. And Leo Allatius (De Lilibus Ecclesi. Graecorum)** under the title “Octoechus” [octëqê ]; eight tones, tells us they were composed by J. Damascenus. Zarlin goes

The above is from the article GREEK Church, Music of the, from Vol 16, The final character for the word Octoechus does not appear in any Unicode character set for polytonic Greek.

The same applies to the following, where the first character is different.

all that we can discover is, that some of them seem descriptive of gesticulations; such as ἰδεών, which, perhaps, directed the priest to look up, or stretch his hands towards

And also in the following, in the fourth character of the first Greek word

**TRITOPATORIA, τριτοπατορία, in Antiquity, a solemnity in which it was usual to pray for children to the θεοί γένεσιν, or gods of generation, who were sometimes called τριτοπατορείς.**

Ω in the top example is a contraction for ος and € in the middle example is a contraction for ou. Ι in the bottom example is a variant of the lower case Tau, τ. These have been expanded where they occur.
TYPESETTING SPECIAL MUSIC SYMBOLS

There are no music symbols in the Palatino Linotype character set. Instead, the majority have been taken from the Musica and TITUS Cyberbit Basic fonts. As well as the usual characters for sharps, naturals and flats, and the clefs, there are others used to denote specific instructions to the performer on the score about how they are to act, such as $\text{𝄐}$, $\text{𝄑}$, $\text{𝄒}$, $\text{𝄓}$, $\text{𝄔}$, etc.

Rees very rarely italicised the titles of books, operas and pieces of music. Instead, these were indicated by double apostrophes. Titles of some C16 books are in **Black Letter**, however. Rees did italicise many foreign words and it was also used as emphasis in the text body. These conventions have been followed here.

THE MUSIC ARTICLES

These were published serially, but for the convenience of research and editing have been split into two parts, the biographies and the general articles.

THE MUSIC BIOGRAPHIES

There are 801 [update as necessary] music biographies which occupy just under 400,000 words. A few are very long – Gretry 4,562, Handel 6,697 and Metastasio 11,134. A number are less than 100 words, but the bulk are around 100-750 words long. Many are updated versions of the biographies which had appeared in his *General History of Music* (1776-1789) and *Musical Travels* (1771 and 1773). The additional material runs to about 1808 when Burney had finished the writing.

In some articles Burney’s contribution is added at the end of the biography proper, written by another contributor. These are often concluded with a list of sources used, then Burney’s work follows immediately after. This is particularly true of the articles about Royalty and some foreign countries and cities.

THE GENERAL MUSIC ARTICLES

It is wrong to assume that Burney wrote all the Music articles, for Rees included material previously published in the revised edition of Chambers *Cyclopædia* which he had edited 1778-1788. Some of the articles in the first edition of Chambers came from Alexander Malcolm’s *A Treatise on Musick, Speculat-
in the cross references were never submitted by Farey, while those published after the break must have been submitted beforehand. A number emanate from Farey Sr’s Scientific articles; so the reason might be that as Farey had left the project part way through, Rees just dropped them, but left the cross references in.

3) Rees issued the work with varying content, as he updated the sheets, and the articles are not in the volumes I have been working with. But they may well exist in other, unexamined, sets.

When the texts of the biographies were being extracted for editing, it was noted that the Editor’s personal copy lacked a biography of Michael Arne, but it was present in the University of Toronto’s edition, digitised by the Internet Archive. A check of all the music biographies in digitised editions of the early volumes, (in the table below) shows that the sets of the work are not identical for the first three volumes. This problem was not apparent in the General articles, however.

It is reasonable to conclude that Rees made changes to the make-up of the printed sheets of the first few volumes and issued them peace-meal, so that sets of the work can vary. In other words, there is not a definitive printing of the early volumes of the work.

### Missing cross references

<table>
<thead>
<tr>
<th>TITLE</th>
<th>NOTED IN CROSS REFERENCE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vol 2, ANCIENT GREEK MUSIC</td>
<td>Vol 21, LORETTI, VITTORII</td>
<td>Wrong. Should be Vol 12, GREEK MUSIC, ANCIENT</td>
</tr>
<tr>
<td>Vol 2, ARIE A CANTANTE DE CAMARA</td>
<td>Vol 10, COUNTER-POINT</td>
<td></td>
</tr>
<tr>
<td>Vol 3, BASSO PRINCIPALE</td>
<td>Vol 13, EQUAL BEATING</td>
<td>I infer this is Chase, as in hunting calls</td>
</tr>
<tr>
<td>Vol 4, BIEQUAL THIRD</td>
<td>Vol 31 RUSSIAN SECULAR MUSIC</td>
<td></td>
</tr>
<tr>
<td>Vol 7, CHASE</td>
<td>Vol 10 CHANT</td>
<td></td>
</tr>
<tr>
<td>Vol 9, CONTRAPUNTO ALLA MONTE OR AL’IMPRIVISO</td>
<td>Vol 29, REPONSE</td>
<td></td>
</tr>
<tr>
<td>Vol 10, CUZZONI</td>
<td>Vol 21, SANDONI, PIETRO GIUSEPPI</td>
<td></td>
</tr>
<tr>
<td>Vol 16, GREEK SCALE</td>
<td>Vol 16, GREAT SCALE</td>
<td>Mentions the Over-end MS in the Royal Institution which Farey examined on their arrival in 1807</td>
</tr>
<tr>
<td>Vol 16, GREEK SYSTEM</td>
<td>Vol 3, BARYPYCNI</td>
<td></td>
</tr>
<tr>
<td>Vol 17 GUIDONIAN SCALE</td>
<td>Vol 1, A-LA-MI-RE</td>
<td></td>
</tr>
<tr>
<td>Vol 18, HOLDEN’S SYSTEM OF MUSICAL INTERVALS</td>
<td>Vol 19, ISOCHRONOUS PARCELS</td>
<td>An article “Liston’s scale” by Farey Sr was published in Edinburgh Encyclopaedia, Vol 13, pp 41-2</td>
</tr>
<tr>
<td>Vol 21, LISTON’S SCALE OF MUSICAL INTERVALS</td>
<td>Vol 19, INSTRUMENTS, MUSICAL Concluding section by Farey sr</td>
<td></td>
</tr>
<tr>
<td>Vol 22, MAJOR COMMA</td>
<td>Vol 16, GRAVE INTERVALS</td>
<td></td>
</tr>
<tr>
<td>Vol 22, MAJOR SEVENTH</td>
<td>Vol 17, HEPTACHORD</td>
<td></td>
</tr>
<tr>
<td>Vol 22, MAJOR</td>
<td>Vol 17, VARIOUS</td>
<td></td>
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</tbody>
</table>
The Osborne collection has a volume of Burney’s drafts of some of the articles from the first volume. Lonsdale noted that Burney commented about what he was sending Rees;

**Burney sends articles**

<table>
<thead>
<tr>
<th>No of Articles in modern version</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lonsdale p 413: Citing his <em>Cyclopaedia</em> notebook (Osborne): Mid July 1801, ‘First article on ACCOMPANIMENT sent’.</td>
<td></td>
</tr>
</tbody>
</table>
The probable explanation is that Burney included articles from further on in the alphabet and his note ‘articles reformed, augmented and entirely new from A to AD LUBITUM, 25 articles’ is ambiguous. ‘articles reformed, augmented’ clearly relate to articles carried forward from Rees’s edition of Chambers.

As we know, Rees incorporated music topics which had appeared in his edition of Chambers published as a revised and enlarged edition in 1778–1788, with the supplement and improvements incorporated. It was published in London, as a folio of 5 vols., 5010 pages (but not paginated), and 159 plates. Rees claimed to have added more than 4,400 new articles. At the end, he gave an index of articles, classed under 100 heads, numbering about 57,000 and filling 80 pages. The heads, with 39 cross references, were arranged alphabetically. This edition has not yet been digitised and on-line, so there is no easy way of inspecting the index to discover what the music articles were, and assessing what might have been carried over to Burney.

THE OTHER MUSIC ARTICLES

Charles Burney’s articles form only a part of the music articles in Rees’s Cyclopædia. There are over 200 by John Farey, Sr (1766-1826) on the science of music, in particular temperament and tuning. His son John Farey, jr, (1791-1851) wrote about half a dozen technical articles describing musical instruments such as the organ. A major problem in researching and writing about the Fareys is that no archive of personal papers is known to survive. Farey Sr’s widow offered his geological collection (and presumably any records) to the British Museum in 1828 following his death, but they rejected it. His son John suffered a major fire at his residence in December 1844, and it is possible that his father’s papers perished then. Only a tiny handful of the papers of John Jr survived his death in 1852 and are in the possession today of the family in America. The only source today for their work is therefore their publications, such as the articles in the Cyclopædia, and writings in periodicals, and in John Jr’s case the work he did for patentees, which are in the Patent Rolls, and have been published.

JOHN FAREY, SR.

John Farey, Sr (1766-1826) is better known today as a pioneering economic geologist, and as the discoverer of the Farey Numbers used by mathematicians interested in Number Theory. He was born in Woburn, Beds., was a polymath, and was educated at Pullman’s Academy, Halifax, Yorks., where he excelled at mathematics. From 1792 he was land steward to the Duke of Bedford at Woburn Abbey, but moved to London in 1802, where he undertook surveys for landowners wishing to exploit the economic potential of their estates. He became active in musical circles and sang with the Surrey Chapel Society, and on its amalgamation with the newly-formed Choral Fund, became the Secretary and Librarian. He was also involved with the Cecilian Society. Music and musical theory, with its mathematical basis, remained a life-long passion. The first of his publications about music theory ‘On Music’ appeared in the Philosophical Magazine vol 26 (1806) pp 171-6

He was a prolific writer, producing at least 270 letters and articles for periodicals. These covered a wide range of topics, from Agriculture, Astronomy, Coinage and Monetary Policy, Geology, Land surveying, Mathematics, Meteorology, Mineralogy, Mining, Music, etc. He was a contributor to Rees’s Cyclopædia, writing articles on Canals, Geology, Measures, Mineralogy, Music, and Trigonometric Survey. His CANALS article was the first to be published, appearing in Vol 6, 1806. It is the longest individual article in the work being 289 columns (210,000 words), and is an abridgement of a far longer work he was never able to publish. His first article on music was CHORD, vol 7.1806-7. According to Kassler he wrote 35 letters in periodicals about music, in particular on the mathematical basis of it.
After John Farey Sr submitted the articles in Vol 19, 1811, beginning INTERVAL, he fell out with Rees in September of that year, and wrote nothing more the Cyclopaedia. (Monthly Magazine, vol 34, pp 7-8 (1812). Ford and Torrens suggest this was due changes to geological nomenclature which had occurred about this time. From 1807 the Geological Society had urged the use of Wernerian stratigraphical terms, which Farey opposed. This was part of the Neptunist - Vulcanist controversy. Neptunists held that rocks were formed by sedimentary action, whilst Vulcanists held it was through volcanic action.

A few articles by him in music and geology continued to appear in the Cyclopaedia, and it is presumed they were accepted before the falling out. After the falling out Farey sr contributed articles on music to the Edinburgh Encyclopædia instead.

The subject of Farey's work concerned the investigation of musical temperament, defined by Wikipedia as:

"In musical tuning, a temperament is a tuning system that slightly compromises the pure intervals of just intonation to meet other requirements. Most modern Western musical instruments are tuned in the equal temperament system.

"Tempering is the process of altering the size of an interval by making it narrower or wider than pure. ...

Temperament is especially important for keyboard instruments, which typically allow a player to play only the pitches assigned to the various keys, and lack any way to alter pitch of a note in performance. Historically, the use of just intonation, Pythagorean tuning and meantone temperament meant that such instruments could sound "in tune" in one key, or some keys, but would then have more dissonance in other keys.

In practice this meant that in Mean-Tone each octave had 12 keys – C, G, D, A, E, F, #B, and B, #F, #C and #G. Some organs addressed the problem of dissonance by having extra keys – in the eighteenth century at Temple Church, London, there were 14, and at the Foundling Hospital, London, there were 16. Early in the nineteenth century various experiments were made. There were several proposals for alternative tuning schemes, Hawkes, Holden, Earl Stanhope, etc. The Revd Henry Liston (1771-1836) wrote a treatise on temperament and designed a Euharmonic Organ, which allowed the different temperaments to be played. A similar instrument was designed by David Leeschman.(0000-0000), All these appear in Farey Sr's Cyclopaedia articles. Hawkes's organ had 12 keys, but these could be extended to 17 by the use of 6 pedals. Leeschman's had 12 keys, but these could be extended to 24 by pedals. Liston's Euharmonic organ had 24 pipes to the octave and 11 pedals.

John Farey Sr came at the conclusion of what J C. Kassler has called the English school of music theory. According to Burney (Mercer ed 1, p 345 note (l) it was not until the beginning of the C18 that the mathematical basis of string vibration began to be understood. This had begun with the work of J. C. Pepusch, (1666/7-1752), were continued by his pupil, the composer William Boyce, (1711-1779) with whom the organist Marmaduke Overend, (d1790), studied. On Boyce's death, Overend bought his teacher's manuscripts. His own investigations are contained in four manuscript volumes and in 1781 he published lectures on the science of music. Following Overend's death, his manuscript volumes, as well as Boyce's treatise, were bought by John Wall Callcott, (1766-1821) who used these manuscripts as sources for his own manuscript treatise. In 1807 Callcott donated all the manuscripts to the Royal Institution, and from June of that year John Farey Sr mined the MS exhaustively for his work, and today they include Farey's MS notes. The MS were sold in 1972 to the Bodleian Library.

The last half of the C18 and first decade of the C19 is an interesting time for the theory of music, and there was thus an incentive for Rees to feature such innovative material, abounding as it does in mathematical tables and calculations, however difficult it might be to understand for his general reader.

It may be significant that Burney wrote his articles for the Cyclopaedia between 1802 and about 1808. Farey, sr had begun publishing letters and articles about music theory in periodicals from 1806; his first music contribution in the Cyclopaedia was not published until 1807, so it is possible that his work was included by Rees as an afterthought.

Nothing is known about what Burney thought of the inclusion of Farey Sr's material, for no publication records are known to survive, but it is possible
he might have commented on it to his correspondents. However, he did comment dismissively about mathematics and music in his biography of Pepusch. Mercer, 2, 988-989, and reproduced in Rees Cyclopædia, article PEPUSCH, vol 26, 1813-1814.

The sole ambition of Pepusch, during the last years of his life, seems to have been the obtaining the reputation of a profound theorist, perfectly skilled in the music of the ancients; and attaching himself to the mathematician De Moivre and Geo. Lewis Scot, who helped him to calculate ratios, and to construe the Greek writers on music, he bewildered himself and some of his scholars with the Greek genera, scales, diagrams, geometrical, arithmetical, and harmonical proportions, surd quantities, apotomes, lemmas, and every thing concerning ancient harmonics, that was dark, unintelligible, and foreign to common and useful practice.

The article SOUND, Vol 33, 1816, noted:

Dr. Burney, in the discussion of the subject of this article, observes, that inquiries concerning the absolute production and modification of sound belong to physics; whereas a musician only examines sounds comparatively one with the other, and considers their proportions and relation as divided into concords and discords. And it is only in this light, he says, that we shall consider sound in the residue of this article.

JOHN FAREY, JR

John Farey, Jr, (1791-1851), was, like his father, a polymath. He was born in London, and nothing is known about his education, but between 1804-5 he made a systematic study of manufacturing machines in the London area, for which his notebooks survive. He began to contribute articles and drawings to the Cyclopaedia in the latter year. Farey made several hundred drawings for the Cyclopaedia, and wrote a number technical articles on Machinery, Manufac-
tures, Mechanics, Mill, Steam Engine, Water etc. He also contributed articles and drawings to a number of other encyclopaedias of the time.

He went on to make a name as a consulting engineer, and patent specification draughtsman as well as being a witness to a succession of important Parliamentary enquiries. Patent specifications are very precise and highly detailed in the way they describe and illustrate inventions and machines. Farey's descriptions and drawings in the Cyclopaedia are to this standard, for they are keyed to each other, so it possible to discern how device operated by following his words with letters on the engraving.

The first of his Cyclopaedia articles to be definitely identified was his illustrated account of the manufacture of wooden canteens – soldiers’ water bottles – at Smart's sawmills at the Ordnance Wharf, Westminster stairs. This was published in vol 6, article CANTEENS, 18 February 1806, when he was aged 15.

His first music article described the method of pinning the barrels of music boxes, and published in Vol 7, article CHIMES, 19 February 1807 when he was aged 16. Others were descriptions of theatrical machinery, John Isaac Hawkins's CLAVIOLE a finger-keyed viol (vol 14, 1810) and he contributed to the largest of all the music articles, on the ORGAN (Vol 25, 1813), which ran to 21 columns, or almost 15,000 words.
Appendix 1
British Edition
Vol 1) (A – Amarathides) 1802
Vol 2) (Amaranthus – Arteriotomy) 1802/3
Vol 3) (Artery – Battersea) 1803/4
Vol 4) (Battery – Bookbinding) 1804/5
Vol 5) (Book – keeping – Calvart) 1805
Vol 6) (Calvary – Castra) 1806
Vol 7) (Castration – Chronology) 1806/7
Vol 8) (Chronometer – Colliseum) 1807
Vol 9) (Collision – Corne) 1807/8
Vol 10) (Cornea – Czyncass) 1808
Vol 11) (D – Dissimilitude) 1808
Vol 12) (Dissimulation – Eloonan) 1809
Vol 13) (Elocution – Extremities) 1813
Vol 14) (Extrinsic – Food (Part)) 1810
Vol 15) (Food (part) – Generation (Part)) 1810
Vol 16) (Generation (Part) – Gretna Green) 1810/11
Vol 17) (Gretry – Hibe) 1811
Vol 18) (Hibiscus – Increment) 1811
Vol 19) (Increments – Kilmes) 1811
Vol 20) (Kiln – Light) 1812
Vol 21) (Light-house – Machinery (Part) ) 1812
Vol 22) (Machinery (Part)– Mattheson) 1812
Vol 23) (Matthew – Monsoon) 1812/13
Vol 24) (Monster – Newton-in-the-Willows) 1813
Vol 25) (Newtonian Philosophy – Ozunusze) 1813
Vol 26) (P – Perturbaion) 1813/14
Vol 27) (Pertussis – Poetics) 1814
Vol 28) (Poetry – Punjoor) 1814
Vol 29) (Punishment – Repton) 1814
Vol 30) (Republic – Rzemien) 1815
Vol 31) (S – Scotium) 1815
Vol 32) (Scotland – Sindy) 1815/16
Vol 33) (Sines – Starboard) 1816
Vol 34) (Starch – Szydlow) 1816
Vol 35) (T – Teleration) 1817
Vol 36) (Tolerium – Vermelho) 1817
Vol 37) (Vermes – Waterloo) 1817/18
Vol 38) (Water – Wzetin) 1818
Vol 39) (X – Zyotmiers with Addenda) 1818/19
Plates Vol 1) (Agriculture – Astronomy)
Plates Vol 2) (Basso-Relievo – Horology)
Plates Vol 3) Hydraulics – Naval Architecture
Plates Vol 4) Navigation – Writing by Cipher
Plates Vol 5) (Natural History)Plates Vol 6 ) (Atlas)

Appendix 2
American Edition
Vol 1) (A - ALZ)
Vol 2) (AM – ARK)
Vol 3) (ARL, GROSS – BAR)
Vol 4) (BAR – BLA)
Vol 5) (LA – BUN)
Vol 6) (BUN – CAP)
Vol 7) (CAP – CHA)
Vol 8) (CHA – CLA)
Vol 9) (CLA – CON)
Vol 10) (CON – CRA)
Vol 11) (CRA – DEG)
Vol 12) (DEG – DUC)
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AYSSINIAN Music. See MUSIC

ACADEMY, Musical, consists of the managers and directors of the opera.

An academy of this kind, called the Academy of Ancient Music, was established in London in 1710, by several persons of distinction, and other gentlemen, in conjunction with the most eminent masters of the time, with a view to the study and practice of vocal and instrumental harmony. This institution, which had the advantage of a library, consisting of the most celebrated compositions both foreign and domestic, in manuscript and in print, and which was aided by the performances of the gentlemen of the chapel royal, and the choir of St. Paul’s, with the boys belonging to each, continued to flourish for many years. In 1731, a charge of plagiarism brought against Bononcini, a member of the academy, for claiming a madrigal of Lotti of Venice as his own, interrupted the harmony, and threatened the existence of the institution. Dr. Greene, who had introduced the madrigal into the academy, took part with Bononcini, and withdrew from the society, taking with him the boys of St. Paul’s. In 1734, Mr. Gates, another member of the society, and master of the children of the royal chapel, retired in disgust; and it was thus deprived of the assistance which the boys afforded it in singing the soprano parts. From this time the academy became a seminary for the instruction of youth in the principles of music, and the laws of harmony. Dr. Pepusch, who was one of its founders, was active in accomplishing this measure; and by the expedients of educating boys for their purpose, and admitting auditor members, the subsistence of the academy was continued. The royal academy of Music was formed by the principal nobility and gentry of the kingdom for the performance of operas, composed by Mr. Handel, and conducted by him at the theatre in the Haymarket. The subscription amounted to 50,000 l. and the king, besides subscribing 1000 l. allowed the society to assume the title of Royal Academy. It consisted of a governor, deputy governor, and twenty directors. On occasion of a contest between Handel and Senesino, one of the performers, in which the directors took the part of the latter, the academy was dissolved, after having subsisted with reputation for more than nine years.

ACCELERANDO, in Music, is an Italian term for accelerating the time in the middle of a piece of music, as ralentando is for retarding it. This last is a fashionable effect lately introduced in the performance of music, and much abused by the excess and too frequent use of it. The gradual change of measure, when practised in the midst of a regular movement, seldom produces any other effect on common hearers than that of breaking time. Perhaps in a very pathetic and expressive passage, even in an allegro, when very delicately done from real feeling, the effect may be approved; but the imitators of the licences and refinements of great masters disgrace the compositions which they mean to embellish, and disgust their hearers. Daring imitators of the bold modulation of Haydn, and of the rapid running up and down the keys in half notes, as Mozart did in his juvenile days, have deformed melody, and corrupted harmony. These great masters knew when to stop; but their apes think they never can season their productions too highly; and, it is to be feared, that the lovers of simplicity will never be indulged again with plain food, even by those who have no means of gratifying them with luxuries.

Editorial note: The following paragraphs on ACCENT have been extracted from a longer article which discusses the use of accent in prosody and language, and which is clearly not by Burney.

ACCENT is also used in Grammar for a character placed over a syllable, to mark the accent, i.e. to show that it is to be pronounced in a higher or lower tone, and to regulate the inflexions of the voice in reading or in speaking. It is distinguished from emphasis, as the former regard the tone of the voice, the latter the strength of it. For other distinctions between accent and emphasis, see EMPHASIS.

It has been long disputed among the learned, whether accents were originally musical characters, or marks of PROSODY: it is not easy to determine a question concerning which the arguments on both sides are so numerous. But as music, says Dr. Burney, (Hist. of Music, vol. i. p. 13.) had characters different from accents so early as the time of Terpander, to whom the invention is ascribed by the Oxford marbles, which place this event about 670
years before Christ; and as accents for prosody are likewise proved to be of high antiquity there seems to have been no necessity for the ancients to use the one for the other. Mr. West (Pindar, vol. ii. p. 194, 12mo.) maintains, that accents were originally musical notes, set over words, to direct the several tones and inflexions of the voice requisite to give the whole sentence its proper harmony and cadence. The names of the Greek accents, he says, express their musical origin, and correspond exactly to those terms made use of in our modern music; viz. sharp, flat, and a grave, called the turn, and consisting, like the circumflex, of a sharp and a flat note. The Abbé du Bos (Reflex. Crit. c. iii. p. 85.) asserts, that as poets originally set their own verses, they placed for this purpose a figure, or accent, over each syllable. The learned author of “The Origin and Progress of Language,” has also taken pains to prove that the Greek accents were musical notes, invented and accommodated to raise, depress, and suspend the voice, according to a scale of musical proportions.

ACCENT is applied, not very properly, to the characters which mark the quantities of syllables, or the time during which the voice is to dwell upon them. The spurious accents answer to the characters of time in music, as crotchets, quavers, &c. The genuine accents rather answer to the musical notes, sol, fa, &c. Such are the long accent, which shews that the voice is to stop on the vowel, and is expressed thus (˘); and the short accent, which shews that the time of pronunciation ought to be shorter, and is marked thus (‘) Some even rank the hyphen, diastole and apostrophe, among accents.

ACCENT, in Music. In the mechanism of melody, or measured musical notes, musicians have long agreed to regard the first and third notes of a bar, in common time, whether vocal or instrumental, as accented, and the second and fourth notes as unaccented. In triple time, divided into three portions, the first note and last are accented, the second unaccented. But these accents are variously modified; often to produce some comic effect, as wantonly limping to ridicule lameness. If the third note in triple time is accented in serious music, it is always less forcibly marked than the first. In the speech or elocution of the natives of every country, and almost in every province of a country, there is a peculiar tone or tune, by which nice observers discover the residence of the speaker. A native of Scotland, e. g. however carefully educated, and accurate his pronunciation, has a cantilena, a tone of voice, by which an Englishman discovers Ids country. The language that is the most forcibly and frequently accented, is indisputably the best fitted to receive musical tones. When it was said in a conversation with Metastasio on the subject of languages, that the Italian was the best calculated for music of any dialect in Europe, he cried out "é musica stessa" it is music itself. Another Italian (Eximeno) observed, that the conversation of a Roman matron, val un aria, is equal to an air. In setting songs, the structure of the verse regulates the musical accents; and instrumental music is but a succedaneum to vocal. It may be said, therefore, that no music, even for instruments, is so generally pleasing as that which can be sung. The genius of instruments, and abilities of performers, require more notes to display their powers, than a human voice can, with propriety, attempt to execute. In very rapid divisions, ascending or descending the scale in notes of equal length, no regard is had to accents; and, though the execution may be neat and articulate, an Italian, fond of simplicity, would say of it, as of a shake misapplied; non dice niente, it says nothing. Without accent there is no more melody in song, than in the humming of a bee; and without the regular arrangement of long and short syllables, there can be no versification. There are as many different accents in music as in speech, or modes of enforcing or enfeebling the meaning of words. There is a yes that says no, and a no that says yes. There are accents of spirit and accents of violence, of tenderness and of friendship. The voice of a feeling singer can modulate all these shades, or affect the hearer on the side of intellect as well as of sense. Dionysius Halicarn. regards accent as the source of all music. Accents is a poetical name for verse itself.

"Wings on your wings to heav'n her accents bear Such words is heav'n alone is fit to hear."

Passions and affections are the food of vocal music. Dryden's Virgil, past, iii.

"Give to the musician (says Rousseau) as many images and sentiments to express as possible; for the passions sing, the understanding only speaks."

"Accent, according to Holder (Elements of Speech), as in the Greek names and usage seems to
have regarded the tone of the voice; the acute accent raising it in some syllables to a higher, i.e. more acute pitch, or tone, and the grave depressing it lower, and both having some emphasis i.e. more vigorous pronunciation." See Accent in Grammar.

The variety of instrumental expression produced by different manner of bowing the same passage or groups of notes on the violin or violincello, on the flute by the COUP de Langue, on the hautboy by the pressure of the lip, is beyond calculation. Articulation, emphasis, pointed bowing, slurring, tonguing &c. are all technical terms, which will be severally explained, as connected with accent.

ACCIACATURA, in Music, is a term, as it should seem, by the little success of those who have attempted it, difficult to be defined by words, or to be exemplified in notes. It is putting down with any interval the half note below it, and instantly taking off (as if it were red hot) the finger which has struck the lowest of the two notes, continuing the sound of the other note, till the harmony is changed. An organist never puts down a single slow note on his instrument without touching, at the same time, the semitone below, and sometimes keeping it on, or making a beat with the fore-finger, while the thumb remains firm on the principal sound. The term acciacatura, though uncommon, is not new; as it occurs in "l’Armonico Practice al Cembalo," of the eminent opera composer Francisco Gasparini, the master of Dominico Scarlatti, and of the celebrated singer la Faustina: this tract, which is in fact a treatise on accompaniment, was first published at Venice in 1703. The technical term acciacatura is derived from acciacare, to bruise, crush, or jam down. Gasparini compares it to the hasty bite of an insect, that instantly flies away. See pi. i. No. 1. Music; some examples from the 5th edition of this excellent little tract, printed in 1764.

ACCIDENTAL in Music, is an epithet added to such sharps, flat, and naturals as occur not at the clef, and which imply some change of key or modulation different from that the piece began in. In the key of C natural, an accidental C♯, implies the key of D minor; a D♯, the key of E; an F♯, that of G major and g♯, the key of A minor. In a like manner a flat placed before B, implies the key of F major, or D minor &c

ACCOMPANIMENT, something attending or added as a circumstance to another; either by the way of ornament, or for the sake of symmetry, or the like. ACCOMPANIMENT, ACCOMPAGNA-MENTO, ACCOMPAGNATDRA, in Music, implies the instruments that accompany the voice, solo, or concerto, to sustain the principal part, whether vocal or instrumental, as well as to enrich the harmony.

The Crusca Dictionary gives no authority from early writers in Italian, of accompagnamento, accompaniment, being used as a technical term. In the fourth and last acceptance of the verb accompagnare, it is only said, in general, to be a musical term, signifying "to play on an instrument in harmony with the voice:" and this definition appears in no edition anterior to that of 1746.

Italian musical terms have now been adopted by all Europe; yet we are acquainted with no professed musical dictionary in that language. But the words peculiar to the art being taken from the common language of the country where it was first cultivated, they need no explanation to the natives; yet, in other countries which have derived their knowledge, or at least, their taste, from the Italians, these words are become technical, and need a glossary. To write, make, or compose an accompaniment are synonymous terms with musicians, for setting, or adding parts for violins, flutes, or other instruments, to a melody, vocal, or instrumental, in order to be performed with it. In the early operas, the accompaniments were very thin. In the first operas, indeed, none appeared, except in the symphonies and chorusses; but, in process of time, as dramatic music advanced towards perfection, it was found that effects could be produced by the orchestra which were picturesque, coloured sentiments, and augmented aural pleasure. A simple melody, unless performed by a great singer, became insipid. But, though much ingenuity and science appear in a rich and full accompaniment on paper, yet in performance, the composer, and the orchestra frequently abuse their power, and tyrannise over the voice, which they should cherish, and disguise the poetry by complication and noise, which they should help to explain and enforce. And it is a general complaint at the opera, when a cantilena, or vocal part is good, and performed by a singer of the first class, that the accompaniments are too loud1 —trop chargé, say the French, and troppo caricato, cry the Italians.
Accompaniment is likewise another word for thorough-base, by giving in chords the whole harmony on which the melody is built. These chords are expressed by figures over the base, which figures supply the place of a treble part for the right hand on keyed-instruments.

The rules for accompaniment are few, with respect to harmony, but their use depends on judgment and good taste. Some, fond of crowded harmony, think it can never be too loud or full; while others, who prefer a simple and beautiful melody to the most artful combinations of kindred sounds, almost think harmony a grievance. There are who prefer a meagre and monotonous accompaniment in triplets; and others imagine that the voice is best supported by being accompanied in unison. But Rousseau, in enumerating the qualifications of an accompanist, has settled this point: "Whoever undertakes to accompany a song or solo, should be a consummate musician, well skilled in harmony, and the construction of the several parts; should have a nice and cultivated ear, a hand prepared for all difficulties of execution in the base, and modulation into different keys, with a sound judgment and good taste. It is the business of the accompanist on the organ, harpsichord, or pianoforte, to give the pitch to the several instruments, and the time to the whole band; to have always under his hand the note which the singer is about to deliver, in order to correct, if false, and enforce, if feeble; and at the beginning of an air or movement, to mark with energy and precision the several portions of the bar, that the orchestra, if a quick air, may proportion the rapidity to the abilities of the singer; and, whether quick or slow, indicate such a specific motion as suits the genius of the composition, and the design of the composer.

But, above all, whoever is accompanying another to whom the principal melody is assigned, should remember, that he is a servant, an humble attendant on a temporary superior, and should suppress all ambition of shining at the expense of the voice or instrument which he accompanies.

A great player accustomed to be listened to with delight, and applauded with rapture, seldom accompanies well: his fingers itch to be in action, and to call the attention of the audience from the principal performers to himself.

No general rules can be given for accompanying that will be applicable on all occasions. After the harmony is well known, and the hand well exercised, experience, good sense, and propriety must do the rest. Accompaniment, though it require little brilliancy of execution, is the last thing which a practical musician acquires. There is nothing which a singer so much dreads as an ignorant or injudicious accompanist. If ignorant himself, the singer wants assistance; if his taste is refined, and his voice good, all his art and natural powers are destroyed by a clumsy accompaniment.

Nothing but consummate experience, and a familiar acquaintance with all styles, with the best compositions of great masters, and the being able to grasp at a single glance a whole line of a score, and occasionally select the most important passages in the instrumental parts to play with the right hand, instead of the chords, can completely qualify a performer on a keyed-instrument to accompany a good or a bad singer.

Rousseau, though no deep theorist, had a very good taste in music, and excellent views concerning its refinements and effects: and, in his "Letter on French Music," the best piece of criticism on the art, perhaps, that has ever been written, speaking of accompaniment on the harpsichord, he says: "when burletta operas were first performed at Paris, every one was struck at seeing the manager's son, a child of ten years old at most, accompanying the singers, and producing with his little fingers effects so different from those of M. Noblet, the usual performer on the harpsichord, a good harmonist, and exact in giving the full complement to each chord. But what was my surprise in watching the hands of the little man, and observing that he hardly ever gave the whole harmony to the base; but suppressing many of the sounds, and frequently using only two fingers, with one of which he generally played the octave to the base, and with the other the interval most important in the melody! What! says I to myself, has a mutilated harmony more effect than one that is complete? And do our thoroughbase players, by giving the full chords produce only a confused noise, while this child with fewer sounds enforces the melody more, and renders the accompaniment more useful and agreeable? This was a problem which I was unable to solve; but I became more sensible of its import-
ance afterwards, by observing that all the Italians accompany good singers in the same manner as this infant did; and upon the same principle as the composers have their scores thin, often making the tenor play only in octaves above the base, and the second violin in octaves below the first. I remembered that I had read somewhere in Rameau, that every concord had a different character, or power of affecting our sensibility, peculiar to itself; that the effect of the 3d was different from that of the 5th, the 4th from the 6th. In the same manner 3ds and 6ths minor, must produce different affections from those of 3ds and 6ths major. These facts once established, it evidently follows, that even discords and every kind of interval will be included in the rule: an idea which reason confirms, since, when relations are different, the impression cannot be the same."

The reasoning of the citizen of Geneva on this principle is very specious and ingenious. "I see clearly," continues he, "that, by adding concord to concord, injudiciously, though agreeable to the doctrine of chords, by augmenting the harmony, we may weaken and counteract the effect of each sound. If the entire and pure effect of a 5th, be necessary for the expression which I want, I risk the weakening this impression by a 3d sound, which, dividing the 5th into two 3ds of different kinds, though when struck together the harmonical effect is good, yet they may mutually diminish the peculiar effect of each other. In like manner, if the simultaneous impression of the 5th and two 3ds were necessary to my design, I should fail in producing the effect I intended by retrenching either of the 3ds from the chord. This reasoning becomes still more intelligible, applied to discords." "It follows from all this, that, after having well studied the elementary rules of harmony, the musician should not hastily lavish it inconsiderately, nor believe himself a composer because he can crowd the chords with unmeaning notes; but, before he begins to combine sounds, he should apply himself to a much longer and more difficult study: that of the different impressions which the concords, discords, and all the intervals make on the ear of sensibility, and often say to himself, that the great art of a composer consists no less in discerning what sounds occasionally to suppress, than what to admit. It is in studying and turning over incessantly the master-pieces of Italy, for vocal music; (and of Germany for instrumental, he would now have added) that a composer would learn to make this exquisite choice, if Nature has given him sufficient genius and taste to feel its necessity; for the difficulties of the art are only perceived by those who are able to vanquish them; and such will not treat with contempt the vacant lines in a score; but, seeing with what ease a mere Tiro might fill them up, they will suspect, and seek the reasons for this seeming simplicity: so much the more admirable, as it conceals prodigies under a feigned negligence, and that l'arte che tutto fa, nulla si senopre. These seem to me (continues Rousseau) the causes of those surprising effects which the Italian music produces, though much less crowded with harmony than ours, (that is, the old French music) of which the effects are so small and the labour so great. This does not imply that a score should never be full, but that it should be filled with choice and discernment; neither is it to say that to accomplish this, the musician should make all these reflexions; but that he should feel the result. It is his business to have genius and taste to find these effects, and that of the theorist to seek and explain whence they arise."

To accompany recitative on a keyed-instrument, where no regular time is observed, and the singer utters in musical tones, a soliloque or dialogue, under no more restraint, as to measure, than if he were declaiming in common speech, the instrumental accompanier must attentively read the words, and strike the chord firmly which is given to the most accented and energetic part of a verse or period, exactly when it is pronounced by the singer, except at a close or termination of a scene or period, when two chords are given without the voice; one to the base of the 5th of a key, with a sharp 3d, and the other usually to the key note, in whatever key the modulation is carried; but this expectation is often disappointed, except at the close which immediately precedes the air.

We shall pursue the subject of Accompaniment still further, under the articles HARMONY, CHORDS, THOROUGH-BASE, REGLE DE L'OCTAVE, FIGURING A BASE, and RECITATIVE. ACUMEN, οξυτης, in the Ancient Music, was used to signify a sound produced by the intention, or raising of the voice.
Acumen differs from intention, as the effect from the cause. Aristoxen. p. 10, &c. Ed. Meibom.

ACUTE, in Music, is understood of a sound, or tone, which is sharp, shrill or high, in respect of some other: in which sense the word stands opposed to grave. Both these properties of sound depend on the quickness or slowness of the vibrations by which they are produced; and are independent of loudness or force; for a tone may be acute or high, without being loud, and vice versa. There are degrees of acuteness and gravity beyond our powers of appreciation. The warbling of birds is of that kind. No birds but the nightingale and cuckoo produce musical tones which we can imitate or compare with those of our musical instruments. A bullfinch and canary bird can be taught tunes by our flageolets and bird-pipes; but their natural warble is incommensurate with our scale. The grave additional tones in our large pianofortes become the more difficult to tune as they descend. The octave below double C can, with the utmost difficulty, be made to satisfy a nice ear by the most experienced tuner.

Sounds considered as acute and grave, that is, in the relation of gravity and acuteness, constitute what we call tune, the foundation of all harmony.

AD libitum, used in Music, for a piacere, when the principal performer is at liberty to give way to his conceptions, to change the measure from quick to slow, or the contrary, without accompaniment, and to manifest his abilities in effusions of fancy, taste, and brilliant passages. But this privilege is often abused in the length and dulness of these extemporaneous flights, as they are called, though generally prepared at home with great pains and application to very little purpose. None but performers of first-rate abilities should be permitted to obtrude their crude, and often clumsy attempts on the public, interrupting the progress of, perhaps, an elegant or ingenious composition.

ADAGIO, in Music, one of the words used by the Italians to denote a degree or distinction of time. Adagio expresses a slow time; the slowest of any, as some have said, except grave. Used substantively, it signifies a slow movement. Sometimes this word is repeated, as adagio, adagio, to denote a still greater retardation in the time of the music.

Adagio has been said by Rousseau and others to be the slowest degree of time in musical measures, except grave; but we think that exception erroneous. In Corelli’s works and those of his cotemporaries, we find that quavers in adagios, vocal and instrumental, are sung and played as slow as crotchets in grave. An adagio in a song or solo, is generally little more than an outline left to the performers’ abilities to colour: and the performer who is not enabled to interest an audience by the tone of his voice or instrument, and by taste and expression, should never be trusted with slow notes, in the performance of which the smallest defects are so easily discovered; and if not highly embellished, they soon excite languour and disgust in the hearers. The talent of executing an adagio well, in which performers of great powers of execution often fail, is a merit of the highest class which a musician can possess.

ÆOLIUS’S Harp, in music, an instrument so named, from its producing an agreeable harmony, merely by the action of the wind.—It is thus constructed.—Let a box be made of as thin deal as possible, (Plate 1, Music, fig. 1.) of the exact length answering to the width of the window in which it is intended to be placed; five or six inches deep and seven or eight inches wide.

Let there be glued upon it at a a, two pieces of wainscot about half an inch high, and a quarter of an inch thick, to serve as bridges for the strings; and within side, at each end, under b b, glue two pieces of beech, about an inch square, of length equal to the width of the box, which are to sustain the pegs. Into these fix as many pins, such as are used in a harpsichord, as there are to be strings in the instrument, half at one end, and half at the other, at equal distances. It now remains to string it with small catgut, or blue first fiddle-strings, fixing one end to a small brass pin, as at e e (fig. 2.) and twisting the other round the opposite pin at b b.
Editorial note: The above description does not accord with Plate 1. In fact it is No. 19 of the music plates, and there is no figure 2 on it. Later in the account a figure 3 is mentioned, but this not on the plate either. It is probable that Burney copied the description from a published book or article and did not correct it to ensure it matched the drawing prepared for the Cyclopædia.

When these strings are tuned unison, and the instrument placed with the strings outward, in the window to which it is fitted, it will, provided the air blows on that window, give a sound like a distant choir, increasing or decreasing, according to the strength of the wind.

The roses in the middle only represent sound-holes; the thinner the top is, the better will the instrument perform. Mr. Thompson, in a note to his celebrated Ode on this instrument, ascribes the invention of it to Mr. Oswald; whereas it was known to Kircher above a hundred years ago; and the method of constructing and using it is described by him in a book intitled Magia Phonotactica, and Phonurgia.

An improved form of this instrument is represented in Jig. 3. constructed by the late Rev. W. Jones. The strings, instead of being on the outside, are fixed to a sounding-board or belly within a wooden case, and the wind is admitted to them through an horizontal aperture. In this form the instrument is portable, and may be used anywhere in the open air.

Æolus’s harp produces all the harmonies of a single string, divided in harmonical proportion. See HARMONICS. The tension of the strings must not be great; as the air, if gentle, has not sufficient power to make them vibrate; and, if it blows fresh, the instrument does not sing, but scream. Its crescendo and diminuendo, or the gradual advancing and retiring of its delicate tones, can only be described by the instrument itself.

Kircher has attempted to account for the phenomena of the Æolian harp, by supposing the current of air to strike on different portions of the string. But this is contrary to experience; for, if we suppose the Æolian note to be one-fifth above the original note of the string, that is, one third of the whole, then, according to Kircher, the remaining part would be at rest, which is not the fact; for an obstacle applied to any other point besides the quiescent points of division, will destroy the Æolian tone. The chords also that would arise on this theory are not such as really take place in nature; thus, where the chord consists of the notes F and A, the first note F is produced, according to Kircher, by the blasts striking on one fourth of the string; and in this case the remaining part of the string must be at rest according to Kircher, which is contrary to experience; or, if it be agitated as one string, it must produce the note of three-fourths of the whole string, that is, a fourth above the bass note; whereas, the note really produced is the double octave to the third above the bass note.

Mr. Young, in order to ascertain the order of the notes in this instrument, took off all the strings but one; and, placing it in a proper situation, he was surprised to hear a great variety of notes, and frequently such as were not produced by any aliquot part of the string; and he often heard a chord of two or three notes from this single string. These complex and extraordinary phenomena at first perplexed him; and he almost despaired of being able to account for them on the principle of aliquot parts. On farther examination, however, he found that they all flowed naturally and easily from this principle. Having directed his attention to the effect of a current of air rushing against a stretched elastic string, he observed, that a blast against the middle point of the string moved the whole of it from its rectilineal position; and that the string by its elasticity, returned to its former position: so as thus to continue vibrating and exciting pulses in the air, which produced the tone of the entire string. If the current of air be too strong and rapid, when the string is bent, it will retain its curvature. But though the whole string cannot perform its vibrations in this case, the subordinate aliquot parts may; and these will be of different lengths according to the rapidity of the blast. Thus, when the velocity of the current increases so as to prevent the vibration of the whole string, those particles which strike against the middle points of the halves of the string agitate those halves, as in the case of sympathetic and secondary tones; and as these halves vibrate in half the time of the whole string, though the blast may be too rapid to admit of the vibration of the whole, yet it can have no more effect in preventing the motion of the halves than it would have on the whole string if its tension were
The third, when they rise by flats and fall by sharps, as in D, E, F, sharp, G, or vice versa, as in G, F, natural, E flat, D. This the ancients call ductus circumcurrense, and the Italians conducimento circoncorrente. Euclid. Introd. Harm. p. 22. Aristid. Quintil. de Melop. lib. i. Mem. Acad. Inscr. tom. vii. Malcolm on Mus. chap. xiv. sec. 4. In the ancient Greek music, agoge is of similar import with the Italian word movimento, motto, and the English, movement; of which, in compositions of two parts, there are three kinds; viz. moto recto, moto contrario, and moto obliquo, i.e. equal, contrary and oblique.

AIR, in Music, signifies the melody, or treble part of a musical composition.

The word is also used for a tune, or song itself, that is, for a series of sounds whose movement is regular and graceful. Rhyme is as necessary in a musical air, whether vocal or instrumental, as in the words of a song. Each bar of an air should be well accented, and the periods well phrased.

The rules for harmony are mechanical, and neither difficult to learn nor teach, as may easily be conjectured from the innumerable treatises in all languages for combining sounds in composition. Aristotle, Horace, Boileau, and Pope, have told us how good poems are constructed; but who shall tell us how to think, how to invent, to ferment ideas? Among all the receipts for constructing harmony, we have none that are intelligible for melody; we are told what may be done, by what has been already successfully achieved; but this is only telling us what we may imitate, and whom we may plunder. There are no magic wands to point out, or vapours hovering over springs of invention; no indications what we may imitate, and whom we may plunder. Handel was our magnus Apollo, during the last century, and Rameau that of France. At present, Haydn and Mozart “are the gods of our idolatry;” and those of all Europe. But it is only such gifted men as these who furnish the rest of mankind with ideas.

The origin and progress of melody, derived from harmony, and phrased and formed into Air, have
been fully detailed in the Gen. Hist. of Music, in tracing the progress of the musical drama or OPERA. National music every country, not wholly savage, has had from time immemorial. In Europe, Sicily, Spain, Provence, Venice, Scotland, Ireland, and Wales, have characteristic melodies or tunes, of great antiquity. But the first pleasing Airs, in cultivated music, that I have been able to find harmonized, and in regular modulation, were printed in three and four parts in separate books at Naples, in 1565. Of these the measures are airy, the intervals pleasing, and the counterpoint simple: all the parts generally moving together. They are printed without bars. The modulation borders a little on that of the ecclesiastical modes, but it begins and ends in the same key, which does not often happen in national tunes.

Air, in music, has various applications: in the melodrama, or opera, it distinguishes measured melody from recitative. A ballad, tune, or short instrumental air, consists of two strains or parts.

No very satisfactory etymology has been found for the word Air. Saumaise believes that it comes from Æra, Lat.; but Menage disputes this derivation, in his Etymological Dictionary, without furnishing a better. The term Aria in Italian, is of no high antiquity: the first instance of its use in the Crusca Dictionary is from Redi, who died in 1698. We know, however, that the word became of general use about the middle of the 17th century.

Though Air sometimes implies the words of a song; as well as the melody in general; nice discrimination requires, that we should confine its import to melody, a tune, alone, and song to the words. A fine or pleasing air has nothing to do with the poetry, which may be fine though ill set. And the air may be beautiful, even to nonsensical words.

Measured air, in an opera, is opposed to recitative, where no regular time is observed. This musical declamation, which needs only two kinds of notes, crotchetts and quavers, with pauses at the end of a verse, approaches nearer to what we conceive to have been the vocal music of the ancients, confined to longs and shorts, than any of our Airs, except such as are very simple, can do. Chanting, in the Cathedral service, is more rapid than recitative; but resembles it by the absence of regular measure, more than Air, which must be arranged in some one of the divisions of common or triple time.

In accompanied recitative, short passages or fragments of Air occur in the instrumental parts, in measured melody, which is often called symphony; but the Italians, with more propriety, style these fragments Ritornelli; which see. Sometimes indeed the instruments accompany the reciter in regular time, which obliges the singer to pronounce the recitative in measure, (which likewise see.) Of this the performers are informed by the words a tempo, in time.

A vocal air is only the melody of a single part or voice. If another part is added to it, in different intervals, it is styled a Duo, or Duet; in three parts, a Trio; in four, a Quatuor, or Quartet, &c.

The ancients had Airs, both vocal and instrumental, called Names. The words of lyric measures, which we should call songs, were styled Scola (which see under their several articles).

In the work of Philodemus on music, which has been recovered from the cinders of Herculaneum, the best and only musical information it contains, after being so long expected, and with such difficulty deciphered, is the solution of the miraculous powers ascribed by the poets to Amphion, of building cities by music. We find in this tract, (which is but a fragment, and neither a treatise nor an eulogium on music, but a severe satire) that every trade, occupation, and profession, had its names or peculiar and appropriate Airs, which were played to the workmen; so that towns were not built by music, but to music, ΦΙΛΟΔΗΜΥ ΠΣΡΙ ΜΟΣΙΚΗΣ.

We see in Basso-relievo, and ancient sculpture, that there was a musician at the stern of every vessel, to regulate and animate the rowers. Orpheus, civilising the world, and introducing religion and order among mankind, implied only that religious writers were accompanied by music. See PHILODEMUS.

The derivation and progress of air in dramatic music will be found under the article opera, in which lyric poetry became subordinate to music. We fear the word subordinate will offend the poets, and such as love poetry better than music. "The words (says Franklin) are only an excuse for singing." And Stillingfleet asks "who reads the words of a song but the author?" In a musical drama, the business is all transacted in recitative, or declamation: which business, at the end of a scene, is illustrated by a simile,
or a few passionate lines, set to measured music, in florid counterpoint; and these are calculated to display the talents of a singer, and the genius and abilities of a composer. Were this not the case, and if the poetry would be better felt and understood by the mere articulation and impassioned enunciation of common speech, why disguise and involve it in a tune, accompanied and incumbered by different melodies?

"A song, or the words of an air for a great composer to set, and a capital singer to execute, should consist only of one subject or passion, expressed in as few and soft words as possible." Metastasio has furnished the best models of words for airs in the Italian opera. And with respect to English dramas for music, on the Italian plan in all things, except the dialogue being declaimed in common speech, instead of the musical tones of recitative, we shall venture to quote on the subject of song-writing, opinions which we thought just 30 years ago, and which, during that period, we have seen no reason to retract.

"Since the refinement of melody, and the exclusion of recitative, a song, which usually recapitulates, illustrates, or closes a scene, is not the place for epigrammatic points, or for a number of heterogeneous thoughts and clashing metaphors; if the writer has the least pity for the composer, or love for music, or wishes to afford the least opportunity for symmetry in the air, the thought should be one, and the numbers as smooth, and the expression as easy and laconic as possible. What sublime ecclesiastical music has Handel composed on the single words Alleluia, and Amen But, in general, every new line in our songs, introduces a new thought; so that if the composer is more tender of the poet's reputation than his own, he must, at every line, change his subject, or be at strife with the bard; and in either case, the alternative is injurious to the general interest of the music, poetry, and audience.

In an air, it is by reiterated strokes that passion is impressed; and the most passionate of all strains, is, perhaps, that in which a beautiful passage is repeated and varied, and when the singer, by a few appropriate notes of taste, feeling, or spirit, returns to the first subject, while it still vibrates on the ear, and is recent in the memory; this license, no doubt, may be, and often is, abused; but not by men of true genius and taste." Present state of Music in France and Italy.

Alessandro Scarlatti, Vinci, and Pergolesi, were the first who refined, phrased, and polished vocal melody, and settled the form and cantilena of dramatic airs. But these elegant strains composed for great singers, and a polite audience, are totally different from national melodies, which are traditional, and were invented long before either the gamut or modulation was settled: as may be discovered by innumerable old tunes of different nations, that begin in one key, and end in another, Indeed the ancient chants of the Romish church did the same. See CHANT and CANTO FERMO.

The Gluckists, in France, censure all airs that they are unable to sing, or that are likely to draw the attention of the audience from the poet to the musician. M. Suard, in a long and well written article of the new Encyclopédie Méthodique, has analysed several of the most exquisite and renowned Italian opera airs, that have ever been sung on the stage, with a severity that borders on insensibility. All the charms, illusion, and exultic pleasure, arising to ears disposed to be pleased by vocal enchantment, is reasoned away. It would be more for the advantage of real lovers of music, if they would reason less and listen more, at musical performances. Music is an object of sense, not of intellect. Does the composition please by its ingenuity, grace, and variety? Does the voice or tone of the instrument by which it is executed, delight and charm you, by its intrinsic sweetness and accurate execution?—You then may venture to pronounce to yourself, that the composition and performance are perfect, without asking supercilious, and often superficial critics, what you are to say.

In spite of our reverence for poetry, and partiality to the dramas of Metastasio, we are inclined to think that airs on the best models of Italy, may be introduced in a musical drama without injuring the poet or the interest of the piece. No one is more delighted with the poetry of Milton, Dryden, or Pope, than the author of this article, when he reads, or hears it read; but he never wishes it to be sung. Lyric poetry is a distinct species of verse, and varied versification, which is to delight by other means than ratiocination, logic, or philosophy. As painting is a refinement of the ocular sense, music purifies and aug-
MENTS THE POWER OF THE AURICULAR ORGAN. WE CAN EXIST WITHOUT EITHER PAINTING OR MUSIC; BOTH ARE INNOCENT LUXURIES: IN THE ONE, WE HAVE OBJECTS IN NATURE TO COPY AND JUDGE BY; BUT IN MUSIC, WHOLLY A WORK OF ART AND IMAGINATION, OF WHICH WE HAVE NO TYPE IN NATURE; EVERY ARRANGEMENT AND COMBINATION OF SOUNDS THAT IS GRATEFUL, GRACEFUL, AND PLEASING, WHICH HAS NOT BEEN RENDERED UNCOUTH BY TIME, OR VULGAR BY COMMON USE, IS IN THE STOREHOUSE OF A COMPOSER; WHOSE BUSINESS IT IS TO SELECT, ADJUST, AND INTRODUCE IT TO THE EAR, AS PROPERTY AND OCCASION MAY REQUIRE. TO GIVE A SPECIMEN OF EVERY SPECIES OF AIR, VOCAL AND INSTRUMENTAL, WHICH CULTIVATED GENIUS HAS PRODUCED, WOULD OCCUPY MANY VOLUMES OF OUR WORK. ALL WE CAN DO IS TO GIVE THE NOMENCLATURE OF THOSE MOVEMENTS THAT ARE, AND HAVE BEEN, IN MOST GENERAL USE, WITH THEIR DEFINITIONS; SUCH AS PRELUDE, ALLEMAND, COURANT, MINUET, JIG, SARABAND, SICILIANA, POLONÉSE, RONDEAU, HORNPIPE, COUNTRY DANCE; AND IN ITALY, BACAROLLA, ARIA ALLA NAPOLITANA, ALA, CULABRESE, VENEZIANA, &c. &c. ALL WHICH SEE UNDER THEIR SEVERAL HEADS.

RECITATIVES AND AIRS FOR A SINGLE VOICE, SUCCEEDED MADRIGALS OF THREE, FOUR, AND MORE VOICES; AS SONATAS AND CONCERTOS DID FANTASIAS FOR INSTRUMENTS. (SEE THESE TERMS IN THEIR SEVERAL PLACES).

IN DRAMATIC MUSIC, THERE ARE THREE SEVERAL KINDS OF AIR; ARIA DI CANTABILE, A PATHETIC SONG; ARIA DI BRAVURA, A SONG OF EXECUTION; AND ARIA PARLANTE, A SPEAKING AIR; BESIDES THE ANDANTE, RONDEAU, CAVATINA, &c. THESE AND THE SEVERAL MOVEMENTS IN THE DANCES OF AN OPERA, ARE VARIED TO INFINITY. BUT THE SCALE, AS IT IS NOW DIVIDED AND EXTENDED, OFFERS AMPLE MATERIALS FOR THEM ALL. IF WE BUT CONSIDER THAT THE NUMBER OF CHANGES IN EIGHT BELLS, WHERE THERE IS NO MODULATION OR CHANGE OF KEY, AMOUNTS TO 40,320; THAT THE TWELVE SEMI-TONES OF THE OCTAVE, EVERY ONE OF WHICH MADE A KEYNOTE, MAJOR AND MINOR, GENERATES AS MANY TRANSITIONS AS THE KEY OF C; THAT THE MELODIES FOUND IN THESE 12 SCALES MAY BE STILL VARIED BY THE DIFFERENT LENGTHS OF NOTES, AND MAY BE TRULY SAID TO BE INCALCULABLE; AND LASTLY, IF WE RECOLLECT WHAT VARIETY MAY BE GIVEN TO AN AIR OR MELODY ARISING WARRANTABLY FROM THE FUNDAMENTAL BASE OF EACH KEY, BY DIFFERENT ACCOMPLISHMENTS, INVERSIONS, AND DOUBLE COUNTERPOINT, WE SHALL BE LOST IN THE MAZE OF INFINITE DIVISIBILITY! THE CHANGES UPON 12 BELLS, (SUPPOSE FROM G IN ALT, 5TH SPACE IN THE TREBLE, TO C 6TH LINE IN THE BASE) AMOUNTING TO 479,001,600; WOULD EMPLOY, TO RING THEM ALL, 12 MEN, NIGHT AND DAY, FOR 75 YEARS, TEN MONTHS, ONE WEEK, AND THREE DAYS, ACCORDING TO THE PROPORTION OF RINGING 720 CHANGES IN AN HOUR OF AN ASTRONOMICAL DAY OF 24 HOURS, 365 OF WHICH COMPLETE THE YEAR! SEE BELLS, CARILLONS, AND CHANGES.

SINCE DA CAPOS HAVE BEEN ABANDONED IN THE OPERA AIRS, WHICH OCCASIONED MANY DRAMATIC ABSURDITIES, THE CAVATINA, OR SINGLE STRAIN, WITHOUT A SECOND PART, PREVAILED; BUT THAT NOT FURNISHING AN OPPORTUNITY FOR SINGERS OF GREAT ABILITIES TO MANIFEST ALL THEIR POWERS OF EXECUTION, TASTE, AND EXPRESSION, IN THE SAME AIR; OF LATE, EVERY AIR FOR A GREAT SINGER IS A DUE CARATTERI, OF TWO CHARACTERS, CONSISTING OF TWO DISTINCT MOVEMENTS, USUALLY AN ANDANTE AND AN ALLEGRO DI BRAVURA. IT IS OFTEN DIFFICULT FROM THE SENSE OF THE WORDS, TO ASSIGN ANY OTHER REASON FOR THESE SUDDEN GUSTS OF PASSION, AFTER A SOOTHING AND PATHETIC MOVEMENT, BUT THAT OF CONVINCING THE AUDIENCE OF A SINGER'S MARVELLOUS AGILITY OF THROAT, AND POWERS OF EXCITING SUPRISE BY DES TOURS DE FORCE. IF SUCH AIRS WERE COMPOSED PURPOSELY FOR A CONCERT, AT WHICH A PERFORMER, FROM THE MULTICIPACITY OF HIS OR HER ENGAGEMENTS, COULD ONLY STAY TO SING ONE SONG, AND THAT CONNECTED WITH NOTHING ELSE, AIRS OF TWO CHARACTERS MIGHT INCREASE THE SINGER'S FAME, AND THE PLEASURE OF THE AUDIENCE, WITHOUT ABSURDITY; BUT IN A SERIOUS DRAMA, WHERE CHARACTER, CONNEXION AND PROPRIETY SHOULD BE SUPPORTED, AFTER LABOURING THROUGH A SLOW MOVEMENT IN A MELANCHOLY DRAG, AS EVERY SINGER DOES, IF NOT GIFTED WITH POWERS OF NEW AND APPROPRIATE EMBELLISHMENTS, THE SETTING OFF FULL SPEED WITHOUT A WORD APPEARING IN THE LIBRETTO, OR OPERA BOOK, FOR THE NECESSITY OF TAKING FLIGHT IN SUCH AN OUTRAGEOUS MANNER, WE PITY THE POET AND OURSELVES FOR BEING THUS DEFRAUDED OF ALL DRAMATIC INTEREST. IN THE COURSE EVEN OF TWO ACTS, TO WHICH AN OPERA IS NOW CUT DOWN, OPPORTUNITIES FOR DISPLAYING ALL THE POWERS OF A SINGER, HOWEVER EXTRAORDINARY AND VARIOUS, MAY BE FOUND IN EVERY PRINCIPAL PART, WITHOUT VIOLATING THE DIGNITY OF CHARACTER, AND RULES OF COMMON SENSE. SEE MELODY, SONG, TUNE, AND OPERA.

A-LA-MI-RE, IN THE GUIDONIAN SCALE OF MUSIC, OR GAMMUT, IS THE OCTAVE ABOVE A-RE, OR A IN THE FIRST SPACE IN THE BASE.
As A is the note above G in every part of an instrument; it is, of course, the third sound below each tenor clef; and is likewise the sound that occupies the second space, and the sixth line in the treble. The letter A itself is an abbreviation of A-RE and A-LA-MI-RE in the scale of Guido; and is the sound to which all instruments are tuned at an opera, concert, or other musical performance. A in the Italian musical language, when it precedes a substantive, has the power of in; as A battuta, in time, or measure, after recitative, or an ad libitum. A capella, sacred music, compositions in the church style. See GAMUT and GUIDONIAN SCALE.

ALLEGRO, Ital. Music, denotes gay, cheerful, quick. The force of this term is augmented by the words più, assai, and the superlative degree of comparison, as più allegro, more quick; allegro assai, and allegrissimo, very quick. It has likewise its diminutives, as poco allegro, and allegretto, a little gay, cheerful, or quick. Allegro is the degree of time between ANDANTE and PRESTO, which see.

AL SEGNO, in Music. These Italian words are used when a return is made to a former part of a movement, where this mark or character appears: as who should say, return to this sign.

This is an expedient to save the trouble of writing, or expense of printing certain portions of a movement, where this mark or character appears: when a return is made to a former part of a movement, where this mark or character appears:

ALLEGRO. See SESQUIALTERATE

ALTO, high, in Music. As alto viola, the tenor violin, in opposition to the bass viol, to which instrument or violoncello, the tenor strings are tuned octaves: as C⁴, G⁴, D⁴, A⁴. The following is the complete scale on the tenor:

This instrument has been rendered much more important of late years, by quartets, and pieces made expressly for it, than it used to be in the old overtures and concertos, in which it seldom had any melody assigned it. To fill up the harmony, by the refuse of other parts, was its only employment. But in the quartets of Stamitz, Boccherini, Giardini, and, above all, those of Haydn, it has been brought fully into action, and enjoyed equality.

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AMBROSIAN CHANT. There are few writers on ecclesiastical music who do not speak of the Ambrosian chant, and of its being different from the Gregorian: but no satisfactory account has been given of their specific difference; nor was I able (says Dr. Burney) in hearing the service performed at the Duomo in Milan, (where it is said to be preserved in all its purity), or by a perusal of the Missals, or other books on canto fermo published in that city, to discover any considerable deviation from the plain song used in the service of other cathedrals in France or Italy, where the Gregorian chant is said to subsist. The truth is, that there are no vestiges of the Ambrosian chant remaining, sufficient to ascertain its peculiar character. The fragments of it that Gaurio has inserted in his Practica Musica are very suspicious, not only as they have a much more modern appearance than even the ancient Gregorian chants that are come down to us, but on account of the number of modes in which he gives them, which amount to eight; whereas all writers on these subjects agree in saying that St. Ambrose only used the four authentic modes, and that the four plagal were added afterwards by St. Gregory. Those who pretend to know the difference between the Ambrosian and the Gregorian canto fermo, tell us that it is louder, higher, and of greater compass—fortior, durior, et magis extensa; but this conveys nothing to the mind of a musician as to the difference in the melody of the two chants. See GREGORIAN CHANT, CANTO FERMO, and PLAIN SONG.

AMBUBAJÆ, in antiquity, a kind of wanton minstrels about Rome, who lived by playing on the flute, dancing in places of resort, and prostituting their bodies for hire.
Authors speak as if there had been a regular college, or community of ambubajæ, and that these were the same with what were otherwise called tibicinæ. Thus Horace, sat. i. Speaks of.

“Ambubajarum collegia, Pharmacopolæ.”

Some suggest that the ambubajæ were of the male kind, only dressed in the habit of women. Antiquaries have been greatly divided about the ambubajæ; some will have them to have come to Rome out of Syria; others suppose them to have been Roman women, though called by a name of Syriac origin.

Torrentius, Turnebus, and Pulmannus, derive the name from ambu, or am, an old Latin preposition, denoting circum, about, and Bajæ, a delicious place near Naples; and maintain, that the ambubajæ were a kind of courtezans, who frequented the baths of that city. Cruquius is of a different opinion, taking the word ambubajæ to have been used for ambubeja, and primarily to denote a seller of ambubja, an herb mentioned by ancient naturalists. These sellers of ambubeja being a kind of empirics, their name became afterwards applied to all charletans, and quacks. Others say, that ambubaia is a Syrian word, and that in the Syriac language, it denotes a flute or the sound of a flute. From Juvenal it appears, that Syria was famous for furnishing the best players and musicians. Thus he says at. iii. 62.

“Jam pridem Syrus in Tiberim defluxit Orontes,
Et lingua, et mores, et cum tibicine chordas
Obliquas, necnon gentilia tympana secum
Vexit, et ad Circum jussas prostare puellas.”

Suetonius exhibits the emperor Nero as attended by these Syrian women, and Roman courtezans at table; thus,

“Cœnitabat non nunquam—inter scortorum to-
tius urbis, et ambubajarumque ministeria.”

The followers of the profession of female flute-players became so numerous and so licentious at Rome, that their occupation was prohibited in the Theodosian code; but with so little success, that in the time of Justinian, as we are informed by Procipius, the sister of the empress Theodora, who was a flute player, or tibicinia appeared on the stage without any other dress than a slight scarf thrown loosely over her. These performers even became so common in all private entertainments, as well as at public feasts, where they frequently obtruded themselves, uninvited, that towards the close of this reign their profession was regarded as infamous, and utterly abolished.

Hoffman has a discourse on the ambubajæ.

ANDAMENTO, in Music, the motto, or movement in giving out the subject of a fugue; a theme, longer and more important that a POINT, which see.

ANDANTE, in Music, from andare, Ital. to walk, &c. or grazioso; neither to run nor to creep, but the medium between both those motions. Andantino, the diminutive of andante, is applied to movements somewhat quicker, and bordering on allegretto, or grazioso.

ANTICIPATION. This word, and suspension, in speaking of discords, were first used as technical terms, in Music, we believe, by Rameau; and as they are English words as well as French, they may be usefully adopted.

A sound is said to be anticipated, when a composer wishes a note to be heard before its time, in plain counterpoint. The same passage will explain both these terms. Anticipation in the treble, requires suspension in the base, and è contra.

There are several kinds of anticipation in music: first, in passing-notes, of which no notice is taken in the base; but this must be done diatonically, not by distant intervals or leaps. Secondly, when the chord is struck on a rest, before the base. Thirdly, in serious and fundamental discords that are to be regularly prepared and resolved, the anticipation in the treble is striking the second before it becomes a third, by the descent of the base. And anticipation in the base, or interior parts, is when the base rises before the treble falls; as from the eighth to the seventh, or tenth, (octave of the third,) to the ninth.
The following are examples, in notation, of the several kinds of *anticipation*, in treble and base. See SUSPENSION.

**ANTIPHONALLY** from ἀντι, *contra* and φωνή, *voice*, in respect of church music, imports as much as alternately, or anthem-wise.

The Greeks have a method of singing *antiphonally*, *antiphonatim*, called by them ωαραϰοϊαϰνιου, wherin two persons sing together, and then are silent, and so on.

**ANTIPHONARY**, *antiphonarium*, a service-book which contained all the invitatories, responsories, collects, and whatever else was said or sung in the choir, except the lessons. This is otherwise called *responsarium*, from the responses therein contained. The author of the Roman antiphonary was Pope Gregory the Great.

This is a book containing, in Gregorian notes, the anthems and hymns of the Romish church. The Abbé Feytou, in correction of Rousseau, says that the book only which contains the anthems is styled the Antiphonarium. When the psalms and hymns are understood to be included, it is called *vesperal*; when it contains the chants of the mass, it is termed *gradual*. The processional book contains the benediction, station, and processional chants. The funeral chants occupy the *ritual*.

We also find mention of nocturnal and diurnal *antiphonaries*, for the use of the daily and nightly offices; summer and winter *antiphonaries*; also *antiphonaries* for country churches, &c. By the provincial constitutions of archbishop Winchelsea, made at Merton, A. D. 1305, it is required that one of these should be found in every church within the province of Canterbury.

The use of these and many other popish books, was forbidden by the 3d and 4th of Edward IV, c. 10. **ANTIPHONY**, **ANTIPHONA**, the answer made by one choir to another, when the psalm or anthem is sung alternately between two.

Antiphony, sometimes denotes a species of psalmody, wherein the congregation, being divided into two parts, repeats the psalms, verse for verse, alternately. In this sense, antiphony stands contradistinguished from symphony, where the whole congregation sings together.

Antiphony differs from *responsorium*, because in this latter the verse is only spoken by one person, whereas in the former, the verses are sung by the two choirs alternately. The original of antiphonal singing in the western churches is referred to the time of St. Ambrose, about the year 374. That father is said to have first introduced it into the church of Milan, in imitation of the custom of the eastern church, where it appears to be of greater antiquity, though as to the time of its institution, authors are not agreed. It was most probably introduced at Antioch.

St. Ignatius, who, according to Socrates (E. H. 1. vi, c. 8.) had conversed with the apostles, is generally supposed to have been the first who suggested to the primitive Christians in the east the method of singing psalms and hymns alternately, or in dialogue; dividing the singers into two bands or choirs, placed on different sides of the church. Socrates, and several of the fathers, pretended, that it was revealed to St. Ignatius by a vision, in which he had seen choirs of angels praising the Holy Trinity in this manner by singing alternate hymns. The custom soon prevailed in every place where Christianity was established. But Theodoret (E. H. L ii, c. 24.) informs us, that this manner of singing was first practised at Antioch. Suidas, under the word, says, χορος that the choirs of churches were, in the time of Constantins, the son of Constantine the Great (who reigned from 337 to 361) and of Flavian, bishop of Antioch, divided into two parts, who sung the Psalms of David alternately; a practice, he adds, that began at Antioch, and was thence dispersed into all parts of the Christian world. In deed, it seems that many of the primitive Christians had notary more
sublime conceptions of the celestial employment, or the joys of the blessed, than that they were eternally singing. The ancient hymn, "Te Deum laudamus," still retained in the church, appears to have furnished the poet Dante with a model of the 28th canto of his "Paradiso;" where, under three different hierarchies, consisting each of three choirs or choruses, the heavenly host of cherubim and seraphim are singing perpetual hosannahs. Milton has also assigned them the same employment:

— Their golden harps they took;
Harps ever tun’d, that glittering by their side
Like quivers hung, and with preamble sweet
Of charming symphony they introduce
Their sacred song, and waken raptures high:
No voice exempt, no voice but well could join
Melodious part, such concord is in heaven.

Paradise Lost, book iii.


ANTIPHONY is also used to denote the words given out at the beginning of the psalm, to which both the choirs are to accommodate their singing.

ANTIPHONY, in a more modern sense, denotes a kind of composition made of several verses extracted out of different psalms, adapted to express the mystery solemnized on the occasion.

ANTIPHONA ad introitum, that anciently sung in the introit of the mass.

ANTIPHONA invitantoria, that repeated at the psalm Venite exultemus.

ANTIPHONÆ majores, those seven used to be sung in the time of advent, at the magnificat, and during the seven days before Christmas.

ANTIPHONÆ processionales, those sung at processions.

ANTIPHONÆ rogationes, those rehearsed at rogations.

APOTOME, in Music, is the difference of the tone major and LIMMA, expressed by \( \frac{2137}{2043} \).

The Greeks thought that the greater tone could not be divided into two equal parts; for which reason they called the first part \( \alpha \rho \omicron \tau \omicron \omicron \omicron \omicron \nu \gamma \) and the other \( \lambda \mu \mu \alpha \) in this imitating Pythagoras and Plato.

The apotome is by some authors, as Boethius, called \( \alpha \pi \omicron \omicron \omicron \omicron \nu \gamma \); and the limma, \( \alpha \pi \omicron \omicron \omicron \omicron \omicron \nu \gamma \). He also calls the difference of these two comma. The interval or two sounds expressed by \( \frac{125}{128} \), was called by the ancients \( \alpha \pi \omicron \omicron \omicron \omicron \omicron \nu \gamma \); and that expressed by \( \frac{2025}{2048} \) \( \alpha \pi \omicron \omicron \omicron \omicron \omicron \nu \gamma \).

APPOGGIATURA, in Music, is a small additional note of embellishment added to a melody, which is not supposed to occupy any portion of the time, a bar appearing complete without it; but the time which is given to this little note, is taken out of the great note which it precedes. As to the length of these diminutive notes, the best rule that can be given for them is, that in common time they should be half the length of the great note, for which only the other half remains; and in triple time they rob the subsequent note of two-thirds of its length. So that the appoggiatura to a semibreve is a minim, to a minim a crotchet, to a crotchet a quaver, &c.

It has been well observed by M. Framery, in the Encyclopedic Methodique, that the appoggiatura gives a tender expression to the melody, that would injure marches and movements of spirit, which require energy and strong accents.

Appoggiaturas, below the principal note, are more tender and affecting than those above; which are, however, more graceful and interesting. In recitative, though no appoggiaturas are ever written; they are as much understood and expected, as dots to the letter i.

M. Framery says, that the appoggiatura is the only embellishment in recitative. But Pacchierotti
and Marchesi (perhaps since his article was written) have introduced graces in recitative, particularly before a close, which all the Italian singers and their imitators, who can execute them, have followed. See RECITATIVE.

The term appoggiatura is derived from appoggiare, to lean on. And as these little notes generally occur on the accented parts of a bar, more force is given to them by good performers, than to the principal note which they precede. In pathetic strains, the soul of the melody may be said to reside in the appoggiaturas.

APPRECIATION, in Music, is the judging accurately of things within the power of our senses and perception. Our organ of hearing is unable to judge of sounds beyond a certain degree of gravity and acuteness. The octave below double C, the lowest note of the additional keys in the base of piano-forte, is extremely difficult to tune; and the additional high notes seem more the production of wood than wire. However, the great mathematician, Euler, gives the extent of eight octaves to human perception; from the highest appreciable sound to the lowest: but, says Rousseau, these extremes of the scale not being very agreeable, we seldom, in practice, exceed five octaves, which the common compass of keyed-instruments furnishes. There is likewise a degree of force or loudness, which we cannot appreciate. The sound of a great bell, for instance, gives no distinct and certain tone, but a confusion of harmonies, which we cannot distinguish in the belfrey, from the fundamental. We must diminish the force by distance, ere we are sure what the real sound is. It is the same with a wind instrument overblown, and a voice that is forced beyond its natural power; so that those who try to sing loud, with a feeble voice, are always out of tune. With respect to noise, we can never reduce it to any fixed tune; and it is that which constitutes the difference between sound and noise. See Bruit.

The Abbé Feyter, taking up the subject, says, Euler probably determined the compass of appreciable sounds, from the following circum-stances: The largest pipe in a 32 feet organ, is an octave below the bordun, or double-base stop, and two octaves below double C in the open diapason of an organ. Now from the lowest C to the highest, on a piano-forte, or harpsichord, there is an interval of four octaves; and if we add two octaves to the bottom, and two to the top, for the low and high stops of an organ, we shall have the right octave in question. In order to complete the demonstration, we must have found by experiment, that a pipe less than two inches will not speak: for the most acute C in the 15th has only that length; but though birds, and the serenetto or bird-pipe, do produce more acute sounds, as we are unable to find their unison, we know not what they are.

ARABIAN music. In the Encyclopédie Méthodique, we have a long article on this subject, chiefly taken from the Essai on Music, by M. la Borde. If, in a careful perusal of this article, we had been able to discover any essential qualities in this music that would improve our scale, intervals, melody, harmony, measures, or the tone of our voices or instruments, we should sedulously have studied and adopted them. But notwithstanding the inflated praises bestowed on their music, by their own and the Persian poets, and the parade with which the Arabian scale and musical terms have been exhibited, we do not find ourselves much enlightened by the perusal. Indeed we are inclined to imagine that music in Europe has been cultivated with so much more success than that of any other quarter of the globe; our instruments, our harmony, and our melody, are arrived at such a superior state of perfection, that to abandon or neglect them for any refinements or properties which the music of Asia, Africa, or America could furnish, would indeed be letting our corn-fields lie fallow, and feeding on acorns; or throwing aside the poetry of Milton, Dryden, and Pope, to read and imitate only Chaucer, Gower, and Lidgate.

As national tunes, the airs of the Arabians, Turks, and Persians, would amuse curious inquirers after exotics; but as to their theory, practice, and taste, faith in their excellence is wanting to make us imagine them worth the lime and labour necessary to their acquisition. If, therefore, the article Arabian music has not been further extended, and should disappoint our readers by its brevity, the concessions made by M. Ginguene, who has compiled and digested the article in the new Encyclopédie, will a little abate their curiosity, and apologize for our want of time and zeal to investigate this music.
After giving us the scale and technica of the Arabian music in the language of the country, but expressed in letters of the French alphabet, M. G. says; "the Arabians, like other oriental people, never pass from one sound to another, however distant, either in raising or falling, without running through all the intermediate intervals. These continual slides of the voice, which to us are insupportable, constitute according to them, the charm of their music, and grace of their melody." Now the difficulty and effects of such miauling or mewing passages will be easily conceived by our readers, from what follows in the article of M. G. "From C to D they reckon four intervals; from D to E the same; and from E to F two." So that it is all done in quarter tones, or from the enharmonic genus and scale. And where shall we find voices or instruments to furnish these intervals? "They have no knowledge of harmony (continues M. G.) and in their concerts, all the parts are performed in unisons and octaves, and all on stringed instruments; of which they sometimes sweep the whole number, to produce more or less effect, or at least more noise, which necessarily occasions a discordance, to which, from their ignorance of harmonic chords, their ears are insensible." Their instruments are chiefly those of percussion, or thrummed with the fingers or nails; they have, indeed, a flute, called Nai, with ventages. The tube is a section of a reed, with a mouth-piece of horn. It is to the sound of this flute that the dervises dance. Two or three musicians are placed in a gallery that surrounds the mosque. The Iman is stationed in the midst of the dervises; he gives the signal, the Nais begin to sound, and the dervises turn round with extreme rapidity. The Iman gives another signal, the flutes then cease to sound, and the dervises stop, and throw themselves into a particular attitude.

They have an instrument which resembles a lute, to which they assign more marvellous effects than the Grecians did to the lyre of Apollo. "They tell you, with the utmost gravity, that each of the strings of this instrument, four in number, has particular virtues: the first, for instance, acts as a specific against bile and phlegm; the second is a sovereign cure for the most inveterate melancholy and vapours; the third gives health and vigour to young people of both sexes; and, lastly, the fourth string affords relief the instant it is heard, to a sanguine temper and disposition." But the power of these strings depends much on the manner with which they are pinched or thrummed; which, like the power of the bow on the violin, is attained by long and laborious practice. "They have a particular pizzicato, or pinch, for every action and passion; courage, liberalty, and noble sentiments, by one mode of thrumming; love and pleasure by a second; the dance is inspired by a third; sleep and tranquillity by a fourth.

"At the distance which separates us from Arabia, and the difference in our ideas and sentiments (concludes M.G.) we can form no just conception of these fancied effects, from which we must doubtless abate much of the marvellous. What they ascribe to each instrument, string, and stroke of the fingers, and delicate shades of perfection, only convinces us, that they are a people endowed with a sensibility very different from ours." ARIA, Ital. for Air, English (which see). Herr Sulzer, an elegant German writer on the subject of the fine arts, has described the construction, and what was thought the perfection of an opera Air, about the middle of the last century, during da capo times; and not only apologized for second parts to airs, and a return to the first, but pointed out their utility and beauty in doctrines now quite exploded, both in theory and practice. In the remarks of Mr. Framery on the encomiums of H. Sulzer (Encycl. Meth. p. 95), he allows that his precepts are excellent, but that his definition appears imperfect. He then gives his own notions, which tally more with modern practice. After which he adds, "as to the form of opera Airs indicated by M. Sulzer, it is much varied since he wrote on the subject." The Italians, at length tired of their eternal monotony, melt down the second part of their Airs into the first; or, if distinct, when the expression of the words requires it, they do not think themselves obliged to return to it by a da capo. The Airs of comic operas are constantly confined to one part or strain, unless some new measure or dissimilar idea in the words, absolutely requires a different expression. The movement then is changed, and finishes by an Allegro, without returning to the first part.

ARIETTA, in Music, the diminutive of Aria. The French have a very confused notion of the meaning of this term, and call by the name of ariette the cap-
ital song of a musical drama, and which the Italians term l’aria d’abilita, generally composed to display the powers of a principal performer in point of execution. Arietta, every where but in France, has been always understood to imply a little short air, a cavatina. "Now we begin to emerge from barbarism (says M. Guinguiné) why do we continue to speak like barbarians?"

ARMONICA, from aqüovox harmony, is a name which Dr. Franklin has given to a musical instrument constructed with drinking-glasses. It is well known that a drinking glass yields a sweet tone, by passing a wet finger round its brim. Mr. Pockrich, of Ireland, was the first who thought of playing tunes formed of these tones. He collected a number of glasses of different sizes, fixed them near each other on a table, and tuned them by putting into them water, more or less, as each note required. Mr. Delaval, F. R. S. made an instrument in imitation of that which was contrived by Mr. Pockrich: and from this instrument Dr. Franklin took the hint of constructing his armonica.

The glasses for this musical instrument are blown as nearly as possible in the form of hemispheres, having each an open neck or socket in the middle. The thickness of the glass near the brim is about one tenth of an inch, increasing towards the neck, which in the largest glasses is about an inch deep, and an inch and a half wide within; but these dimensions lessen, as the size of the glass diminishes, only observing that the neck of the smallest should not be shorter than half an inch. The diameter of the largest glass is nine inches and that of the smallest three inches: between these there are twenty-three different sizes, differing from each other a quarter of an inch in diameter. For making a single instrument, there should be at least six glasses blown of each size, and out of these, thirty-seven glasses (which are sufficient for three octaves with all the semitones) may be found, that will either yield the note required, or one a little sharper, and fitting so well into each other, as to taper regularly from the largest to the smallest. The glasses being chosen, and the note for which each glass is intended being marked upon it with a diamond, they are to be tuned by diminishing the thickness of those that are too sharp, which is done by grinding them round from the neck towards the brim, comparing, by means of a well-timed harpsichord, the tone drawn from the glass by your finger with the note you want, as sounded by the corresponding string of the harpsichord. The largest glass in the instrument is G, a little below the reach of a common voice, and the highest G, including three complete octaves; and they are distinguished by painting the apparent parts of the glasses within side, every semi-tone white, and the other notes of the octave with the seven prismatic colours; so that glasses of the same colour (the white excepted) are always octaves to each other.

When the glasses are tuned, they are to be fixed on a round spindle of hard iron, an inch in diameter at the thickest end, and tapering to a quarter of an inch at the smallest. For this purpose, the neck of each glass is fitted with a cork, projecting a little without the neck; these corks are perforated with holes of different diameters, according to the dimensions of the spindle in that part of it where they are to be fixed. The glasses are all placed within one another; the largest on the biggest end of the spindle, with the neck outwards; the next in size is put into the other, leaving about an inch of its brim above the brim of the first; and the others are put on in the same order. From these exposed parts of each glass, the tone is drawn, by laying a finger upon one of them, as the spindle and glasses turn round. The spindle thus prepared, is fixed horizontally in the middle of a box, and made to turn on brass gudgeons at each end. A square shank comes, from its thickest end through the box, on which shank a wheel is fixed by a screw: this will serve, like a fly, to make the motion equable, when the spindle is turned by the foot like a spinning-wheel. The wheel is eighteen inches in diameter, and conceals, near its circumference, about twenty-five pounds of lead, and may be made of mahogany. An ivory pin is fixed in the face of the wheel, about four inches from the axis; over which is put the loop of the string, that comes up from the moveable step to give it motion. The box is about three feet long, eleven inches wide at the biggest end, and five inches at the smallest end; it is made with a lid, which opens at the middle of its height, and turns up by back-hinges. The instrument, thus completed, stands on a neat frame with four legs. This instrument is played upon by sitting before it, as before the keys of a harpsichord, turning the spindle with the foot, and wetting the
glasses now and then with a sponge and clean water. The fingers should be first soaked in water; and rubbed occasionally with fine chalk, to make them catch the glass, and bring out the tone more readily. Different parts may be played together by using both hands; and the tones are best drawn out when the glasses turn from the ends of the fingers, not when they turn to them. The advantages of this instrument, says Dr. Franklin, are that its tones are incomparably sweet beyond those of any other; and that they may be swelled and softened at pleasure, by stronger or weaker pressures of the finger; and continued to any length: and when it is once well tuned, it never again wants tuning. Franklin’s Letters, &c. on Philosophical Subjects, p. 428.

Mr. Pockrich, the first performer on rummer glasses, by a fatal accident was burned in his bed at his lodgings in Swithin’s alley, near the Royal Exchange, in 1759, by the house in which he lodged taking fire in the night, and being destroyed before any assistance could arrive.

Mr. Schuman, a German harpsichord-master, played publickly afterwards with considerable success in several parts of London and Westminster. But the first and only performer on the Armonica, constructed and so accurately described by Dr. Franklin, in a letter to Padre Beccaria of Turin, was the eldest Miss Davies, sister to Miss Cecilia Davies, the celebrated opera singer, but best known in Italy by the title of l’Inglesina.

The talents of our two countrywomen, the Miss Davieses, who resided a considerable time at Vienna, in the same house as the celebrated Hasse and Faustina (see Present State of Music in Germany, Art. Vienna, vol. i.) have been described by the admirable lyric poet, Metastasio; the eldest, for her performance on the Armonica, at that time a new instrument; and the youngest, for her vocal abilities. The Empress-queen had been so pleased by their several talents, that in the year 1769, on the marriage of the infant duke of Parma with the arch-duchess Maria Amelia, she desired Metastasio to write a cantata, which was set by Hasse, in order to display their several talents. This cantata has been published in late editions of the poet’s works, under the title of l’Armonica, the name of the new instrument on which the eldest Miss Davies accompanied her sister, in the performance of the cantata.

A letter written by the poet to the princess di Belmonte, at Naples, recommending these performers to her protection, will serve as a comment to the cantata just mentioned.

"The bearers of this most reverential address, are two English young persons, travelling under the conduct of their worthy parents, in order to give testimonies at Naples of their several abilities in music; their names are Miss Mary and Miss Cecilia Davies: the first performs with admirable skill on an instrument of new invention, called the Armonica. It is composed of glasses of different sizes, revolving, by means of a pedal, on a spindle. These glasses, forming a regular scale of tones and semi-tones, being delicately touched with wet fingers during their revolution, produce the most uncommonly sweet and celestial tones imaginable; particularly in pathetic strains, for which the instrument is eminently calculated. The other sister, who is possessed of a very pleasing and flexible voice, sings extremely well, with much art and natural expression; and when accompanied by her sister on the Armonica, she has the power of uniting her voice with the instrument, and of imitating its tones so exactly, that it is sometimes impossible to distinguish one from the other. They have been here universally admired and applauded: and my most august patroness, who has deigned to hear them frequently, has honoured them with munificent testimonies of imperial approbation."

Miss Cecilia Davies performed in the theatre of San Carlo at Naples, the part of Bradamante, in Metastasio’s new opera of Ruggiero.

In the first fol. edit, of the French Encyclopédie, t. xvii, printed in 1765, under the article VERRES, MUSIQUE DES, Musical glasses, it is said; “they have contrived within these few years to produce anew species of harmony from glasses, which is extremely pleasing to the ear.

"It is pretended that an Englishman of the name of Puckridge, is the inventor. However this method has been long known in Germany. The instrument used on this occasion is an oblong square box, in which are arranged and fixed many round glasses of different diameters. In these there is water of different quantities. By rubbing the edge of the glasses with a wet finger very gently, the sweetest, most me-
ludious, and sustained tones are produced, and with these the most agreeable airs are performed.

"The Persians, in very high antiquity, have produced musical sounds by a similar contrivance; by striking seven porcelain cups, tuned by water, with little sticks, a regular scale is produced." No authority is given for these assertions. Metastasio, who had resided near fifty years in Germany, calls the Armonica, "an instrument of new invention." The producing musical tones from drinking-glasses has been long known to the natives of Great-Britain and Ireland; but the forming different toned glasses into an instrument, and tuning them by water, we have not the least doubt was the invention of a native of Ireland, of the name of Pockrich; as the placing a series of glasses on a cylinder or spindle, turned with a pedal, was the invention of Dr. Franklin, who tuned his glasses by grinding, not by water. A drawing of Miss Davies's instrument will be found in one of the plates of musical instruments. Her performance on this musical instrument so pleased the great masters on the continent, that Padre Martini, Hasse, Galuppi, Jomelli, Mozart, &c. presented her with original compositions, purposely produced for the Armonica, upon which she often plays, extempore, still more exquisite strains than these great composers, at an early period of its invention, thought this instrument capable of expressing.

ARPEGGIO, ARPEGGIATURA, in Music, is playing the sounds of a chord in a rapid manner upwards and downwards, after each other, instead of striking them together. In doing this on keyed instruments, the fingers of each hand must be kept on to preserve each sound, till its turn comes for the key to be struck again. The word arpeggio, is derived from Arpa, the harp; upon which instrument the sounds of a chord are usually struck in succession, by beginning at the lowest. There are as many kinds of arpeggio as sounds in a chord, or changes in their succession. The violin family having but four strings, and the viol family six, can only arpeggio four or six sounds, and from the convexity of the bridges of these instruments, there is no other way of playing chords with a bow, but in arpeggio.

The abbé Feyton says very truly, that the harmonics arising from a single string or sound, when first discovered, gave birth to arpeggio; or perhaps, long before that, it was suggested by the section of the canon, or division of the monochord. The musical reader will find the examples of several kinds of arpeggio, in the Music Plates.

ARSIS, and THESIS, in Prosody, are names given to the two proportional parts into which every foot or rhythm is divided.

By arsis and thesis are usually meant no more than a proportional division of the metrical feet, made by the hand or foot of him that beats the time.

And in measuring the quantities of words the hand is elevated, as well as let fall; that part of the time which is taken up in measuring the foot, by lifting the hand up, is termed arsis or elevatio; and the part where the hand is let fall, thesis or positio. Vid. Augustin. de Musica, lib. ii, cap. 10. In plaudendo enim quia elevatur & ponitur manus, partem pedis sibi elevatio vendicat, partem positio.

ARSIS and thesis are used as musical terms when the subject of a fugue or point is inverted or reversed; i.e. when one part rises and the other falls. These two words are Greek: arsis comes from αἵρω, tollo, I raise or elevate; θέσις, deposition, remissio, a depression or lowering. These terms were applied by the ancients to the motion of the hand in beating time.

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ARTICULATION, in Vocal Music. This word, which belongs to every kind of elocution, as well as music, is too familiar to be called technical. Yet, as it is extremely important, and much neglected, it shall furnish an article. M. Framery (Encycl. Meth.) says, that "in France, it has for some time past been imagined, that the Italians, particularly the women, scarcely ever articulate their words in singing; they even suppose inarticulation favourable to the melody; that it is even necessary to connect and smooth the sounds; and that in an art where all the consonants of a language are sacrificed that the vowels only may be heard, melody is rendered more sweet and enchanting by this means."

This does not indeed seem to have been an idea which the English have cherished, systematically; for the Banti, in her recitative, is admired even by those who are totally ignorant of the Italian language, for the firm, pointed, clear, and articulate manner in which she pronounces the words. Yet our
own vocal performers are so deficient in this particular, that it is difficult to discover in what language they are singing.

It is not merely the softness of the Italian language, which renders it so much fitter for song than any other that is known; but the neatness and energy of articulation of the inhabitants of Italy, in speaking it. The number of nasal sounds in the French, of gutturals in the German, and of harsh terminations of our words by consonants, obstruct sound and respiration. (See a list of these in the Essay on the Euphony of Languages, Hist. Mus, vol. iv.) In Dryden’s sublime Ode for Music on St. Cecilia’s day, the letter \(d\) predominates, terminating, in the course of the poem, no less than three and thirty lines. The letter \(t\), like a gag at the end of a word, not only stops all sound, but respiration. A clear and distinct articulation, without harshness, is perhaps difficult in all languages; but there is a degree of distinctness possible, without injuring the melody, even in our harsh language, which Mrs. Sheridan possessed, and for which Mr. Incledon is justly admired, and conveys both sense and sound uninjured to the ears of an audience. We wish our public singers, who have merit of other kinds, would take this circumstance into consideration in the course of their studies: as the not understanding the words in our theatres and concerts, however the voice and manner of singing may be approved, is a general complaint.

The Italians carry articulation, perhaps to the extreme, by not only pronouncing all the consonants in their several words, according to the genius of their language, which has ‘no nasal or guttural sounds, but even adding a kind of mute e at the end of words, terminated by contraction with a consonant; as thus, in singing

\[
\text{La pace del mio cor—} \\
\text{Voglio vederti, almen—} \\
\text{Mi fanno delirar—}
\]

They pronounce the last syllable as if it were written \(\text{cor-\text{"e}}, \text{almen-\text{"e}}, \text{delirar-\text{"e}}\). But they will tell you that these words originally end with a vowel; as cor at full length is \(\text{cuore}\); \(\text{almen, almeno}\); and the infinitive mood of the last word, \(\text{delirar}\), is \(\text{delirare}\); and that it is for the sake of euphony that they soften the termination of contracted words by a mute \(e\). For the articulation of notes in the performance of instrumental music, see STACCATO and SCIOLTO.

ARTIFICIAL MUSIC, that which is composed according to the rules of art. There is no natural music but the warbling of birds, which is confined to the melody of the aviary, of which the tones are too high, and the intervals too minute for our appreciation. Rigorously speaking, all music is a work of art, particularly instrumental, in which the instrument itself is an artful contrivance for imitating vocal tones, and the hand of the performer must be guided by art. But the artifices of composition and performance are innumerable. In composition, fugues, canons, double counterpoint, ingenious and elaborate accompaniments, are included in artificial music; and in the performance upon instruments, the artifices of bowing on the violin, fingering on keyed instruments, double-tonguing on the German flute, &c. are only known and taught by great masters. The generating musical tones from glasses and other substances, not included in the three expedients for producing sounds by instruments, which the ancients as well as the moderns have confined to three several species, as strings, pipes, and percussion, is doubly entitled to the epithet artificial. The harmonies of a single string on the Æolian harp, have, perhaps, a better claim to the title of natural music, than any other sounds produced without human assistance.

ATTACCO, in Music, is a kind of short subject or point, not restricted to all the laws of regular fugue. Sometimes it is a section of the principal theme itself, treated rather as an imitation than a subject of regular fugue, and may be answered in any interval, at pleasure.
AUBADE, Fr. in *Music*, a concert given at daybreak in hot climates, in the open air; generally by a lover under the window of his mistress. The Italians term this harmonical morning salutation, *mattinata*; a noon song of the same kind, *giornata*; evening song or concert, *serenata*; a midnight concert, *notturno*.

AUTHENTIC, in *Music*, a term used in speaking of the ecclesiastical modes of *canto fermo*, or plain-song. An authentic tone or mode is that, when the octave is harmonically divided in this proportion, 6.4:3. that is to say, when the fifth is at the bottom, and the fourth at top, as \( A^\ \text{D} \). When D the octave is divided arithmetically, as 4.3:2. where the fifth is above the fourth, as \( D^\ \text{A} \), then the mode is termed plagal. Of the eight ancient ecclesiastical modes, four are authentic; namely, the first, third, fifth, and seventh. The rest, that is, the second, fourth, sixth, and eighth, are plagal. See MODES.

BACCHANALIA, religious feasts in honour of Bacchus, celebrated with much solemnity among the ancients, particularly the Athenians, who even computed their years by them, till the commencement of the Olympiads.

The bacchanalia are sometimes also called orgia, derived, as some conceive, from the Greek οὐρὴ, *fury*; on account of the madness and enthusiasm wherewith the people appeared to be possessed at the time of their celebration.

They were held in autumn, and took their rise, according to Herodotus, from Egypt, where they were known under the name of the mysteries of Isis and Osiris; whence, according to Diodorus, they were brought into Greece by Melampus; and they afterwards passed into Italy and Gaul, and were adopted almost throughout the whole Pagan world.

The form and disposition of the solemnity depended, at Athens, on the archon, and was at first exceeding simple; but, by degrees, it became incumbered with a number of ridiculous ceremonies, and attended with much dissoluteness and debauchery; insomuch that the Romans, who grew ashamed of them, suppressed them by a senatus-consultum throughout all Italy, A. U. C. 568. B. C. 186. It was a saying of Plato, recorded by Diogenes Laertius, (1. iii, Segm. 39.) that to drink to excess was not allowable, except upon the festival of that god who is the giver of wine.

The women had a great share in the solemnity, which is said to have been instituted on their account; for a great number of them attended Bacchus in his expedition to India, carrying in their hands the *thyrsus*, i. e. a *little lance*, covered with ivy and vine leaves, singing his victories and triumphs wherever they went; the ceremony was kept up after Bacchus's deification, under the title of Bacchanalia, and the women were installed priestesses thereof, under that of *Bacchae* or *Bacchantes*.

These priestesses at the time of the feast, ran through the streets, and over the mountains covered with tiger's skins, their hair dishevelled, their *thyrsus* in one hand, and torches in the other, howling and shrieking ἐυοὶ σαφοὶ, ἐυοὶ Βαϰχε, or Ἰω Ιαϰεϰ, or Ιω Βαϰχε. Men and women met promiscuously at the feast, all perfectly naked, except only for the vine-leaves and clusters of grapes, which bound their heads and hips; here they danced and jumped tumultuously, and with strange gesticulations, sung hymns to Bacchus, till, being weary and giddy, they tumbled down.

The licentiousness of these, and of some other festivals, was so well known, that it was the advice of wise men to married women to abstain from the feasts of Bacchus, and Ceres, and the mother of the gods. Hence that saying of Arisippus, mentioned by Sextus Empiricus, concerning a chaste woman, "That she will not be corrupted even at the Bacchanals;" intimating the great danger of being vitiated that attended these festivals.

BACCHANALIA, *Bacchanals*, is also a name given to pictures, or basso-relievos, whereon the feast is represented, consisting chiefly of dancings, nudities, and the like. Of these basso-relievos, we have seven or eight in the "Monumenti inediti" of Winkelmann. They are also exhibited on a fine vase of agate, preserved in the abbey of St. Denis, in France.

There are antique bacchanals still seen on several ancient friezes. The bacchanals painted by Pousin are excellent.

In the Justinian garden at Rome, there is a marble vase of most precious workmanship, upon which is a representation of these orgies of Bacchus. The vase,
from the beauty of its sculpture, is supposed to be by the hand of Saurus. The whole pomp of one of these processions is there admirably represented; in which are introduced Bacchus, the Bacchanals, the Maenades, the players on flutes, matrons and virgins, with the crotalum or cymbalum, and tympanum; lawns and satyrs, holding in their hands vases and cups; priests leading the victims destined for sacrifice, such as the boar, the he-goat, and the bull; and, lastly, old Silenus, drunk, upon his ass, which he is hardly able to guide. Burney’s Hist. Mus. vol. i, p. 300.

Some writers call the Romish CARNIVAL, the Christian Bacchanalia.

BAGPIPE, a musical instrument of the wind kind, chiefly used in country places, especially in the North.—It consists of two principal parts; the first a leathern bag, which is blown up like a foot-ball, by means of a port vent, or little tube, tilted to it, and stopped by a valve. The other part consists of three pipes or flutes; the first, called the great pipe, or drone; and the second, the little one, which passes the wind only out at the bottom; the third has a reed, and is played on by compressing the bag under the arm when full, and opening or stopping the holes, which are eight, with the fingers. The little pipe is ordinarily a foot long, that played on thirteen inches, and the port vent six.

The bagpipe takes in the compass of three octaves.

This instrument was not unknown to the ancients. It was called by the Greeks ασϰανλος; by the Romans tibia utricularis. The Italians call it priva, cornumusa; the French musette and chalumeau. In the first edition of the French Encyclopédie, there is a minute and elaborate description of the instrument, its construction, scale, &c. By the ornaments mentioned, it must have been admitted into good company.

The invention of it is derived by some from Tubal; others ascribe it to Pan; others to Mercury, to Faunus. to Marsyas, and to the young Sicilian shepherd Daphnis, who first composed pastorals.

An anonymous French author has published a treatise of the bagpipe, “Traité de la Musette,” with a new method of learning to play on it without a master. Fol. Par. 1672.

BALALAIKA, in Music, a musical instrument of the bandour kind, of very ancient Sclavonian origin; it is in common use both with the Russians and Tartars; according to Niebuhr, it is also frequent in Egypt and Arabia. The body of it is an oblong semicircle, about a span in length, with a neck or finger-board of four spans. It is played on with the fingers like the tambour or guitar; but has only two wires, one of which gives a monotonous bass, and by the other the piece is produced. Under the touch of able fingers, accompanied by a good voice, it sounds agreeably enough; and therefore it is not unfrequently seen in the hands of people of fashion.

BALET DE LA ROYNE, in Music. This dance, more ancient than any mentioned in the long article on the subject, in the Encyc. Méth. where it has not been honoured with notice, merited a place, as a curiosity, if not for its superior plan and execution.

Henry III, of France having, in 1581, married his favourite minion, the duc de Joyeuse, to mademoiselle de Vaudemont, sister to his queen Louise de Lorraine, almost ruined his kingdom in balls, masquerades, tilts, tournaments, and every species of expensive festivity which could be devised on the occasion.

The queen, likewise, in honour of her sister’s nuptials, gave an entertainment at the Louvre, in which a ballet was exhibited, called “Ceres and her Nymphs,” which was then a new kind of spectacle in France, avec une grande musique, composed by the celebrated Claude le Jeune. The Entrées de Balets, in this fete, were invented by Baltazar de Beaujoyeux, the famous Piedmontese performer on the violin, who having published an account of his devises in a book which is now become extremely scarce, we shall present our readers with its title, and a sketch of its contents.

"Balet comique de la Royn, faict aux nopces de monsieur le due de Joyeuse et mademoiselle de Vaudemont sa sceur. Par Baltasar de Beaujoyeux, valet de chambre du Roy, et de la Royn sa mere." A Paris, 1582, 4to. The types and paper equal in beauty those of Elzevir in the next century; and the musical characters, though cut in wood, are much more clear and neat than any we ever saw of the kind. But as to the music itself, it is more barbarous, in point of melody, than any we have ever seen on paper. The counterpoint, indeed, is not incorrect; nor can the
French be justly accused of ever being deficient in the mechanical rules of composition, since they were first established; but for fancy, air, and rhythm, there is not a passage in this whole performance, except in a few of the dances, by which we are reminded of their existence. But it seems as if dancing could not subsist without a marked measure; indeed, when poetry is sung without measure, it becomes worse than prose. In the operas of Lulli and Rameau, the music of the dances was always much more pleasing to foreigners than that which was sung, from its being necessarily more marked and accented: that is, in what was danced some determined measure and movement was always perceptible. But in the vocal part of de Beaujoyeux balet, there is nothing that resembles an air, or that seems to imply a selection of notes, or to suggest a reason for one sound being higher or lower, more quick or more slow, than another.

But it should be remembered, that the music of this old French ballet was not composed by Baltazarini, the Italian, who only acted as ballet master on the occasion, but by Messrs. de Beaulieu and Salmon, of the king's band, whom his majesty had ordered to assist him in composing and preparing all that was most perfect in music for this festival; and M. Beaulieu, "whom all professors regard as an excellent musician, has, on this occasion, even surpassed himself, assisted by Maistre Salmon, whom M. Beaulieu and others highly esteem in his art."

We have dwelt the longer on this performance, as it is the only French theatrical music extant of the time. And in comparing it with that of Lulli, it appears that he did not disdain to comply with the national taste, which had been long established, with respect to measure and melody; he certainly added much to both, but conformed to the genre.

As it will be no kindness to curious readers to refer them to so scarce a book for examples of this music, we may venture to mention the Gen. Hist. of Mus. vol. iii, where copious extracts from it are inserted.

BALLAD, or Ballet, a popular song containing the recital of some action, adventure, or intrigue.

The French confine their ballads to stricter terms. A ballad, according to Richelet, is a song consisting of three strophes, or stanzas, of eight verses each, besides a half strophe; the whole in rhyme, of two, three, or four verses, with a burden repeated at the end of each strophe, as well as of the half strophe.

In the old English version of the Bible, the book of Canticles is in titled the ballad of ballads, which has given scandal to some Romish writers as countenancing the opinion of those who hold that book a ballad of love, or a recital of the amours between Solomon and his concubine, as Castalio and some others have conceived it to be.

Some have suggested that a collection of ballads is necessary to a minister, in order to learn the temper and inclinations of a people, which are here frequently uttered with great simplicity. The great Cecil, chief minister to queen Elizabeth, is said to have made a most ample collection of ballads on this account.

A very ingenious political writer, Mr. Fletcher of Saltoun, says, that if he could but make the ballads of a nation, he would care very little who made the religion of it. There is a very curious collection of old English and Scottish ballads, published in 3 vols. 8vo. by Dr. Percy; in which, and in a dissertation prefixed to Aikin's Collection of Songs, &c. the curious in this way may find abundance of entertainment and information concerning the old ballads, and ballad-makers.

BALLAD, a mean and trifling song, generally, such as is sung in the streets. In the new French Encyclopedie we are told, that we dance and sing our ballads at the same time, as the French do their vaudevilles. We have often heard ballads sung, and seen country-dances danced; but never at the same time, if there was a fiddle to be had. The movement of our country-dances is too rapid for the utterance of words; though the term ballad, we have no doubt, was derived from the Italian ballata, a song to be sung and danced at the same time, as it is defined in the Crusca Dictionary: canzone, che si canta ballando. Ballatella, and Ballatetta, arc diminutives of the same word: piccola canzonetta a ballo. The English ballad has long been detached from dancing, and, since the old translation of the Bible, been confined to a lower order of song. In Shakspeare's time this species of vulgar and popular poetry was wholly degraded and turned into the streets—
"An I have not ballads made on you all, and sung to filthy tunes, may a cup of sack be my poison."

Hen. IV.

BALLET, or BALET, BALETTO, a kind of dramatic poem, representing some fabulous action or subject, divided into several entries; in which several persons appear, and recite things under the name of some deity, or other illustrious character.

BALLET, from ἐλευ, to cast, is more particularly used for a stage dance. Rousseau defines this word a theatrical action, represented by dancing, guided by music. The term is derived from the old French word baller, to dance, sing, divert one's self. The music of a ballet ought to be still more cadenced and accented than mere vocal melody; and it is the business of music to suggest to the dancer that animation and expression which the singer acquires from the words; and it is likewise her business to supply, in the language of the soul and passions, all that the dancer cannot present to the eyes of the spectator.

BALLET is likewise the name given in France to a whimsical kind of opera, where dancing is hardly more in place than in the others, or productive of better effects. In most of these ballets, the several acts seem so many different subjects, connected together only by some general relation foreign to the action, which the spectator would not discover, if the author did not make it known in the prologue.

These ballets contain other little ballets, which are called festivals or entertainments; they are likewise called suits or series of dances, which succeed each other without subject or connection with the principal action, and where the principal dancers tell you nothing but that they dance well. This arrangement, by no means theatrical, may do very well at a private ball, where each individual has fulfilled his object sufficiently, when he has amused himself, and where the interest which the spectator takes in this individual, dispenses with his giving him any other gratification. But this defect in the subject and connection, ought never to be suffered on a public stage, not even in the representation of a ball, where the whole ought to be combined by a secret action, which keeps up the attention, and interests the spectator. In general, every dance which represents nothing but itself, and every ballet which is only a ball, should be banished from the theatre. Indeed every action on the stage is the representation of another action, and what we see there is only the image of what we suppose there; so that it ought not to be merely this or that dancer who presents himself to your observation, but the person whose character he has assumed. Thus, though the private dance can represent nothing but itself, the theatrical dance ought necessarily to be the representation of something else, in the same manner as the singer represents a person that is speaking, and the decoration other places than those which he occupies.

The worst ballets are those which are founded on allegorical subjects, and which represent nothing but an imitation of an imitation. The whole art of this kind of dramas consists in the personifying intellectual images, and in making the spectator see what he disbelieves; as if, instead of attaching him to the stage, it were meritorious to carry him from it. Besides, this species of representation requires so much subtlety in the dialogue, that the composer of the music finds himself lost in the land of points, allusions, and epigrams, while the spectator does not forget himself a moment. When the words of an opera speak sense, the music will learn to speak it likewise.

These reflections of Rousseau, according to M. Framery, are now useless, as this kind of spectacle no longer exists. But as we wish to record the productions of each art, Rousseau's account of the ballets of his time will be historical of what they were at the period when he wrote, that is about fifty years ago; and we think what Jean Jaques says of allegorical ballets, would suit the mythological nearly as well.

Ballet is one of the longest and most elaborate articles of the new French Encyclopedic. When M. Framery seems to have exhausted the subject, it is resumed by his colleague in the musical department, M. Guinguene, who has still found much to say on the subject. Ballet, he informs us, is a term that includes three different kinds of exhibition on the Lyric stage. In the first, the dance constitutes only a subordinate part of the action represented; in the second it is the principal part; poetry and vocal music then becoming accessories in their turn; and, lastly, in the third, the whole business is performed in dancing; and in representing an action in which the performers neither speak nor sing; they dance. The first kind is simply called a ballet: the second a
ballet-opera, or opera-ballet; an opera with dances analogous to the drama: the third is called a pantomime ballet.

"To treat this subject in its full extent (says M. Guinguené) would require a volume." And an excellent volume has already been written on the subject, by the celebrated Noverre, intitled "Lettres sur la Danse," 1760. In 1754 M. Cahusac had published a pleasing work in 3 vols. "Sur la Danse ancienne et modeme," an historical treatise. But father Menestiere's treatise, "Des Ballets anc. et mod. selon la rigle du Theatre," 1682, is perhaps the most curious of them all, in the historical part.

Music is so inseparable from the dance, that the word ballet may be regarded as a musical term. The music to opera dances used to be furnished by the composer of the airs and recitatives. Hasse, Jomelli, and Gluck, distinguished themselves as much by the music of grand ballets, as by the opera itself; as did our countryman Dr. Arne, by the dances in Comus. Of late years, it has been generally assigned to the principal second violin to compose the music and head the band, in the dances between the acts of an opera. Agus, Noferi, and Le Brun the hautboy player, performed this office during many seasons; and their business was executed for a considerable time to the satisfaction of the public and the per- sonals? Messrs. Framery and Castilhon, more courageous than the citizen of Geneva, have told us in the new Encyclopedie, all that is pretended to be known about it; though the former begins by telling us that it is an instrument about which nothing is known. The ancients and moderns have frequently confounded it with the lyre. Dacier conjectured that it was a stringed instrument; and deriving its name from barumiton, which implies thick strings of flaxen thread, he concludes that it was an instrument with thick strings. It is certain that flax was in use for strings to musical instruments, before the art was known of making them of the bowels of animals. Horace calls this instrument Lesbian, Lesboun bar- biton, ode i, lib. 1; and 32 of the same book, Lesbo primum modulate civi, "Thou, O barbiton, first touched by a citizen of Lesbos," meaning Alcitis, to whom he ascribes the invention. But, says M. Castel- hon, we may conclude from what Musonius asserts of this instrument, in his treatise "De Luxu Graeco- rum," that they made a kind of concert with the pec- tis of the Lydians. (See PECTIS.) He assures us that Terpander was the inventor of it. Julius Pollux also calls it barbiton barumiton. Athenaeus relates that they like wise called it barnus, and attributes the in- vention to Anacreon. We hope the grumblers will be perfectly enlightened by this clear, consistent, and satisfactory account.

BARCAROLLA, in Music, a kind of song in the Venetian language, sung at Venice by their gondoliers or watermen, in their boats, or barks. These airs
Bards, Bardi, in Antiquity, ancient poets among the Gauls and Britons, who described and sung in verse the brave actions of the threat men of their nation; with design to inculcate and recommend virtue, and even sometimes to put an end to the difference between armies at the point of engagement.

Bochart derives the word from parat, to sing. Camden agrees with Festus, that bardus originally signifies a singer; and adds, that the word is pure British. Others derive the word from Bardus, a druid, the son of Dryis, and the fifth king of the Celts?

Amidst this uncertainty with regard to the etymology of the appellation bards or bard, we may add that some have derived it from bâr, which signifies fury, and which bears, without doubt, some analogy to that poetic fury or enthusiasm with which the poets fancied themselves, or might feign to be inspired. Among the Welsh, we are told by others, bard is preserved as an indigenous term, having an abstract signification, and denoting one that makes conspicuous, or causes to be revealed. By another author we are informed that the word bard being a primitive noun, neither derived nor compounded, it can neither be traced to its root, nor resolved into its parts. It signified one who was a poet by his genius and profession, and who employed much of his time in composing and singing verses on various subjects and occasions.

The bards, it is said, differed from the druids, in that the latter were priests and teachers of the nation, but the former only poets and writers.

Larrey, Bodin, and Pasquier, indeed, will have the bards to have been priests, as well as philosophers: and Cluverius, orators too; but without much foundation in antiquity. Strabo divides the sects of philosophers among the Gauls and Britons into three, viz. the druids, bards, and evates. The bards, adds he, are the singers and poets; the evates, the priests and natural philosophers; and the druids, to natural philosophy add also the moral. Hornius however reduces them to two sects, viz. bards and druids; others to one, and makes a druid a general name, comprehending all the others. Cluverius will have it, that there were bards also among the ancient Germans; because Tacitus makes mention of their songs and poems, which contained their history. Some have distributed the ancient British poets into two classes; the first class comprehending their sacred poets, who composed and sung their religious hymns, and were called in Greek Eubates, in Latin Vates, and in their own language Faid; the second comprehending all their secular poets, "who sung of the battles of the heroes, or the heaving breasts of love," according to the description of Ossian, and
they were called bards. The principal business of these bards was to celebrate the praises of the gods and departed heroes, in odes and verses, and to sing them to their harps, at their religious assemblies, public festivals, and private entertainments. These men, were, in fact, the heralds, the chronologers, and the historians, as well as the poets of the land, for they kept up the memory of illustrious transactions, and, by their compositions, which tradition handed down to posterity, they transmitted from age to age the names and characters of patriots and warriors. It is remarkable that such a class of persons subsisted in almost all nations. They derive their origin from remote antiquity, and were ever held in high estimation. Mankind have been early led to poetical compositions. Agreeable sounds strike at first every ear, but poetry was necessary to give those sounds a lasting effect. Verse has therefore been made use of to preserve the memory of remarkable events and great actions. The religious ceremonies of nations, their manners, and rural labours, were also recorded in numbers. Hence it was that Greece could boast of a Homer, a Hesiod, and of other poets, some ages before an historian had written in prose. Amongst the Gauls also, and other Celtic nations, there were poems composed on various subjects from the earliest ages. Diódoros Siculus is the first author among the ancients, who mentions the bards as the composers of verses which they sung to the sound of an instrument not unlike a lyre (1. v, § 31). Ammianus Marcellinus informs us (1. xii, c. 9), that the bards celebrated the brave actions of illustrious men in heroic poems, which they sung to the sweet sounds of the lyre. This account of these Greek and Latin writers is confirmed by the general strain and by many particular passages of the poems of Ossian. Beneath his own tree, at intervals, each bard sat down with his harp; they raised the song, and touched the string, each to the chief he loved. But this union between poetry and music did not subsist very long, in its greatest strictness, perhaps, in any country. The musicians soon became very numerous, and those of them who had not a genius for composing verses of their own, assisted in singing the verses of others to the music of their harps. Many of those songsters, or parasites (as Athenaeus, 1. vi, c. 12, calls them), -which the Celtic princes took with them when they went to war, were mere musicians, and the songs which they sung were composed by those among them who had a poetical genius, and were called bards. Ossian, however, excelled as much both in vocal and instrumental music as he did in poetry, and he seems to have had no idea of playing on an instrument without singing at the same time.

Whenever his bards touch the string, they always raise the song. The bards constituted one of the most respectable orders of men in the ancient British states; and many of the greatest kings, heroes, and nobles, esteemed it an honour to be enrolled in this order. They enjoyed, by law and custom, many honourable distinctions and valuable privileges. Kings and princes made choice of bards to be their bosom-friends and constant companions; indulged them with the greatest familiarity, and gave them the most flattering titles. Their persons were held sacred and inviolable; and the most cruel and bloody tyrants dared not to offer them any injury. The bards, as well as the druids, were exempted from taxes and military services, even in times of the greatest danger; and when they attended their patrons in the field, to record and celebrate their great actions, they had a guard assigned them for their protection. At all festivals and public assemblies they were seated near the person of the king or chieftain, and sometimes even above the greatest nobility and chief officers of the court. Nor was the profession of the bard less lucrative than honourable. For, besides the valuable presents which they occasionally received from their patrons, when they gave them uncommon pleasure by their performances, they had estates in land allotted for their support. Nay, so great was the veneration which the princes; of these times entertained for the persons of their poets, and so highly were they charmed and delighted with their tuneful strains, that they sometimes pardoned even their capital crimes for a song. It may be reasonably supposed that a profession, which was so honourable and advantageous, and to which were annexed so many flattering distinctions and desirable immunities, would not be deserted. Accordingly, the accounts we have of the numbers of the bards in some countries, particularly in Ireland, are hardly credible. In the poems of Ossian we often read of 100 bards belonging to one prince, singing and playing in concert for his entertainment. Every chief bard,
who was called Allah Redan, or doctor in poetry, was allowed to have 30 bards of inferior note constantly about his person and every bard of the second rank was allowed a retinue of 15 poetical disciples. But it is probable that the bards of Britain and Ireland were not so numerous at an early period as they became afterwards; nor were they then guilty of those crimes by which they at length forfeited the public favour. In this most ancient period, the British bards seem to have been in general men of genius and virtue, who merited the honours which they enjoyed. Though the ancient Britons of the southern parts of this island had originally the same taste and genius for poetry with those of the north, yet none of their poetical compositions have been preserved; and this may be easily accounted for. After the provincial Britons had submitted quietly to the Roman government, yielded up their arms, and had lost their free and martial spirit, they could take little pleasure in hearing or repeating the songs of their bards, in honour of the glorious achievements of their brave ancestors. The Romans too, if they did not practise the same barbarous policy which was long after practised by Edward I, of putting the bards to death, would at least discourage them, and discountenance the repetition of their poems for very obvious reasons. These sons of the song being thus persecuted by their conquerors, and neglected by their countrymen, either abandoned their country or their profession; and their songs, being no longer heard, were soon forgotten. But so natural was a taste for poetry to the original inhabitants of this island, that it was not quite destroyed by their long subjection to the Romans, but appeared again in the posterity of the provincial Britons, as soon as they recovered their martial spirit, and became a free, brave, and independent people. Nennius, who wrote in the ninth century, and in the reign of prince Mervyn, is the first of the British historians who mentions the bards. He says, that Talhaiarn was famous for poetry; that Aneuryn and Taliesin, Llywarch-hen and Chian, flourished in the sixth century. Of these bards, the works only of three are extant; those of Aneuryn, Taliesin, and Llywarch-hen. Besides the bards already mentioned, there were others who flourished during this period; of whom the most eminent was Merddin Wyllt, who composed a poem called Afallenau, or the orchard. From the sixth to the tenth century it is difficult to meet with any of the writings of the bards, owing probably to the devastations of war, and to the civil dissensions among the Welsh.

Such was the respect in which the bards were held, that by a law of Howel Dha, whoever struck one of this order must compound for the offence by paying to the party aggrieved one-fourth more than was necessary to be paid to any other person of the same degree.

The election of the bards was made every year, in an assembly of the princes and chieftains of the country, in which they were assigned precedence and emolument suitable to their merit; but the bard most highly distinguished for his talents was solemnly chaired, and had likewise a badge given him of a silver chain. This congress of the bards was usually held at the royal residence of the prince of Wales; the sovereign himself presiding in that assembly. The bards properly so called, were distinguished from the Druids and Eubates or Ovates, by the colour of their dress; they were clad in sky-blue garments, whilst the Druids wore white, and the Ovates green. Their disciples were arrayed in variegated garments of these three colours united. They held their meetings in circles of unwrought stones, astronomically placed as indexes of the seasons, in the open air, and when the sun was above the horizon, or as they expressed it, in the face of the sun, and in the eye of the light. They had four principal meetings in the course of the year. The first was in the winter solstice, called Alban Arthan, which was the beginning of their year; the second on the vernal equinox, or Alban Eilir; the summer solstice, or Alban Hefin, was the third; and the autumnal equinox, or Alban Elved, was the fourth solemn convention.

It appears, upon a close examination of its principles, that one of the primary intentions of bardism was, that it should be a regular system for preserving authenticated records and various kinds of knowledge in the national memory, as it were, by means of oral tradition. And, in order that nothing should have currency without due consideration, whatever was intended to be received into such a public record, whether the historical and aphoristical triad, or the didactic song, was always laid before the grand meetings. There it was discussed with the most scrutinizing severity; if then admitted, it
was re-considered at the second meeting; if then approved of, it was referred to the third meeting; and being approved of by that, it was ratified or confirmed; otherwise it was referred to the triennial supreme convention for ultimate consideration. At this national meeting, all that had been confirmed at the provincial assemblies were also recited; and the disciples, who there attended from every province, were enjoined to learn them, in order that they might become as widely diffused as possible. What was thus solemnly sanctioned was to be recited for ever afterwards, annually at least, in addition to the former bardic traditions, in the secondary meetings of districts, and also at one or other of the four grand meetings. Such being the bardic establishment, by which tradition became formed into a well-combined science, we may rely on its triads for the best illustration of its principles.

The three cultivators of song and imagination among the nation of the Cymry were Gwyzon Ganllebon, who was the first in the world that composed poetry; Hu the mighty, who first applied poetry to preserve memorials and composition; and Tydain Tad Awen, or Tydain father of the muse, who first reduced poetry to an art, and established rules for composition. And from what those three persons executed, originated bards and bardism, as constituted with privilege and custom by the three institutional bards, namely, Plenuyz, Alon, and Gzwyon. They established the privileges and customs which appertain to bards and bardism, and therefore they are called the three institutors. Nevertheless there were bards and bardism before their time; but they were not under the regulation of inviolable transit; and they had neither privileges nor customs, except what were obtained through civility and courtesy, under the protection of the country and nation, before the time of these three. Some say that they were contemporary with Prydain, son of Aez the Great; but according to others, they lived in the time of Dywanval Moel Mud, his son, who in some of the old books is called Dywenwarth, son of Prydain. For a further account of these institutional bards, and of the triads that exhibit their character, office, and privileges, and that illustrate their theology we must refer the curious who wish for further information on this subject, to Williams’ Poems, lyric and pastoral, in 2 vols. 8vo. London, 1794; and to Owen’s Heroic Ele-

gies of Llywarch-Hen, in I vol. 8vo. London, 1792. According to the latter of these writers, the bards were divided into Bards Braint, who were the civil magistrates or judges; and Bards Druid, who were the priests of the community.

From the triads above referred to the reader may deduce a correct outline of bardism; and as to the detail of its various parts, he may be surprised to be told that they are still preserved in various memorials of the ancient Britons, and in the memory of its initiated; though it is generally supposed that this extraordinary system, known to the world under the name of Druidism, has perished above fifteen hundred years past, except the few hints given of it by Greek and Roman writers. Lost it certainly would have been but for its extraordinary means and precaution for self-preservation; especially in the middle ages, when it had to withstand the persecutions of the popish church in the fulness of its power. Here it may be worthy to remark that bardism contains a great many things to induce a conviction of its being the parent of free-masonry; and some of the principles taught in both are the same in expression; and indeed it is very remarkable, that artisan, or mason, is exactly the meaning of owyz, or ovate, the name of the third class of bards; and in this character only could the bards meet under cover. Free-masons do so now; but they preserve a traditionary memorial of their meeting anciently on the tops of their highest hills, and in the bottoms of their lowest vales, and when the sun was in its due meridian. Thus bardism, whose principles were to be diffused in the face of the sun and in the eye of the light, for the sake of truth and self-preservation, had the means of becoming even more secret than masonry veiled in the darkness of night.

There were three different classes of this order in Wales: the first was called "Beirdhs," and they were the composers of verses and odes in various measures; they were likewise the recorders of the arms of the Welsh chieftains, and the repositories also of the genealogies of families. This class was accounted the most honourable, and was high in the public estimation. The second class, called "Minstrels," were performers upon instruments, chiefly the harp and the crwth. The third were those who sung to musical instruments in general, and were called "Datgeiniaid."
The talents of the Welsh bards were not solely employed in preserving the descents of families, in the praise of heroes, or in recording their illustrious actions; they sometimes in plaintive numbers mourned over the tomb of the fallen warrior.

When tyranny erected her banner in Wales, by the cruel policy of Edward in the massacre of the bards, that ancient seat of music and poetry was deserted by the muses, and consequently was deprived of those fascinating arts which softened, at the same time that they invigorated, the genius of the people. During the spirited, and tor a while the prosperous insurrection of Owen Glendwrdwy, the muses revisited their native seats, encouraged by the munificence of that leader, and animated by the transitory ray which had dawned upon freedom. When the Welsh had made the last effort for their expiring freedom, they sunk into a state of slavery the most deep and severe. The bards were prohibited by law from making their annual progress, and from holding public assemblies; which privileges were called by the natives "clera" and "cymhortha." During this period, and the contest between the houses of York and Lancaster, the genius of poetry was nearly extinguished, or was only employed in soothing the misery of the times, by obscure predictions of more prosperous days. A brighter prospect opened on this nation in the reign of Henry VII, a series of bards arose from that time; and these bards, being supported in the families of the Welsh chieftains, ascertained and preserved their genealogies; and as the causes of reciting warlike exploits had ceased, they celebrated the civil virtues of their patrons, their magnanimity, their hospitable spirit, their talents, and the graces of their persons. They likewise, amidst other duties, had the mournful office of composing an elegy on the death of the chieftain in whose family they resided, which was sung to the surviving relations in honour of the dead, reciting the noble families from which the deceased had sprung, and the great actions performed by himself or his ancestors. Since the reign of queen Elizabeth, there has not been any regular assembly of the bards. The motives to emulation having ceased, and the spirit of ancient freedom being extinguished, the poetic fire, for which the Welsh nation had been so renowned, gradually declined. But a spark of that ancient fire still remains in the genius of the Welsh,
quary. Many of these compositions are referred to by Keating, as the foundation of his history of Ireland. Ample estates were appropriated to them that they might live in a condition of independence and ease. The profession was hereditary; but when a bard died, his estate devolved not to his eldest son, but to such of his family as discovered the most distinguished talents for poetry and music. Every principal bard, as we have already observed, retained thirty of inferior note as his attendants; and a bard of the secondary class was followed by a retinue of fifteen. They seem to have been at their height in the year 558. None of their poems have been translated.

In the highlands of Scotland there are considerable remains of many of the compositions of their old bards still preserved. But the most genuine, entire, and valuable remains of the works of the ancient bards, and perhaps the noblest specimen of uncultivated genius, are the poems of Ossian, the son of Fingal a king of the Highlands of Scotland, who flourished in the second or third century, lately collected by Mr. Macpherson, and by him translated from the Erse or Gaelic language into English. Dr. Johnson, indeed, has suggested his doubts concerning the existence of any such ancient MSS. as those from which the poems of Ossian have been translated. But this is not a place for discussing this subject of controversy. Admitting, however, their genuineness upon the whole, whatever additions may have been made to them, they afford an admirable specimen of what might be the conceptions of ancient bards. These poems, says Warton (ubi supra), notwithstanding the difference between the Gothic and the Celtic rituals, contain many visible vestiges of Scandinavian superstition. The allusions in the songs of Ossian to spirits who preside over the different parts, and direct the various operations of nature, who send storms over the deep, and rejoice in the shrieks of the shipwrecked mariner, who call down lightning to blast the forest or cleave the rock, and diffuse irresistible pestilence among the people, beautifully conducted and heightened under the skilful hand of a master bard, entirely correspond with the Runic system, and breathe the spirit of its poetry. Had Ossian found it convenient to have introduced religion into his compositions, not only a new source had been opened to the sublime, in describing the rites of sacrifice, the horrors of incantation, the solemn invocations of infernal beings, and the like dreadful superstitions, but probably many stronger and characteristic evidences would have appeared of his knowledge of the imagery of the Scandinavian poets.

The remains of Taliesin, and other Welsh poets, assist us in forming a competent judgment upon this subject. See Evans's Dissertation de Bardis. Jones’s Musical and Poetical Relics of the Welsh Bards.

It is not improbable, says Warton (ubi supra), that the Welsh bards might have been acquainted with the Scandinavian Scalds, at least before their communication with Armorica. The bards flourished most in those parts of Britain which most strongly retained their native Celtic character. The prosody of the Welsh bards depended much on alliteration; hence they seem to have paid an attention to the Scaldic versification. The Islandic poets are said to have carried alliteration to the highest pitch of exactness in their earliest periods; whereas the Welsh bards of the sixth century used it but sparingly, and in an imperfect degree: from this circumstance we may deduce a proof of imitation, or at least of emulation. There are, moreover, strong traces of conformity between the manners of the two nations. Besides, the Scandinavian Scalds were well known in Ireland; and there is sufficient evidence to prove that the Welsh bards were early connected with the Irish. Even so late as the eleventh century, the practice continued among the Welsh bards of receiving instructions in the bardic profession from Ireland. The Welsh bards were reformed and regulated by Gryffy ap Conan, king of Wales, in the year 1078. At the same time he brought over with him from Ireland may Irish bards for the information and improvement of the Welsh. In Ireland, to kill a bard was highly criminal; and to seize his estate, even for the public service and in time of national distress, was deemed an act of sacrilege. Thus, in the old Welsh laws, whoever even slightly injured a bard, was to be fined 6 cows and 120 pence. The murderer of a bard was to be fined 126 cows. Moreover, an intercourse was necessarily produced between the Welsh and Scandinavians from the piratical irruptions of the latter. It may be added, that the Welsh, although living in a separate and detached situation, and so strongly prejudiced in favour of their own usages, yet from neighbour-hood and unavoidable
communications of various kinds, might have imbibed the ideas of the Scandinavian bards from the Saxons and Danes, after those nations had occupied and overspread all the other parts of our islands. (See SCALDS.) The effect of an intercourse with Armorica is perceived in the composition of those Welsh bards who flourished after the native vein of British fabling had been tinctured by the "fairy tales" which had been propagated by the Arabians in Armorica, and which the Welsh had received from their connection with that province of Gaul. It is easy to collect from the Welsh odes, written after the tenth century, many signatures of this exotic imagery. See SCANDINAVIA, and ARMORICA.

BARYPYCNI, in Greek Music. The ancients gave this epithet to five of the eight stable or fixed sounds of their diagram; namely, the hypate hypaton, the hypate-meson, the mese, the paramese, and the nete diezeugmenon. These four terms, barvpyene, mesopyene, oxypyene, and apyene imply the lower spiss or dense sounds; that is to say, the spiss or close in intervals, the mean of the spiss, the acute of the spiss, and the widest of the spiss, meaning in the Greek music, the hypate, the parhypate, the licanos, and the nete of the tetrachords of the spiss kind. By spiss or close, the intervals of the semitones in the chromatic and quarter tones in the enharmonic, are implied. See GREEK SYSTEM.

BASE, Engl. BASSE, Fr. BASSO, Ital. In Music, the lowest part in the harmony of a musical composition. We prefer the derivation of the word from baus, Lat. to basse or basso; as the word basis is already naturalized in the use that is made of it in architecture, the base of a pillar. Sir Francis Bacon uses it musically for a deep or grave sound: "In pipes the lower the note-holes be, and the further from the mouth of the pipe,, the more base sounds they yield." Nat. Hist. N° 178. And Dryden thus expresses the string of an instrument that gives a base sound:

"At thy well-sharpen’d thumb, from shore to shore,
The trebles squeak for fear, the bases roar."

Dr. Johnson says, base is applied to deep; grave sounds; it is frequently written bass, though the comparative baser seems to require base.

The base is the most important of all the parts of polyphonic compositions, being the foundation upon which all the other parts are built; and it has long been a maxim among musicians, that "if the base be good, the harmony and modulation are seldom defective."

The word base is applied to various purposes in music; as base-viol, the principal base, continued base, ripieno base, ground base, thorough base, &c. most of which explain themselves: the rest will be further noticed in their plates. But the base to any common chord or part of a chord, called by the Italians basso principale, and by the French basse fondamentale, is what chiefly belongs to this article, and requires a clear explanation of its use.

A principal or fundamental base, in practice, is that base which carries the common chord of 8/5/3 or the chord of the 8/5/7/3.

In the Encyclopedie Methodique, there are rules given from M. Sulzer, for arranging the parts to a low base, which M. Framery says are excellent; yet he has something to object to every one of them. We shall not dispute with either of those able musical critics, their rules or exceptions; we fear that both will be unintelligible to young composers, and that an experienced composer will hardly consult a dictionary for the arrangement of the several parts in his compositions. All we shall recommend to the young harmonist, or juvenile organist, is to accompany low notes in the base by wide intervals. In common chords, when the base is low in the scale, thirds have a very growling bad effect, particularly on the organ. In filling up the parts with the left hand, when the right hand has common chords or divisions derived from common chords, the left hand should only give the fifth and eighth to the base. For the fundamental and supposed base to the treble scale, major, minor, and chromatic, see COUNTERPOINT, COMPOSITION, COMMON CHORD, and THOROUGH-BASE.

BASSE Fondamentale. The general acceptance of the term base, in practical music, has been given in the preceding article. We shall now endeavour to trace the history of the fundamental base in theory; which Rameau and his adherents regard as a discovery in music, equal to Newton’s doctrine of gravitation in astronomy.
The earliest notice in England of the phenomenon upon which the fundamental base of Rameau has been built, was in the Royal Society, in a paper written by Dr. Wallis "on the trembling of consonant strings," Mar. 1677. No. 134, p. 839. Abridged vol. i, p. 606.

"It hath long been observed, that if a viol-string, or lute-string, be touched with the bow or hand, another string on the same or another instrument not far from it (if in unison to it, or an octave, or the like) will at the same time tremble of its own accord. But I can now add, that not the whole of that other string doth thus tremble, but the several parts severally, according as they are unisons to the whole or the parts of that string so struck." (Here he gives the several divisions into which a string, when caused to sound, divides itself, and a delineation of the forms of the several consonances on a plate; but of these we shall have further occasion to speak hereafter.)

"This was first of all (that I know of) discovered by Mr. William Noble, M. A. of Merton college; and by him shewed to some of our musicians about three years since; and after him by Mr. Thomas Pigot, A. B. of Wadham college, without knowing that Mr. Noble had discovered it before." As we are now only proving a claim, we need cite no more of this paper; at the end of which another paper is referred to (No. 135, p. 879), which reference says: "Concerning these phenomena, an exquisite solution is given by Dr. Narcissus Marsh, in Dr. Plot's Natural History of Oxfordshire."

D'Alembert (Elemens de Musique) speaks of Rameau as the discoverer of the harmonics, as well as author of the system built upon them. In the preface to the second edition of his Elements of Music, in which he has abridged and methodized the musical tracts of Rameau, he says; "it was Rameau who first began to reduce chaos into order, and throw a light upon the principles of harmony.

"He found in the resonance of a single string or sounding body, the most probable origin of harmony, and of the pleasure which it affords us: he developed this principle, and shewed whence the phenomena of music were derived," &c

And Rousseau, Diet. de Mus. art. Harmonie, says, that "Pere Mersenne and M. Sauveur having found that every sound, though seemingly a simple unison, was always accompanied by other sounds less distinguishable, which formed with it the common chord major; and M. Rameau, setting off from this experiment, made it the basis of his harmonical system, which M. D'Alembert at length took the trouble of explaining to the public."

Rameau himself, in his Nouveau Systeme de Musique, published 1726, says "we have in our nature the germ of harmony, without knowing it. It is however easy to perceive it in the sound of a string, a pipe, &c. in the tone of which there are three different sounds at once." In a note he adds, "this experiment is cited by different authors." But he does not seem to know their names. Rameau's account seems to have been taken from our Phil. Trans, quoted above, where it was supposed to be an English discovery. But in p. 17 of his treatise, he refers to Mersenne's Harm. Universelle, chap. des Instrumens, p. 209, for the invention; but Mersenne, in the very title of the chapter alluded to, relinquishes all claim to the discovery, by merely promising his readers "to explain many circumstances and properties of motion, natural or forced, oblique or perpendicular, where the ideas and experiments of Galileo are examined."

This puts it out of all doubt who was the first discoverer of this musical phenomenon. But the name of the true claimant does not seem to have been mentioned by any writer in England before the year 1748, when Dr. Smith first published his Harmonics; who begins the first section of that scientific work in the following manner. "Sound is caused by the vibrations of elastic bodies, which communicate the like vibrations to the air, and these the like again to our organs of hearing.

"Philosophers are agreed in this, because sounding bodies communicate tremors to distant bodies. For instance, the vibrating motion of a musical string puts others in motion, whose tension and quantity of matter dispose their vibrations to keep time with the pulses of air propagated from the string which was struck. Galileo explains this phenomenon by observing, that a heavy pendulum may be put in motion by the least breath of the mouth, provided the blasts be frequently repeated, and keep time exactly with the vibrations of the pendulum: and also by the like art in raising a large bell; and probably he was the first that rightly explained that phenomenon."
And now, having traced this curious discovery to the fountain-head, we shall draw all further information from that source.

The admirable Galileo, perhaps the most acute and useful experimental philosopher of any age or country, in his first dialogue (Opera del Galileo, vol. ii, Bologna 1655,) after discussing the vibrations of pendulums, which he first applied to the measuring of lime, proceeds with his friends Sagredo, an intelligent inquirer into mechanical powers, who asks questions of difficult solution; and Simplicius, a young philosopher, curious concerning the causes of common effects. Galileo, under the name of Salviati, after discussing the doctrine of motion, and the range of cannonballs, says; "vengo ora da i quesiti di V. S. dirvi qualche mio pensiero sopra alcuni problemi attenenti alia musica; and now, at your request, gentlemen, I shall give you my thoughts on some musical problems, a noble subject, on which so many great men have written, and, among the rest, Aristotle himself; concerning which he has left us many curious problems; so that if by such easy and intelligible experiments I shall be able to account for the wonderful phenomena of sound, I may perhaps hope that my reflections would amuse you."

"Sagredo. They will not only amuse me, but are what I most particularly wish for, being extremely delighted with all musical instruments; and though I bestowed much meditation on harmonical consonances, I have always remained... perplexed and unable to account for one of these intervals pleasing me more than another. For some not only give me no pleasure, but are extremely offensive to my ear; and that common problem of two strings tuned in unison, when one of them is caused to sound, the other not only vibrates but actually sounds, I still am unable to solve; nor do I clearly understand the forms of consonances, or many other particulars concerning them."

"Salviati. Let us try whether from our doctrine of pendulums we cannot acquire some information concerning these difficulties. And as to the first doubt, which is, whether it be true that the same pendulum performs all its oscillations, whether its swing be the greatest, the mean, or the least, exactly in equal times? I shall depend on what our professor told us, who has clearly demonstrated that a pendulum subtending any arcs whatever, passes them all in equal times, i.e. whether of 180°, or 60, 10, 2, ½ a degree, or of four minutes, supposing them all to terminate in the lowest point, which touches the horizontal plane—all is performed in equal times." This accounts for the tone of a string not sinking or changing as the vibrations become more feeble. Here too he gives the ratio of vibrations; and afterwards the history of his discovering in a church, from, the swing of a lamp, the laws of a pendulum, and that all its oscillations were isochronous. This doctrine he applied to the vibrations of musical strings, upon the number of which the gravity and acuteness of sounds more depend than on their length, tension, or thickness. It seems as if few discoveries had been made in the philosophy of sound since this dialogue was written. Galileo has demonstrated that if a string sounding C, for example, be divided by a moveable bridge into half, each half would be an octave to the whole; if divided into three parts, each would be a fifth to the octave; divided into four parts, each would be a fifteenth or double octave to the whole; if into five parts, each would be a major seventeenth (commonly called a tierce or sharp third) to the fifteenth or double octave.

Though these divisions are the same as the ratios ascribed to Pythagoras, and those of Euclid in the section of the canon; and though long before Galileo's time the chorus of a full organ had been constructed on the principle of the harmonics to a fundamental base, there can be no doubt but that this great philosopher first caught nature in the fact of producing invisibly, and without human aid, the sweetest chord in the whole system of harmony.

Here all the phenomena are represented and explained, of kindred strings being caused to tremble and sound merely by the tremors occasioned in the medium by the tone of a neighbouring string or sounding body.

Here too the theory of tuning strings, not only by tension but by weights, is explained; from which proportions doubtless, the lyrechord of Plenius was turned by weights instead of tension, some fifty years ago.

Having justly restored to Galileo the discovery of the harmonic proportions into which every single string and sounding body divides itself when caused to sound, it seems unnecessary further to explain this phenomenon here. We shall therefore pro-
ceed to the system built on this foundation by
Rameau, under the title of BASSE Fondamentale; con-
cerning which, not only the author, but the Trench
nation, have gloried as much as if he had discovered
and conquered a new world in the celestial regions
of harmony.

BASSE Fondamentale, or Fundamental Base, was
first formed into a system by Rameau, and though
the Italians meant the same thing by basso principa-
ale, so early as the time of Zarlino, it was not so
clearly explained; nor were its derivation or derivat-
ives, from a physical experiment, then generally
known in Italy.

The natural harmony or common chord to every
base, consists of the third, fifth, and eighth above the
base; or their octaves, which the Germans call the
triad; or rather the unison, or any given sound, with
its third and fifth, constitute their triad, without the
octave. If instead of the fundamental or lowest
sound (which Rameau calls "the generator) the base
takes the third or fifth of that chord instead of the
lowest sound or principal base, the harmony is said
to be inverted; and the lowest part, carrying the
chord of the sixth, or is called the supposed base,
and sometimes the bassso continue (See SUPPOSED
Base, and BASSO Continuo.) If any sound is added to
the common chord, except the seventh, the base is
no longer fundamental.

The fundamental base should move by consonant
intervals; as 3d, 4th, 5th, or 6th: never rising or fall-
ing one note or degree with perfect and similar har-
mony to both; as it would occasion a violation of the
rule against 5ths and 8ths in succession, and pre-
clude all relation and connection of chord to chord.
Common chords may be given to the following fun-
damental bases in succession.

\[
\text{In a regular ascent or descent of the scale in mod-
ern harmony. the rule for accompanying the octave
(see REGLE DE L'OCTAVE) allows only common
chords to the keynote and the 5th of the key; which
are consequently fundamental bases: the chords of
the 6th and 6/5th are given to the rest.}
\]

Rameau (Traité de l’Harmonie, p. 190,) has made
all the following bases fundamental, by accompany-
ing them with common chords.

By contrary motion, however, the principal base
may have, and often has had, common chords with
good effect, when ascending diatonically.

And if the seventh were added to many of these
chords, they would be still more interesting,
without divesting the base of the title of funda-
mental.

Of all the experiments that have been made in
physical harmony, there has been no satisfactory ori-
gin found of minor modes or keys with flat 3ds.
From whatever grave sound the harmonies have
been observed to arise, they are all component parts
of major chords, or keys with sharp 3ds. In
Rameau’s Génération harmonique, chap. Xii, ori-
gine du mode mueur, where we expected all would
be cleared up, we found his derivation of this mode
more perplexed and perplexing than any part of his
book. He tells us that we are to find indications
given by nature of the minor mode below the prin-
cipal sound, which causes the 12th and major 17th
below it to vibrate though not to sound. And M.
D’Alembert in the first edition of his “Elements”
seems satisfied with this solution. When, after telling
us that the 12th and 17th major are produced by
every sound immediately after it has been heard in
its totality; that is, the tone of the whole string or
sounding body. That the 12th and 17th arising from
this string or principal sound, are called its harmon-
icos, and form, when approximated for the conveni-
ce of the hand, the common chord major or triad
of unison 3d and 5th. But to acquire a natural origin
of the minor mode, if we tune the 12th and major
17th below any sound, below C for example, which will be an octave below the 5th and a double octave below the inferior major 3d, to C, we shall find when C is struck, that its lower 12th and major 17th will vibrate but not sound,

but this origin neither satisfied theorists nor practical musicians. And in M. D'Alembert's second edition of his "Elements" he changed his ground, and instead of the chord minor of F, he adopted that of C which G is an harmonic of C as well as of E♭. But this solution of the difficulty, fetched from far, and by no means satisfactory, was changed in the article Fondamentale of the seventh volume of the Encyclopédie, to A C E, without succeeding in proving it to be the work of nature.

The abbé Feytou, in the new Encycl. méthodique, says, that F is the fundamental base of A minor. But though among the harmonics of a single base note there is, at the top of the chord, a sound something resembling a 7th, it is not a major 7th; nor can F, or any grave sound, produce a major 7th. All the harmonics produced by F, are the following, and in the following arithmetic order:

1 8 12 15 17 19 21 22.
F f c f a c e f.
1 2 3 4 5 6 7 8.

A major 7th may be joined to the common chord of F in practice, without taking from it the title of fundamental; but it is not one of its harmonics; ergo, F is not the fundamental base to A minor. Nor does nature give any indication of a minor chord either in the harmonics, or 3d sound produced by two trebles. See TERZA SUONA.

BASE-VIOL. This instrument is now often confounded with the violoncello, though not of the same kind. In the seventeenth century every musical family had a chest of viols; all with six strings, and the finger-board fretted. The base-viol was the largest of these instruments, and called in England the six-stringed base; but in Italy, viol da gamba, on account of its resting on the leg of the performer. The tenor viol, the next in size of that class, is called viol da braccia, from its resting on the arm or shoulder when played on. The smallest and highest of these instruments is called the treble viol.

A complete chest of viols contained 8 instruments, 2 first trebles, two second trebles, two tenors, and two bases; all strung and tuned alike, by 4ths and 3ds, and the necks fretted. The accordatura of the open strings is as follows.

Treble Viol.

Tenor Viol; or, Viol da Braccia.

Bass Viol; or, Viol da Gamba.

From the time of queen Elizabeth till that of Charles II, in all private concerts (we had none that were public then) these, except the common flute, were the only instruments that were admitted into a gentleman's house; and indeed from the feebleness of the tone they may very properly be called strumenti da camera, chamber instruments. At first where voices could not be procured the several parts of full anthems, services, and other choral music were adapted to viols. The first music that was composed expressly for them was fantasias; the taste for which was brought from Italy previous to sonatas and concertos. The passages given to these viols, at this time, discover no kind of knowledge of the expressive power of the bow; and even Orl. Gibbons, who composed so well for voices in the church, seems very little superior to his contemporaries in his productions for instruments. Indeed, his madrig-
als of five parts as well as those of many others, are said in the title page to be apt for viols and voices; a proof that with us, as well as the ancient Greeks and other nations, there was at first no music expressly composed for instruments; consequently, the powers of these instruments must have been circumscripted; and when this music was merely played, without the assistance of human voices and of poetry, capable of no great effects. The subjects of Orlando Gibbons’ madrigals are so simple and unmarked, that if they were now to be executed by instruments alone, they would afford very little pleasure to the greatest friends of his productions and those of the same period. At the time they were published, however, there was nothing better with which to compare them; and the best music which good ears can obtain, is always delightful till better is produced. Air, accent, grace, and expression, were now equally unknown to the composer, performer, and hearer; and whatever notes of one instrument were in harmony with another were welcome to the player, provided he found himself honoured from time to time with a share of the subject, or principal melody; which happening more frequently in canons and fugues than in any other species of composition, contributed to keep them so long in favour with performers of limited powers, however tiresome they may have been to the hearers when constructed on dull and barren themes. See FANTASIA, SONATA, and CONCERTO.

BASSE de Flute traversiere, Fr. in Music, a side-flute, a fifth below the usual compass of the German flute, now out of use in France; and we never remember its use in England.

BASSE-Flute. When, at the beginning of the last century, the flute-a-bec, or common flute, was in general use and favour, there were flats of every size and pitch. F natural being the best in tune, and the easiest key on the common flute, all songs and other favourite airs were transposed for the flute into that key, or into C natural, at the bottom of the plate, when printed. The base flute was an octave below this F, and the octave flute an octave higher. See FLUTE.

BASSE Tonique, the base of the key-note, or Tartini’s third sound, produced by the concurrence of two treble notes perfectly in tune, and steadily sustained with two voices, violins, flutes, hautbois, or by two strings in double stops on one violin, or two keys on the organ. See Terza Suona.

BASSO CONTINUO, in Music, originally meant the accompaniment to the higher parts of a sonata, concerto, or chorus, in whatever cliff [sic] it was written, which served as a base, when the real base was silent; as in fugues, and other movements; to let the accompanier on the organ or harpsichord know what was doing by the other instruments, while his part was at rest. This may still be seen in the organ part (organo) to Corelli’s Sonatas, Op. Ima, which were composed in the seventeenth century, after which the custom was discontinued, there being no instance of it in his other works. Though in the sonatas of Bassani, his master, and in those of Torelli, it is constant. Handel, in his hautbois concertos, and in his twelve grand concertos, calls the ripieno base, basso continuo.

It was to this kind of choral base for the organ or harpsichord, in ecclesiastical music, that the harmony of the whole score, without a treble part, was first expressed by figures over the base notes. Basso continuo, by an awkward translation, is, in English, synonymous with thorough-base, which see.

It was in the beginning of the seventeenth century that Ludovico Viadana (not Viana, as erroneously written by Rousseau, and copied from him in both editions of the Encyclopedie) one of the most distinguished ecclesiastical composers of that time, invented the indication of chords by figures, in what the Italians call the basso continuo, and the English thorough-base, or accompaniment on keyed instruments, lutes, harps, and, in recitatives, even violoncellos; but we have found several instances of the minute beginnings of this expedient before the time of Viadana; though he was doubtless the first who drew up general rules for expressing harmony by figures over the base in 1615. Draudius, in an ample list of his ecclesiastical compositions, which were very numerous, tells us of one that authenticates his claim to this invention, which was a collection of all his choral pieces, of one, two, three, and four parts; "with a continued and general base, adapted to the organ according to a new invention, and useful for every singer as well as organist; to which are added short rules and explanations for accompanying a general base, according to the new method." Viadana was therefore the first who composed an or-
gan-base different from the voice-part, in the execution of which the new-invented figures enabled the performer to give the singers the whole harmony of the several parts of a full composition, without seeing the score.

In 1731, Mattheson, in his "Grosse general basse schule oder Der exemplarifhen organisten proben," a treatise on thorough-base, has given a list of twenty-two writers on accompaniment from the time of its invention in 1606. The invention has been indisputably secured to Viadana in Draudius's Catal. ii. (Draudius Bibliotheca Classica, 2 vols. 4to. Frankofurti 1625), where there is a list of all his works, and among the rest, "Dn. Ludovici Viadanae Ital. opera omnia sacrorum concertuum, I, 2, 3, & 4. vocuum basso continuo et generali, organo applicato, novaque inventione proomni genere et sorte cantorum etorganistarum accomroodata. Adjuncta insuper in basso generali hujus novae inventionis instructione et succincta explicatione, Latine, Ital. et Germ. ap. Steinium 4. 1613."

In the list which Mattheson has given of twenty-two authors on accompaniment before 1731, it is observable that only one tract is in English; and that written by Keller a German, who lived in cje-en Anne's time, and dedicated to her majesty six sonatas for two flutes and a base.

In Rameau's system, and still less in that of the abbé Feytou, as the fundamental base can have no melody, but what arises from its own harmony or single common chord, la base continue may be regarded as a kind of low treble under the violins and tenor, or as a variation of the fundamental base.

BASSO STRETTO, Ital. a base confined to a few bars or notes, repeated to different and varied treble parts. The English call this kind of monotonous movement a ground. During the seventeenth century, the Italians and their imitators were very fond of writing upon a ground-base; Stradella and Purcell frequently manifested their ingenuity under such restrictions; nor had the fashion quite subsided in Handel's time, as may be seen in the last chorus of his Dettingen Te Deum, and elsewhere in his numerous and admirable works. See GROUND, CIACONNA, and CHACONNE.

BASSO CANTANTE, Ital. Bassiste, Fr. the vocal base-part, or the base singer in an oratorio, opera, or concert.

BASSOON, in Music, from bas son, Fr. low sound, in opposition to hautbois, to which it is the natural base. Like the hautbois, it is played with a reed, and is a continuation of the scale downwards. It is composed of four different pieces or tubes, which when separated, are bound together like a faggot; hence by the Italians called fagotto. It has three keys of communication to open and shut the ventages, which from the length of the instrument are out of the reach of the fingers. It has a crook, or mouth-piece, to which the reed is fixed. (See REED.) The whole length of the instrument is eight feet; but reduced to four, by being doubled up like a trumpet for convenience in performance and carriage.

Its compass is three octaves, from double A A in the base to a in the second space of the treble; of which the tones and semitones are as complete as on an organ, or any other keyed instrument. Every performer is not able to produce a lower sound than double B B in the base, or a higher than G in the second space in the treble.

In the last age, Miller was the favourite performer on the bassoon in England at all public places; but we have at present Mr. Holmes, a superior performer, at least in point of tone, to any that we have ever heard elsewhere. A scale for this instrument will be found in the musical plates.

The two Bezzossis of Turin rendered these kindred instruments, the hautbois and bassoon, famous in Italy, during the middle of the last century. See Bezzossi.

BATILLUS, a musical instrument made of metal, in the form of a staff, furnished with metalline rings, which being struck, yielded a kind of harmonical sounds; used by the Armenians in their church-service.

BATON, Fr. in Music, a musical character for silence, during two bars in alia breve time, and four of common and triple time. It fills up two spaces of the five-line staff; and has a 2 or a 4 placed over it, proportioned to the time of the movement. See BREVE, TIME-TABLE, and RESTS.

BATTERIE, is a French term in Music, for that kind or arpeggio, or breaking of chords in a distinct
and detached manner, different from common arpeggios, in the execution of which on keyed-instruments, no finger is taken oft till the note assigned it is again wanted; and when, on the violin the notes of a chord are not, as usual, swept up and down in one bow, but either all to be bowed or separated by a tremulous motion of the bow.

In this article of the Encycl. Meth. after the definition of the term Batterie, and a necessary addition by M. Framery, are inserted, the Abbé Feytou takes the pen, and in treating the subject metaphysically, manifests deep reflexion and science in the theory of sound; but with a total disregard to the practice of the greatest composers and performers, who have produced pleasing effects by the very means which lie prohibits.

**Vol 4 Battery-Bookbinding**

BATTRE LA MESURE, Fr. to beat time, in Music. There are various ways of marking the measure and accents in music; by dividing each bar into 2, 3, or 4 equal parts with the motion of the hand, the foot, a baton, or a roll of paper. In common time of 2 minims or 2 crotchets in a bar, called binary measure, the hand is merely moved down and up. In time of 4 crotchets in a bar, the French frequently mark each portion of it, by beating the hand down to the first crotchet, moving it to the left for the 2d, to the right for the 3d, and lifting it up for the last. In triple time, or ternary measure of 3 minims, 3 crotchets, or 3 quavers, it is usually beaten, 2 down and one up, or the 1st down, the 2d to the left, and the 3d up.

The beating time is of great antiquity. The ancient Greeks had various ways of regulating the accents of song, and steps of the dance. See RHYTHM AND GREEK MUSIC.

The Italians often beat the two first portions of a bar and lift the hand up for the rest, both in common and triple time.

At the opera, concert-spiritual, and even at private concerts (formerly) there was a person at Paris, armed with a truncheon (baton de Mesure) like a general, whom Rousseau, in his Dictionary, ridicules, and says that he had been very aptly called the Bucheron, or wood-cutter; though when he wrote his musical articles for the Encyclopedie, the Italians and other nations, still had a Corista to regulate the measure in the numerous bands employed in their churches when there was a gran Funzione in celebration of some saint or holy time. But it was in England, at the Commemoration of Handel in Westminster-abbey, that, in the most numerous band that ever was assembled in modern times, a Coryphaeus was first dispensed with. See TIME, MEASURE, ARSIS AND THESIS, BAR, ACCENT, and BATTUTA.

BATTUTA, Ital. a bar in Music, or those portions of a musical composition, where the time is beaten, or marked, with the hand or foot. The Crusca dictionary defines battuta; quella misura di tempo che da il maestro della musica, in battendo a’ cantori. Var-chi, who died in 1566, and who is quoted in the Crusca as authority for the use of this term, says; quanta noia, e fastidio n’ apport-ino coloro agli oc-ccli, e agli orecchi, i quale che non ballano a tempo, o non cantano a battuta. What pain and uneasy sensa-tions do those give us, who neither dance nor sing in time!

Amendue parlarino in rime, canzoni, e altre spezie di dire con misura di piede, e di tempo sillabati. Both pronounced in rhyme, songs, and other species of poetry, in measured feel, and poetical numbers. This passage is cited from a MS. of 1400.

It is not easy to imagine how music, in many parts, could be composed in score, without bars or vertical lines drawn through them all, whence the term score was derived; nor what kind of bars could contain the quantity of a maxima, equal to eight semibreves, unless we suppose that semibreves were sung or played as quick as quavers are now. See TIME, ACCENT, ARSIS, and MEASURE.
The most ancient kind of time-table that has occurred in the course of our researches, consisted of only four several kinds of musical characters.

Among Italian musicians we frequently find the words *a battuta*, which import *in time* or *measure*, after recitative or an *"ad libitum"*. Accordingly, *a* in the Italian musical language, when it precedes a substantive, has the power of *in*.

*BEAT*, in *Music*, is a grace marked thus; " or thus : Its effect is just the contrary of a transient shake in rapid movements, where it can neither be prepared nor turned. It consists merely of three notes:

Transient shakes:

*BEATING Time*, in *Music*. See BATTRE LE MEASURE

*BEATS*, in *Music*, are certain pulsations of two continued sounds, as in an organ, that are out of tune, occasioned by warring vibrations that prevent coincidence in any two concords. This phenomenon, which was first discovered by M. Sauveur, has not only been described by Dr. Smith in his "Harmonics" but made the foundation of a system of temperament. "In tuning musical instruments, (says he, Sect. IV, Prop. X,) especially organs, it is a known thing, that while a consonance is imperfect, it is not smooth and uniform as when perfect, but interrupted with very sensible undulations or heats; which, while the two sounds continue at the same pitch, succeed one another in equal times, and in longer and longer times, while either of the sounds approaches gradually to a perfect consonance with the other; till at last the undulations vanish, and have a smooth, uniform, consonance."

These beats, the same author observes, are of use in tuning an organ to any desired degree of exactness.

The work of Dr. Smith, though excellent, is far too profound for the persons most in want of it: the organ and harpsichord tuners are seldom mathematicians, and to comprehend the doctrines laid down in this book, would require as much science as Newton's "Principia".

The beats of two dissonant organ pipes, resemble the beating of the pulse to the touch: and, like the human pulse, in a fever, the more dissonant are the sounds, the quicker they beat, and the slower as they become better in tune; till at length they are lost in the coincident vibrations of the two sounds. See VIBRATION, TEMPERAMENT, and Tuning.

*BEEN*, in *Music*, the name of an Indian fretted instrument of the guitar kind. The finger-board is 21 6/8ths inches long. A little beyond each end of the finger-board are two gourds, and beyond these are the pegs and tail-piece which hold the wires. The whole length of the instrument is three feet seven inches. The first gourd is fixed at ten inches from the top, and the second at about two feet 11 ½. The gourds are very large, about fourteen inches diameter, and have a round piece cut out of the bottom, about five inches diameter. The finger-board is about two inches wide. The wires are seven in number, and consist of two steel ones, very close together, in the right side; four brass ones on the finger-board; and one brass one on the left side. They are tuned in the following manner.

The great singularity of this instrument is the height of the frets; that nearest the nut is one inch ⅛, and that at the other extremity about ⅞ths of an inch, and the decrease is pretty gradual. By this means the finger never touches the finger-board itself. The frets are fixed on with wax by the performer himself, which he does entirely by ear.

The frets are nineteen in number. On the wires R and S, which are those principally used, there is an extent of two octaves, a whole note with all the half notes complete in the first octave, but the g ♯, and b ♯ wanting in the second. The performer's apology for this was, that he could easily get those notes by pressing the string a little hard upon the frets f ♯ and a ♯, which is very true from the height of the frets;
but he asserted that this was no defect in his particular instrument, but that all beens were made so. The wires TU are seldom used, except open.

The been is held over the left shoulder, the upper gourd resting on that shoulder, and the lower one on the right knee.

The frets are stopped with the left-hand; the first and second fingers are principally used. The little finger of this hand is sometimes used to strike the note V. The third finger is seldom used, the hand shifting up and down the finger-board with great rapidity. The fingers of the right hand are used to strike the strings of this hand; the third finger is never used. The two first fingers strike the wires on the finger-board, and the little finger strikes the two wires. The two first fingers of this hand are defended by a piece of wire put on the tops of them in the manner of a thimble: when the performer plays strong, this causes a very jarring disagreeable sound; whereas, when he plays softly, the tone of the instrument is remarkably pleasing.

The style of music on this instrument is in general that of great execution. I could hardly ever discover, says Mr. Fowke, any regular air or subject. The music seems to consist of a number of detached passages, some very regular in their ascent and descent: and those that are played softly, are most of them both uncommon and pleasing. Asiatic Researches, vol. i, p. 295, &c. See Plates of Music.

Editorial note: The above figures are extracted from Vol 3 of plates, no. V of the music plates.

BELL, a popular machine, ranked by musicians among the number of musical instruments of percussion. The music of bells is altogether melody; but the pleasure arising from it consists in the variety of interchanges, and the various successions and general predominance of the consonances in the sounds produced.

The parts of a bell are the body or barrel, the clapper within side, and the ear or cannon, whereby it is hung to a large beam of wood.—Its usual matter is a kind of compound metal, called bell-metal. The thickness of its edges is usually 1/15 of the diameter, and its height twelve times its thickness. The bell-founders have a diapason, or bell-scale, with which they measure the size, thickness, weight, and tone of their bells. For the method of casting bells, see FOUNDERY.

The sound of a bell arises from a vibratory motion of the parts thereof, much like that of a musical chord. The stroke of the clapper, it is evident, must change the figure of the bell, and of round make it oval; but the metal having a great degree of elasticity, that part which the stroke drove farthest from the centre will fly back again, and this even somewhat nearer to the centre than before; so that the two points which before were the extremes of the longer diameter, now become those of the shorter. Thus, the circumference of the bell undergoes alternate changes of figure, and by means thereof gives that tremulous motion to the air, in which sound consists.

M. Perrault maintains, that the sound of the same bell or chord, is a compound of the sound of the several parts thereof; so that where the parts are homogeneous, and the dimensions of the figure uniform, there is such a perfect mixture of all these sounds, as constitutes one uniform, smooth, even sound: and the contrary circumstances produce harshness. This he proves from the bell’s differing in tone according to the part you strike; and yet strike it any where there is a motion of all the parts. He therefore considers bells as composed of an infinite number of rings; which, according to their different dimensions, have different tones, as chords of different lengths have; and when struck, the vibrations of the
parts immediately struck determine the tone; being supported by a sufficient number of consonant tones in the other parts. Mr. Hawksbee, and others, have found by experiment, that the sound of a bell struck under water, is a fourth deeper than in the air: though Mersennus says, it is of the same pitch in both elements. This writer has treated largely of the different metals of which bells are formed, of their figure, crassitude, and degrees of ponderosity, as they respect each other in a given series.

Bells are observed to be heard farther placed on plains than on hills; and still farther in valleys than on plains: the reason of which it will not be difficult to assign, if it be considered, that the higher the sonorous body is, the rarer is its medium: consequently the less impulse it receives, and the less proper vehicle it has to convey it to a distance. There is a curious observation in a paper of M. Reaumur's in the Memoirs of the Paris Academy, relating to the shape most proper for bells, to give them the loudest and clearest sound. He observes, that as pots, and other vessels more immediately necessary for the service of life, were doubtless made before bells, it probably happened, that the observing these vessels to have a sound when struck, gave occasion to making bells, intended only for sound, in that form: but that it does not appear that this is the most eligible figure; for lead, a metal which is, in its common state, not at all sonorous, yet becomes greatly so on being cast into a particular form, and that very different from the common shape of bells. In melting lead for the common occasions of casting in small quantities, it is usually done in an iron ladle; and as the whole is seldom poured out, the remainder, which falls to the bottom of the ladle, cools into a mass of the shape of that bottom. This is consequently a segment of a sphere, thickest in the middle, and thinner towards the edges; nor is the ladle any necessary part of the operation, since if a mass of lead be cast in that form in a mould of earth or sand, in any of these cases it is found to be very sonorous. Now, if this shape alone can give sound to a metal which in other forms is perfectly mute, how much more must it necessarily give it to other metals naturally sonorous in whatever form. It should seem that bells would much better perform their office in this than any other form, and that it must particularly be a thing of great advantage to the small bells of common house clocks, which are required to have a shrill note, and yet are not allowed any great size. M. Reaumur very judiciously observes, that if our fore-fathers had opportunities of being acquainted with the sound of metals in this shape, we should probably have had all our bells at present of this form. Mem. Acad. Par. 1726.

With regard to the origin of bells, those of a small size are very ancient; but those of a large bulk, hung in towers and hung by ropes, were introduced at a much later period. Among the Jews, it was ordained by Moses, that the lower part of the blue robe which was worn by the high priest in religious ceremonies, should be adorned with pomegranates and gold bells intermixed at equal distances. (See Exodus, xxviii, 33, 34,) The kings of Persia are said to have had the hem of their robes adorned, like that of the Jewish high priests, with pomegranates and gold bells. The Arabian princesses wear on their legs large hollow gold rings, filled with small flints, which sound like bells when they walk; and these, with similar appurtenances, give notice that the mistress of the house is passing, so that the servants of the family may behave with respect, and strangers may retire to avoid seeing the person who advances. Calmet supposes, that it was with some such design of giving notice that the high priest was passing, that he wore little bells at the hem of his robe; and it was also a kind of public notice that he was about to enter into the sanctuary. In the court of the king of Persia, no one entered the apartments without some warning; and thus the high priest, when he entered the sanctuary, desired permission to enter by the sound of his bells, and in so doing he escaped the punishment of death annexed to an indecent intrusion. The prophet Zachary (ch. xiv, 20,) speaks of bells of the horses, which were probably hung to the bridles or foreheads of warhorses, that they might thus be accustomed to noise. Calmet.

Among the Greeks, those who went the nightly watch rounds in camps or garrisons, carried with them a little bell, which they rang at each centry-box to keep the soldiers appointed to watch awake. A bell-man also walked in funeral processions, at a distance before the corpse, not only to keep off the crowd, but to advertise the flamen dialis to keep out of the way lest he should be polluted by the sight, or by the funeral music. The priest of Proserpine at
Athens, called “hierophantus,” rung a bell to call the people to sacrifice. The hour of bathing, at Rome, was announced by the sound of a bell, and hence it has been supposed they were used to mark the hours of devotion, and summon people to church. Servants in the houses of great men were called up in the morning by the sound of bells, Zonaras informs us, that bells were hung with whips on the triumphal chariots of their victorious generals, in order to remind them that they were still amenable to public justice. Bells were affixed to the necks of criminals going to execution, to warn persons to avoid so ill an omen as the sight of the executioner or condemned criminal, who was devoted and about to be sacrificed to the “dii manes.” To this superstition some persons have attributed the custom in England of using bells in the houses of great men to summon up servants in the morning by the sound of bells, Zonaras in his Commentaries says, that bells were hung on the model of a sort of balance invented or used in Campania. For in Latin writers we find Campana statera, for a steel-yard; and in the Greek καμπανίξεϐυ, for ponderare, to weigh. At first they were called saints; and hence are derived a tocsaint, or tocsin.

Polydore Virgil ascribes the invention of church bells to pope Sabinian, St. Gregory’s successor; but this is a mistake; for St. Jerom, contemporary with Paulinus, makes mention of one. Pope Sabinian did not invent bells; but he was the first who appointed the canonical hours to be distinguished by them.

We even find mention made of bells in Ovid, Tibullus, Martial, Statius, Manilius, and the Greek authors, under the appellations of tintinnabula, and sounding brass. Suetonius, Dion, Strabo, Polybius, Josephus, and others, mention them under the names of petasus, tintinnabulum, æramentum, crotalum, signum, &c. But these appear to have been no more than baubles, and not like the huge bells in use among us.

Hieronymus Magius, who has a treatise on bells (written when in chains in Turkey, and which is accounted very remarkable, purely from his memory, without the assistance of any books), makes large bells a modern invention. Indeed, we do not hear of any before the sixth century, when they were applied to ecclesiastical purposes in some of the monastic societies of Caledonia, as they were in those of Northumbria before the conclusion of the 17th century; and they seem to have been used from the first erection of parish churches in this kingdom. In 1610, we are told, Lupus, bishop of Orleans, being at Sens, then besieged by the army of Clotharius, frightened away the besiegers by ringing the bells of St. Stephen’s. The first large bells in England, are mentioned by Bede, towards the latter end of that century, or about the year 670. They seem to have been pretty common in the year 816. Ingulphus mentions that Turketulus, abbot of Croyland, who died about...
the year 870, gave a great bell to the church of that abbey, which he named Guthlac, and afterwards six others, all which rang together; and not long after this time, Kinseus, archbishop of York, built a tower of stone to the church of St. John at Beverley and placed in it two great bells, and at the same time provided that other churches in his diocese should be furnished with bells. J. Stubbz. Act. Pont. Ebor. fol. 1700. Mention is also made by St. Aldhelm, and William of Malmsbury, of bells given by St. Dunstan to the churches in the west. See Spelm. Gloss, voc. Campana; and Bingham's Ant. Christ. Church, book viii, ch. vii, § 15.

The Greeks are usually said to have been unacquainted with bells till the ninth century, or about the year 865, when their construction was first taught them by a Venetian.

Indeed it is not true, that the use of bells was entirely unknown in the ancient eastern churches, and that they called the people to church, as at present, with wooden mallets. Leo Allatius, in his Dissertation on the Greek temples, proves the contrary from several ancient writers. It is his opinion that bells first began to be disused among them, after the taking of Constantinople by the Turks; who, it seems, prohibited them, lest their sound should disturb the repose of souls, which, according to them, wandered in the air. He adds, that they still retain the use of bells in places remote from the intercourse of the Turks; particularly, very ancient ones in mount Athos. F. Simon thinks the Turks rather prohibited the Christians the use of bells out of political than religious reasons; inasmuch as the ringing of bells might serve as a signal for the execution of revolts, &c. The city of Bourdeaux was deprived of its bells for rebellion; and when it was offered to have them restored, the people refused it, after having tasted the ease and conveniency of being freed "from the constant din and jangling of bells."

Matthew Paris observes, that anciently the use of bells was prohibited in the time of mourning; though, at present, they make one of the principal ceremonies of mourning. Mabillon adds, that it was an ancient custom to ring the bells for persons about to expire, to advertise the people to pray for them; whence our passing-bells. The passing-bell anciently served two purposes: one of which was engaging the prayers of all good people for departing souls; and the other was, driving away the evil spirits which haunted the bed and house, and which were ready to seize their prey, or to terrify and molest the soul in its passage; but by the ringing of this bell, it is said they were kept at a distance. To this circumstance we may probably ascribe the high price demanded for tolling the largest bell of the church; which being louder, and heard at a greater distance, might keep these evil spirits more remote, and also procure for the dying man a greater number of prayers.

Lobineau observes, that the custom of ringing bells at the approach of thunder is of some antiquity; but that the design was not so much to shake the air, and so dissipate the thunder, as to call the people to church, to pray that the parish might be preserved from mischief by it.

Whatever occasion some Catholics may have given for the reproach, that they attribute to bells the power of driving away demons, and dispelling storms; it is certain the ancient canons of the church only ascribe this power very remotely to bells. Their meaning seems to be this: Satan fears and flies from the bells, because he knows that bells summoned good people to church to pray, and he dreads their prayers. It was therefore to prayer, occasioned by the ringing of bells, and not to the bells, that such good effects were ascribed.

The custom of christening or blessing bells is very ancient. The charge of baptizing bells, alleged by Protestants against the Roman Catholics, has been denied by the latter; but they allow that they bless bells with certain ceremonies as they do all other church utensils; and that one of the ceremonies is the giving of a name to the bell, in order to distinguish it from others, or in honour of some saint. It seems reasonable, therefore, to acquit them of the blame of prostituting baptism in this case, and to charge them merely with consecration and benediction. Before bells were hung, they were washed, crossed, blessed, and named by the bishop. This is what some Protestants have called baptizing of them; but others say, it might be denominated the lustration of them, resembling the lustration of trumpets among the Romans. Cardinal Bona observes, (Rer. Liturg. 1. ii, c. 22,) that the name of some saint is given to a bell at the time of its consecration, that the people may think themselves
summoned to divine service by the voice of the saint whose name the bell bears. Some say that this custom was introduced by pope John XIII, who occupied the pontifical chair from 965 to 972, and who first consecrated a bell in the Lateran church, and gave it the name of John the Baptist. But it is evidently of an older standing; there being an express prohibition of the practice in a capitulary of Charlemagne in 789: "ut cloce non baptizentur." See Hospinian de Origine Templorum, p. 113, where there is a particular account of all the ridiculous ceremonies practised about bells. See Dr. Franklin's Observations on consecrated Bells, and the Form in consecrating them, Experiments, Observations, &c. p. 487, ed. 1769.

Nankin, a city of China, was anciently famous for the largeness of its bells; but their enormous weight having brought down the tower in which they were hung, the whole building fell to ruin, and the bells have ever since been disregarded. One of these bells is near twelve English feet high, the diameter seven and a half, and its circumference twenty-three; its figure almost cylindric, except for a swelling in the middle, and the thickness of the metal about the edges, seven inches. From the dimensions of this bell, its weight is computed at 50,000 pounds, which is more than double the weight of that at Erfurt, said by father Kircher to be the greatest bell in the world. These bells were cast by the first emperor of the preceding dynasty, above three hundred years ago. They have each their name, the hanger chê, the eater chëi, the sleeper choui, the will fi. Father le Compte adds, that there are seven other bells in Pekin, cast in the reign of Youlo, each of which weighs 120,000 pounds. But the sounds even of their biggest bells are very poor; being struck with a wooden instead of an iron clapper.

The Egyptians have none but wooden bells, except one brought by the Franks into the monastery of St. Anthony.

In the churches of Russia their bells are numerous, and distinguished by their enormous size. They are hung, particularly at Moscow, in belfreys or steeples detached from the churches, with gilt or silver cupolas or crosses; and they do not swing like our bells, but are fixed immovable to the beams, and rung by a rope tied to the clapper, and pulled sideways. One of these bells in the belfrey of St. Ivan's church at Moscow, weighs 127,836 English pounds. It has always been esteemed a meritorious act of religion to present a church with bells, and the piety of the donor has been estimated by their magnitude. According to this mode of estimation, Boris Godunof, who gave a bell of 288,000 pounds to the cathedral of Moscow, was the most pious sovereign of Russia, until he was surpassed by the empress Anne, at whose expense a bell was cast, weighing 432,000 pounds, which exceeds in size every bell in the known world. Its dimensions, as ascertained by Mr. Coxe (Travels in Russia, vol. i, p. 322), are as follow: the height is 19 feet, the circumference at the bottom 63 feet 11 inches, and its greatest thickness 23 inches. The beam to which this vast machine was fastened, being accidentally burnt by a fire in 1737, the bell fell down, and a fragment was broken off towards the bottom, which left an aperture large enough to admit two persons abreast without stooping.

The ringing or striking of the bells, though it forms no part of divine worship, as some writers have asserted, serves, however, by the number of strokes, to inform any person without the church what part of the religious service is beginning within it. Thus, several strokes are struck just before the mass: and this is called "blagovest," i. e. the agreeable sound, as a summons to the praises of God. Before the commencement of the liturgy, it sounds three; and in the middle of it, a few strokes are given to the bell, to let the people without know that the hymn to the holy virgin is now beginning to be sung. All persons, on hearing this, throw aside their work, bow, and cross themselves, repeating silently the verse then singing in the church. In the same manner is regulated the stated number of strokes at the several periods of the vespers and the matins. On some holidays they are sounded through the whole day. Tooke's Hist, of Russia, vol. i, p. 128.

The same writer also informs "us, that ringing the bells, on church and court holidays, is a species of exercise of which the Russians are very fond: but they produce nothing like harmony from them. The sole excellency consists in striking the clapper the oftener.

For further particulars relating to bells, see CHANGES in a given number of bells, TINTINNALOGIA, CARILLONS, and RING.
BINDING-Notes, in Music, imply two or more sounds on the same line or space, that are linked together by a semi circle; and which, though written or printed twice, are not to be separated, but sustained like a single sound.

The first of these tied or binding-notes, as in preparing discords, is usually struck on the unaccented part of a bar, and continued on the accented part. See LIGATURE, and SYNCOPATION.

Example.

![Example](image)

BIS, Lat. twice. In Music, when a passage which ought to be repeated, has, through mistake, or to save room, been omitted, the word bit placed over such passage, with dots at the beginning and end, implies that the whole is to be repeated.

BISCROMA, Ital. for a demisemiquaver, in Music. If single, it has three hooks if two or more, they have three See TIME-TABLE

BOBISATIO, or BOCEDISATIO, in Music, denotes the using of the seven syllables, bo, ce, di, ga, lo, ma, ni, to express the seven musical notes in lieu of the six usual ones introduced by Aretine, ut, ne, mi, fa, sol, la, as has been sometimes done by the Netherland and German musicians since the beginning of the seventeenth century, to avoid the mutation necessary in the use of these latter.

BON, Fr.; Buono, Ital.; as tens bon, and tempo buono, used in Music, to express the accented parts of a bar. It is the first note of binary measure of two minims or two crotchets in a bar; the first note of the ternary measure of 3/2 or 3/4, and the first and third notes of common time. It is opposed to tens mauvais and tempo cattivo, the unaccented part of a bar. The French, at present, distinguish these portions of a bar by the terms tens fort and tens faible, strong and weak, and almost loud and soft parts of a bar. It is on the accented part of a bar that a discord regularly prepared is struck, and resolved on the unaccented part.

BOMBYX, in the Ancient Music, a kind of instrument, which, in Aristotle's time, was made of a reed, calamus, and, by reason of its length, was difficult to play on.

The word seems also to have been used for a key, or contrivance for shutting and opening the holes of wind instruments.

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BOUTADE, in Music, an irregular flight or movement without art or study.

The word was also formerly used for a solo on the viol di gamba, thus called as being supposed to be extraneous.

Richelet speaks of a dance called boutade, invented by the famous Bocan, in the reign of Lewis XIII, so called from the brisk humourous manner of its beginning; but now out of use.

BOW, in Music, denotes a machine that serves to play, or give the sound to, viols, violins, and other instruments of that kind, by drawing it gently over the strings thereof.

The bow consists of three parts; the first is the stick, or wood, to which the hair is fastened; the second is composed of about eighty or an hundred horse-hairs, or filaments of silk; the third is the nut, a sort of half-wheel, which serves to keep the hairs in the due degree of extension.

The ancients do not appear to have been acquainted with bows of hair: in lieu of these they struck their instruments with a plectrum; over which our bows have great advantage, for giving long and short sounds, and other modifications, which a plectrum cannot produce.

BRACCIO, Ital, the arm, in Music, as Viola da braccia, a tenor-viol that rests on the shoulder, to distinguish it from the base-viol, which rests on the leg. See VIOL DI GAMBA.

BRACCIO, Ital, the arm, in Music, as Viola da braccia, a tenor-viol that rests on the shoulder, to distinguish it from the base-viol, which rests on the leg. See VIOL DI GAMBA.

BREVE, in Music, is a note or character of time, formed square without any tail; and equivalent to two measures, or semibreves. See CHARACTERS OF MUSIC, and SEMIBREVE.

In fugues, tempo di capella, of two semibreves in a bar, the movement is said to be alla breve, from a bar containing one breve or two semibreves, and from the rapidity with which these seeming long notes are executed; breves as quick as semibreves, and semibreves as quick as minimis, &c. See TIME-TABLE, and NOTATION.
BRIDGE, in Music a small wooden machine for strings to rest on, in tuning violins, tenors, bases, guitars, monocords, &c. In this last the bridges are moveable.

BRODERIES, Fr. a term in Music for embroidering or gracing a melody. It is equivalent likewise with doubles, variations, fleurtil, an old term for flourishing an air. All these terms are used for the notes of music which the performer adds to his part in the execution, to vary a melody often repeated, to embellish passages too plain and simple, or to shine by the activity of throat or finger. Nothing manifests the good or bad taste of a musician, says Rousseau, more than the choice and application of these ornaments. French vocal performers were very sparing of their broderies or graces in the middle of the last century; for if we except the celebrated Jeliote and mademoiselle Fel no French singer durst venture to make a single change in his part on the stage. French melody had been for some years growing more slow, and lamentable, that it was capable of no improvement by graces. The Italians are unable to execute, a melody quite plain; they give full scope to their memory or fancy, and try who can make the greatest number of changes; an emulation often absurd and carried to an offensive excess. However, the accents of their melody are so strongly marked, that there is little fear of the air being so disguised, as not to be recognizable through all the performers’ redundancies.

With regard to instruments, a solo player may do what he pleases; but a performer in a full piece, who dares embroider his part, was never suffered in a good orchestra.

BRUIT, Fr. NOISE. The editors of the New French Encyclopædia, as well as Rousseau, have honoured this sworn foe to music, and persecutor of refined cars, with a long article. Rousseau defines noise in general to be every motion of the air which strikes the tympanum, and is perceptible by the auricular organ; but, in music, noise is opposed to sound, and extends to every sensation of the ear which is not sonorous and appreciable. To explain the difference musically, we may suppose that every musical sound is accompanied by its harmonies, and that noise having no such coincident vibrations, has no determined or type in the harmonical system. Noise may be of the same nature as sound, but being produced by violence, and the aggregate of a confused multitude of different sounds heard at once, they mutually counteract the undulations of each other. All elastic bodies seem sonorous in proportion as their matter is homogeneous, as the degree of cohesion is more equal throughout, and its body not divided into numerous small masses, which being of different solidity, consequently give birth to warring sounds. Why should not noise produce sound, since it can excite it? For every violent noise makes the strings of a harpsichord sound, not, indeed, any single strings as a musical tone does, but the whole instrument at once; because no one finds its unison or harmonies. Again, why should not noise give the sensation of sound, since with sound noise is produced? Put down all the keys of a harpsichord, or piano-forte, at once, and a sensation of nothing but noise will be the consequence, and its effect will continue no longer than that of any other noise. Why should not noise be sound, since a musical string forced, or a pipe over-blown, is only noise, my more than a voice which screams with all its might, or a great bell heard in the belfry? Because it is impossible to discriminate one sound from another; though the tone of the same bell at a distance is easily ascertained, as would the screaming voice if softened and rendered tuneable. But it may be asked, whence comes this great change of noise into sound. It is from the diminished violence of the vibrations, which had caused so many aliquot parts to sound it once that the total became mere noise. For the aliquot parts in vibration are not only the half, the third part, the fourth, and all the consequences, but the seventh part, the ninth, the hundredth, and still more; all which have the same effect as the putting down all the keys at once, the bell in the belfry, and the voice of a screamer; and thus sound itself becomes noise, and noise sound. A coarse, confused, and dissonant music, is contemptuously called noise; as a bad opera ill performed is said to produce a great noise, but no effect. Thus far the citizen of Geneva, with his usual force and ingenuity, has described noise. A passage is given from "La Pratique de la Musique," of M. de la Cepide, in support of Rousseau’s doctrine, which in this instance seems to want no support.

Messes. Ginguené and Framerie have taken up the subje after M. De la Cepide, merely to expand...
and amplify Rousseau’s arguments, without fortifying them by any additional matter, except in censuring the augmentation of force in an orchestra by soubuts, cymbals, double drums, and tromboni, which, producing nothing but noise themselves, prevent us from hearing every thing that deserves the name of music.

Instruments of percussion may be of use in the open air to mark the steps of an army on its march, and the screaming and clamour of the rest during battle, to drown the cries of the wounded and groans of the dying; but in an inclosed theatre or concert room, they only torture delicate ears, and change into punishment the pleasures of sensibility.

BUADH-VAILL, q. d. mouth-piece of victory, called also, in the old Irish tales and romances, Ben-vo-ween and Barr-vaill, is supposed by Mr. Ousley to have been a species of trumpet. It is made of a light fine-grained wood, probably willow, and is six feet four inches long; the wider and measures three and a quarter inches diameter, from whence it gradually tapers to a point at the other end, where a mouth-piece is supposed to have been fixed. This instrument, which is particularly described and illustrated by figures in the fourth volume of the Irish Transactions, was found, in 1791, in the county of Mayo, lying horizontally in the body of a turf bog, at the depth of about nine feet from the surface. The precise age of this instrument, the wood of which was perfectly sound, is not ascertained. Mr. Ousley supposes it to have been at least previous to the settlement of the English in Ireland, as it is not mentioned by Cambrensis, or any subsequent author. Lord Dillon, on whose estate it was found, concludes, from the great accumulation of bog over it, that it must have been in the situation in which it was discovered for many ages, and this is further confirmed by the rudeness of its contrivance and workmanship, which indicates its remote annuity.

BUCCINA, an ancient military metalline instrument, crooked like a horn, used in war; especially for proclaiming the watches of the night, and giving notice to the soldiery when they were to mount, and when to quit the guard.

The word comes from bucca, mouth, and cano, I sing; because anciently made of bullocks horns: others from the Hebrew buk, a trumpet. Varro will have it to have been originally formed by omontopaxia, from bou bou, alluding to the sound it gives. Others, with more probability, derive it from buccinum, the name of a shell-fish.

The buccina is usually considered as a species of sibula, or trumpet; from which, however, in propriety, it appears to have differed, not only in respect of figure, which in the sibula was straight, and in the buccina recurved or crooked; but in sound, that of the buccina being sharper and audible to a greater distance than the trumpet-sound.

The buccina approached nearest to the cornu, or horn; originally the two seem to have been the same; though in after times a difference arose; the name buccinum being restrained to the lesser sorts, and the cornu to the larger. – Some also take the buccina to have been less crooked than the cornu, which made a full semicircle.

Varro assures us, that the buccina: were also called cornua, horns; because originally made of the horns of cattle, as is still done among some people. Servius intimates, that they were at first made of goats or rams-horns; and accordingly, in Scripture, the like instruments used both in war, and in the temple, are called “rams-horns,” keren-jobal, and sophieroth haijobelim, or buccina; of rams.

This instrument was in use among the Jews, to proclaim their feast-days, new moons, jubilees, sabbatic years, and the like. At Lacedæmon, notice was given by the buccina when it was supper-time; and the like was done at Rome, when the grandees had a buccina blown both before they sat down to table, and after.

The sound of the buccina was called buccinus, or bucinus, and the musician who played on it, buccinator.

Buccina also denotes the space or extent to which the sound of the buccina may be heard. BUCCINATOR, he that sounds or winds the buccina. Among the Romans there was a public slave, denominated buccinator nominum, whose office was to attend the public crier.

BUGLE, among Sportsmen, formed probably from the Saxon bugen, to bend, denotes a hunting-horn.
BUONACCORDO, a small stringed musical instrument, resembling a spinet, used by children to play on, because of the shortness of their fingers.

The word is Italian, and properly denotes a harpsichord.

BURDEN, or BURTHEN, from Bourdon, Fr. a drone. Hence, in Music, a base of only one note, a pedale, and the drone of a bagpipe, is called a drone-base. And hence, that part of a song which is repeated at the end of every verse or stanza, is called the burden of the song.

"At every close she made, th' attending throng
Replied, and bore the burden of the song."

Dryden.

Pope writes burthen:

"Sacred to ridicule, his whole life long,
And the sad burthen of some merry song."

BURDEN also denotes the pipe, or string by which such a sound is given.

Matth. Paris will have the name burden to have been originally given this pipe, on account of its resemblance to a pilgrim's staff, anciently called also burdo.

C, in Music, is the name of the second space in the base, the third space in the treble, and of every line of which the tenor or C clef is placed.

In the Guido scale or gammut, the C in the second space in the base is called C fa-ut; its octave above, on the sixth line, C sol-fa-ut, as is the C in the third space in the treble, its octave.

C sometimes, in Ital. Music, stands for canto, as C 1, canto primo. It stands likewise, when placed at the clef, for common time, and, with a line through it, thus for cut time, or a quicker kind of movement.

In music of the 15th and 16th centuries, in specifying the time or moods, as they were then called, when triple time, which then was styled perfect, and common time imperfect, the laws of prolation were very complicated and difficult to comprehend. An or complete circle; implied perfect time, when, without a point, a long was equal to three breves; a breve to three semi-breves, &c, and a C, or semicircle, implied imperfect or binary time, which Morley calls "prolation of the less." See MOODS, PROLATION, and TIME-TABLE.

When at the clef a concealed canon, (canone chiuso), had two different marks for time placed over each other, it implied, that one of the parts sung the notes as they were written, and the other doubled all their lengths, the upper part leads off the canon.

C B, when placed in a score over the viola, or tenor part, implies Col Basso, with the base.

The French regard ut as the representative of C, the first note of their gammut; but Guido, the Italian, and the English always look upon G on the first line in the base, as the first note in the gammut, or scale of music. See HEXACHORD, PROPRIETY, and SOL-MISATION.

In Gregorian notes on a staff of three lines only, C implies the tenor or C clef.

CACOPHONY, Gr. in Music, the combination of many sounds ill chosen, or out of tune, noise.

CADENCE, in Music, denotes a kind of close, or rest, either at the end of a song, or some of its parts, into which it is divided as into members, or periods.

The word seems a metaphor drawn from the dancing-school, where it properly signifies a pause, or fall, from motion to rest. A cadence is properly when the parts fall, and terminate on a chord, or note, the ear seeming naturally to expect it. Regularly it is to be made on the final or dominant, though sometimes also on the mediant or middle chord of a note.

Cadences in singing answer nearly to points or stops in discourse. They are rests contrived to favour the weakness of the performers, as well as the hearers, of a musical composition. Men are not able to sustain their attention, or their voice, beyond the space of two measures; even in this short interval we perceive the song to fall, and tend rapidly to a pause, or rest: the notes which introduce these pauses, are called cadences, on the proper conducting and expressing of which a great part of the musician's skill depends. The chief cadence or close is the key itself, in which the bass must always conclude; the next in dignity is the fifth above; then, if the key-note is made sharp, a cadence may be made on the second of the key; after which (by means of a sharp fifth) on the sixth; and by a sharp second on the third of a key; after which, returning to the original key and subject, when the hearer is reminded of
both, by means of a flat seventh, there may be a close
in the fourth of the key; after which, with a sharp
seventh, the piece may terminate by a final cadence
or close in the original key. See CLOSE, MODULA-
TION.

In all these cadences, a major key is understood.
For cadences in a minor key, see Counterpoint.

Dr. Pepusch’s definition of cadences in music is,
perhaps, the most short, clear, and comprehensive,
to be found in any elementary book.

“Cadences in music are the same as stops in
speaking or writing; that is to say, they are endings
or terminations either of a part or of the whole piece
of music, as stops are of a part or of the whole
speech. For which reason they are distinguished into
full cadences and middle cadences; these last arc like
commas and semicolons, after which more is expec-
ted to follow, they not making so full a stop as the
others; whereas, after a full cadence we are sensible
that we are come to a conclusion.” Treatise on Har-
mony, p. 4.

This author’s arrangement of the modulation in
the key of C as the representative of all major keys,
differs somewhat from the present practice. It is
however that of the greatest masters of the early part
of the last century.

\[C, G, E, A, F, c,\] which include all the concords to
the key note.

In a long piece of music, however, he allows a
transient modulation into D minor, as a sixth ca-
dence. But Dr. Pepusch’s modulation into E differs
totally from that of the secular composers of more
modern times. It is, in fact, no more than a semi-ca-
dence on the fifth of the key of A minor, with a
sharp third; nor is the scale any thing more than that
species of octave assigned by most writers on an-
cient music to the Dorian mode. See MODE, and
ANCIENT MUSIC. It begins and

ends in E without flat or sharp; \(E F G A B C D e\)

Dr. Pepusch says, that “from the peculiarity of its
modulation, whatever is composed in this mode or
key is so solemn, and it seems so much appropriated
to church music, that it is called by the Italians \(tuono
di chiesa.\) From the contemplation of this scale, the
sieur Blainville, in 1751, fancied, or wished others to
fancy, that he had discovered a new cadence, or key,
different from the major and minor, the second be-
ing minor, and the seventh major. See Diet, de
Rousseau, art. Mode.

The resolution of a discord, according to
Rousseau, is a kind of cadence. "And, as all har-
monic phrases are necessarily connected by dis-
cords, expressed or understood, it follows, that all
music may be said to consist of a succession of ca-
dences." The \(regle de l’octave\) seems to favour this
idea; as every other sound carries a discord. See
\(REGLE de l’octave.\)

According to Rameau, there are four kinds of ca-
dences; the perfect, imperfect, interrupted, and dis-
appointed.

Padre Martini’s cadences, in his Saggio di Con-
trappunto, being such as are peculiar to the ecclesi-
astical modes, will be of little use in secular music.
The closes of Haydn, Mozart, and Paisiello, however
new, elegant, and ingenious the treble may be, are
all built on the bases and harmony of the old closes
of 100 years ago; for in a full close, as the base must
fall a fifth or rise a fourth, the treble must either fall
from the ninth to the eighth, or rise from the seventh
to the eighth.

In early days of counterpoint, the great study of
composers was cadences. A Studio of Palestrina be-
ing found at Rome in the year 1770, it was chiefly
filled with cadences and chants, in his own hand-
writing.

In melody, the preparation for closes in the prin-
cipal part are infinite; in harmony they are numer-
ous, but may be numbered. Neither Rameau’s ca-
dences, nor those of Padre Martini, quite satisfy us.
In Gasparini there is an ample collection, ch. vi, \(per
cadenze d’ogni forte.\) From these Walther has
cited many, but more correctly; for Gasparini’s book,
in the edition which we have seen( is miserably prin-
ted. The cadences in Walther are good, as far as har-
mony is concerned, which is not so changeable as
melody; and to these, chiefly from Gasparini, we
have all the Italian names: as *cadenza maggiore,* minore, *cadenza sminuita, cadenza sfuggita,* finta, fiorita, perfetta, imperfetta, irregulare, d’inganno, &c.

In ancient music, cadence is nearly synonymous with rhythm. The French make use of the term cadence for a trille or shake.

Cadence, in the *Modern Dancing,* is when the several steps and motions follow, or correspond to, the notes or measures of the music.

**Cadenza Sfuggita,** in the Italian Music, is used when a part instead of ascending or descending the proper interval, to form a cadence, proceeds by some other interval. For instance, when the bass, instead of rising a fourth or falling a fifth, ascends only by a tone, or semitone-major.

Thus, in Ex. 1. where the bass, instead of proceeding to C, the key-note, after G, goes to A. Thus also, in Ex. 2 after E, the ear would naturally expect to hear A the keynote: but this is avoided, and F put in its place.

The interrupted and disappointed cadences in recitative and innumerable: being governed by the dialogue; in which a full and formal close from the chord of the fifth to the keynote seldom occurs, except in the last bar of the recitation preceding an air.

**Cæsura,** a cut, a separation, a breathing-place, in *vocal music.* The Germans have applied this poetical term to music, with no great analogy, and the French are trying hard to naturalize and adopt it. In the supplement to the fol. edit, of the Encycl. M. Castillon has given it an article which in the new 4to. Encycl. Methodique, M. Framery has analysed, and controverted in an able manner. The first musical dictionary in which the term occurs, is that of Walther, which, though a small octavo volume only, contains more definitions, explanations, biographical and historical articles, than all the dictionaries that have been published since 1732, when it first appeared in German. Nothing in English expresses so well what the Germans and French mean to inforce by the term cæsura in music, as the word phraseology, which see. In vocal music, the measure of the verse determines the phraseology of the melody, i In instrumental music, a symmetry of phrase, to a certain degree, seems necessary, where either grace or energy is required. As to subject, the first two or three bars give the general cast and character to the whole movement. This is more obvious in Haydn’s best symphonies, sometimes even through a seeming wildness and freedom of fancy. If you lose the first idea in the treble, you find it in the base, or subordinate parts, as too much symmetry in the upper part is apt to degenerate into monotony and dulness.

An even number of bars, and cæsuræ at equal distances, however, seldom fail to interest and impress the hearer. Metastasio’s measures have suggested to composers, and rendered necessary, a greater variety of air, than the epic poetry of Italy, or any other country possessed before. Grace is often obtained by a succession of dactyles and regular resting places.

See PHRASE, CADENCE, REST, real or understood.

The cæsura might have its use in music if well considered and framed into rules; but we pretend not to invent new rules or laws in the arts, so much as to explain those already in use, and established by good authority and successful examples.

**Calascione,** a musical instrument much in use by strolling and street musicians throughout the kingdom of Naples. It is a species of guitar, with only two strings tuned 5th to each other. It has a very long neck, which is fretted. See FRET. The Turks have an instrument of the like kind, with three strings, called in Arabic, *dambura.* Sometimes the strings are struck with a plectrum, and sometimes with a quill. See *Plectrum.* The tone is rough and coarse; the neck is sometimes six feet long. The frets amount to 15 or 16. But the Neapolitans have a smaller sort called *calascioneina.* See *Mus. Pl.* of mod. instr.

**Calculation,** in *Music.* D’Alembert, and many other theorists, and eminent mathematicians, are of opinion, that the calculation of ratios is of no use in practical music: supposing that a good ear and strong hand on instruments where the tone depends on the performer, are a musician’s best guides for true intonation. In the prelim, disc, to his *Elem. de Mus.* 2d edit, the great mathematician cautions
theoretical musicians against the admission of mathematical or metaphysical principles in music. On this subject, he says: "It would be absurd to expect what is called demonstration: it is an achievement of no small importance, to have reduced the principal facts to a system consistent with itself and firmly connected with its parts; to have deduced them from one single experiment (the harmonies of a single string or sounding body), and to have established on that foundation the most common and essential rules of the art. In digesting and compressing M. Rameau's principles, I had no desire to multiply his calculations: I rather wished to suppress them as much as possible; so much was it to be feared that the generality of readers would be led into a belief, that all this arithmetic was necessary to form a practical musician. Calculation may, indeed, facilitate the intelligence of certain points in theory, such as the relation between the tones of the gammut and temperament; but the calculation necessary for treating these two points is so simple and trifling, that it merits no display. Let us not, therefore, imitate those musicians who believe themselves geometricians, or those geometricians who fancy themselves musicians, and, in their writings, heap figures on figures, imagining perhaps, that this display is necessary to the art. The ambition of giving to their productions a scientific appearance, imposes only on the ignorant, and has no other effect than to render their treatises more obscure, and less instructive."

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CANARIE, Fr. a quick dance in jig time. The word is twice used by Shakspeare,—"Canary to it with your feet." —Love's Labour lost.—"And make you dance Canary with spritely fire and motion." —All's Well.

Mersenne gives a specimen of the kind of movement. He says the cabriolles are rapid, and the figure extremely difficult.

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Purcell has canaries in his music to Dioclesian. The tune is said to come originally from the Canary islands.

CANON, in Music, from κανωμ, regula, a rule or law. In speaking of harmonics, in the division of the monochord, it implies the ratio of sounds, or the proportion of sound to sound, when a string is divided by moveable bridges into harmonic intervals. Hence Euclid's celebrated tract on harmonics, as well as Ptolemy's, is called sectio canonis, the section of the canon.

But, in musical composition, a canon is a law given by one part to another, or to several parts. As nothing is more difficult to compose than canons, no species of composition has exercised ingenuity, meditation, and labour, in more various ways than the construction of canons.

In the unison and octave, they are not only more easy to compose, but are more pleasing to hear; as all other canons are moving in two or three different keys at the same time. But canons that are easy to write, and pleasing to hear, are in no estimation among masters and profound contrapuntists. They have no more respect for a canon in the unison and octave, than a geometrician for a sum in addition; they regard canons as musical problems, of which, if the solution is easy, they are unworthy of notice. They are, in reality, more calculated to exercise intelligence than delight the auricular sense.

Canons in the 5th or 4th obtain the most reverence; but these servile imitations have been practised in the 2d, 3d, 6th, and even the 9th. But rigid
fuguists call these only imitations, as the intervals are not similar.

Canons were the last compositions which masters condescended to publish in score. They were regarded as enigmas, which required the deepest sagacity and science to unfold. All the several parts were written on one staff, frequently without specifying when, where, and in what interval the other parts came in. Sometimes, indeed, the composer was so indulgent as to place this character $ over the first note of each of the other parts; but without indicating at what distance from the proposita, or subject, or whether above or below it. At other times the performers were told what kind of canon it was, and how resolved by a Greek or Latin term: that is, on what sound the risposta, or answer, was to be made. If in the 4th, 5th, 8th, &c. the words diatessaron, diapente, diapason, &c. occur. If these terms are used simply and unaccompanied, they generally imply that the answer is made in such interval above; but if some expletive is not added to the interval in which the answer is made, the performer is uncertain whether it is above or below the text or subject proposed.

Padre Martini says (Saggio di Contrapunto) that there are so many canons still preserved of the old ecclesiastical composers, each of which is upon some peculiar construction, that it would require a long treatise even superficially to explain them.

A canon that is written and composed in a mysterious and singular manner, is called by the Italians canone chiuso; a canon in score, or clearly explained, canone aperto. A. canon written only on one line, and seemingly in one part or melody, sometimes has its solution pointed out by different clefs and rests at the beginning. In old composers, whether the risposta is made above or below the subject, is often determined by the Latin particle super, or sub, or by the Greek hyper, or hypo. So many of the most ancient canons are locked up in the mystery of enigmatical inscriptions or mottos, that the good Padre Martini has collected and explained between 50 and 60 of these oracular decrees: such as,

1. Clama ne cesses.
2. Eia dant vitia.
3. Dii faciant sine me non moriar ego.
4. Omnia si perdas famam servare memento.

Qua semel amissa, postea nullus eris.
5. Sperari & prestotari multos facit morari.
6. Ocia securis insidiosa nocent.
8. Fuge morulas.

Each of these enigmas implies, that the parts which answer the leader, are to pay no attention to the rests, but to sing the notes without them.

The 12 next enigmas imply nothing more than that the first of the two answers begins with the first note of the subject proposed, and advances straight forward to the end; while the second answer begins at the end, and moves backward to the beginning.

It is easy enough (says M. Ginguené) to conceive the difficulty of constructing such canons, and how impossible it is to divine the author's meaning, if some written clue is not given to it; but it is not so easy to conceive what pleasure can result from the execution of such a task, or the merit of taking such great pains for so little pleasure.

Dr. Pepusch was very fond of these musical mysteries; and the studious and profound Padre Martini, to the end of his life, apologised for, and strongly recommended the cultivation of them, to young musicians, as stimuli to meditation and the study of condite harmony. A close canon is placed at the head of each chapter of his History of Music, and whatever contempt and aversion modern fashionable composers may affect for these pedantries, no musician is willing to confess his ignorance of any part of the arcana of counterpoint, or to have it thought that he is incapable of making a canon; for the regular bred and deep harmonists of Italy and Germany still respect the old Roman school, and are not only pleased with a good fugue or canon, when they hear or see it, but add to the number whenever their science and leisure allow it.

Marpurg defines canon, "a musical composition, in which the parts are dispersed according to the rules of imitation."

In the ancient manner of writing all the several parts on one staff, the solutions were pointed out by a presa, or sign of reference, $, or by numbers, indicating when the several parts come in, placed above or below the five lines, to point out which were above and which below the principal, and sometimes by the mere title of the canon, as ad diatessaron, &c.
Besides canon in equal intervals and notes of equal value, there are others of augmentation and diminution; that is, when the subject is repeated by the 2d part in notes of double or of half the length of the first. There are canons likewise in moto contrario, per arsin et thesin, which see.

Canons in different species of octave, which all must be, except those in the unison, octave, 4th and 5th, are only imitations (which see), though the parts move in the same kind of notes.

There are also canons on two, three, and four subjects, difficult to construct, and still more difficult for the hearer to comprehend; they are purely calculated to entertain the eye, but not the ear; as there is too much confusion for that sense to distinguish and follow the several melodies, or enjoy the ingenuity of the design. Geminiani has in a concerto of his op. 3ra. a movement in canon of four parts, unisons, and octaves, which used to be admired; but he had another in his last concertos, op. 7ma. on four different subjects, which we believe was never performed in public, it produced so much confusion in private.

To give a list of the principal writers on fugue and canon would be enumerating all the authors who have written on music from the 15th century to the present. The rules have been varied but little from Pietro Aron's time, though new contrivances and new enigmas have been multiplied without end.

Composition in plain and florid counterpoint should be studied, and its rules and exceptions well digested by a musical student, before he attaches himself to fugue and canon, which will make him indifferent about melody, provided, under canonical restrictions, he can make his harmony correct.

All that now remains for us to do, in order to smooth the way in this kind of study when the young composer thinks it expedient to undertake it, is to give a few short specimens of the principal kinds of canon that have been cultivated by great masters of the old school, when nothing else was prized, and all their powers were devoted to that almost exclusively.

No writer has more clearly laid down the rules of fugue and canon than Dr. Pepusch, as no one was more deeply read than he was in all the arcana of that kind of lore. Marpurg, Padre Martini, Kirnberger, and subsequent writers, may have somewhat extended and detailed the rules more minutely than the venerable graduate of one of our universities; but as far as he goes, we may safely depend on his doctrines. Concerning canon, his precepts are few and short; but of fugues, both precepts and examples are not only numerous, but luminous and indisputable, which rendered it less necessary to be diffuse on canon, as the laws of fugue are the laws of canon, with respect to bringing in the answers of the several parts; and all the short examples of fugue in Dr. Pepusch's treatise are almost wholly in canon.

After fully treating of regular fugue, and its laws, he says: "Regular fugues are of two sorts; the one is called by the Italians fuga legata, and the other fuga sciolta. The first sort is in English generally called canon, and we may express the other by the name of free fugue.

"A CANON is that sort of fugue in which the several parts strictly contain the same melody from the beginning to the end; or in which the guide and the answers are, throughout the whole composition, exactly alike.

"A FREE FUGUE is not confined to this obligation; for in that we may introduce various subjects, different from the theme on which the fugue began, and break off also at pleasure; however, every subject introduced is a guide, which must have its answer in the same solmisation (intervals) as itself; and these fresh subjects must also be very regularly introduced, according to the different keys into which the modulation is brought, and which are proper to the chief key of the composition."

It seems as necessary for the accents of the answers to a canon to fall on the same parts of a bar, as in a fugue; particularly in setting words. Even in Sala's excellent examples of canon, when the subject is led off after a minim rest in one part, and a scimbrcve rest in the risposta, or reply, the melody is so disguised, and there is such confusion, that there is no canon, nor hardly an imitation, discoverable by the ear from the beginning to the end; so that all the pains and ingenuity that have been bestowed on the construction are thrown away; and if there is any melody in the first part, it is totally destroyed by the second. For eminent writers on canon, expressly, see VALENTINI, MICHELE, ROCCO RODIO, and BEVIN.

After all that has been said in this long article, in favour of CANON as an ingenious contrivance...
of its utility among the studies of voting musicians; we must own that *canons* which have no other merit than the difficulty of their construction and solution, should never see the light, being the mere offspring of pedantry and dullness; but that such laborious works of this kind as are built on agreeable subjects, and are, rich in harmony, may, in society, afford great pleasure to real lovers and judges of music, cannot be denied.

CANTARE, Ital. to sing. Singing is a faculty that requires the union of so many gifts of nature, and so much assistance from art, that the complete concurrence and union of both rarely happen. The requisites from nature are a voice full, flexible and extensive in compass, well-toned, sweet, clear, and interesting; with an ear perfectly correct in time and tune. The acquisitions from art are a good *portamento*, or delivery of the voice from the chest, free from nasal or guttural defects, a good shake, good taste and expression, with a rapid, distinct, neat, and articulate execution of divisions, and the power of sustaining a long note with steadiness, and of augmenting and diminishing its force by the most minute degrees.

The individual in possession of all these requisites, will be regarded as a prodigy! and with health, diligence, and good conduct, may be pronounced heir to a great estate, arising from means the most flattering to self-love, and grateful to a good heart: the power of innocently delighting mankind.

These qualifications the critical and fastidious hearer thinks his due—be it so: but in order to balance the account between the performer and his audience, let us remind the latter of the fair and just claims which every performer possessed of great talents has on the public, but in a particular manner, a singer, who having arrived at these captivating powers by unceasing study, toil, and experience, is not only entitled to considerable remuneration, but to regard and attention from the public, for its own sake: for if by neglect, noise, and mortification, a vocal performer’s mind is disquieted, and chest agitated, that ardent desire to please those who seem disposed to be pleased, and those efforts which encouragement alone can stimulate, are chilled and paralyzed, to the great loss of the feeling part of an audience, and disgrace of the humbled performer.

From such treatment what can be expected but a cold, inanimate, and lifeless, performance, without professional zeal, or the enthusiasm of genius and talents.

Garrick used to say, that applause was an aliment without which he could not live on the stage; and inattention to the part he was representing, he never forgave. He complained to an officer on guard, of a centinel yawning aloud on the stage during his acting one of his best parts; and he never rested till Pinto the first violin, and leader of the band, had quitted his station, after perceiving him fall asleep in the orchestra, in sight of the whole house, while he was acting one of the most impressive and afflicting scenes in King Lear.

Singing has long been cultivated and cherished in Italy. In the *Cortegiano* of Castiglione, written at the beginning of the 15th century, we are told of two singers, whose merit in a totally different style of singing was so equal and so great, that they charmed all hearers. These performers are mentioned to prove, that in all the arts there are various roads that lead to perfection, and different means of delighting mankind. *Bidon*, says the author of that pleasing work, has such force, readiness, and variety of passages, that the souls of all hearers are so excited, inflamed, and ravished, that they seem transported above themselves, and almost exalted into heaven. Nor does *Marchetto Cara* less excite the affections by a more tender and touching style, which commiserates and soothes the affections of others, or with sweet, complaining, heart-felt notes, softens, instructs, and penetrates the mind, for sorrows not their own. Tosi applies to Faustina and Cuzzoni, the two great vocal rivals of his time, these captivating powers by dissimilar talents. And we may, perhaps, with equal accuracy and candour affirm, that such are at present (1802) the excellencies of the *Billington* and the *Banti*, that whoever prefers the one to the other, only proves that the taste of hearers is as various as the style of singing of great performers.

Since the establishment of operas, no professional talents in any of the tine arts have been more celebrated than those of great Italian singers; who being invited to different states and kingdoms, have an opportunity of extending their fame to every part of Europe; and their talents are as well known at Vienna, Madrid, Petersburg, Dresden, Berlin, Munich, and London, as in their own country.
We cannot pretend to render this article a complete elementary treatise on singing, and, indeed, as Johnson truly said of books of instruction, "nothing is well made by a receipt:" yet, to trace, and specify a few of the first principles of the art, may be of some use to vocal students out of the reach of better instructions.

For those who seek vocal precepts in books, we recommend the perusal of Tosi and Mancini; and as a synopsis of the art, we shall present our readers with Tenducci's first injunctions to his scholars. For solfeggio, or exercises for the voice, those of Leo, on which so many great singers have been formed, are now only useful to the performers of old music; but new melody requires new solfeggio, to prepare a singer for divisions and graces of the present times. For such, the most modern, and perhaps the best, are those of Aprile, which, however, are now full 30 years old; but many new melodies have been since produced in the vocal com positions of Pæsiello, Ciamarosa, Sarti, Haydn, and Mozart, as well as refinements in the performance of Pacchieretti and Marchesi, with which young singers should be made acquainted.

The Cyclopaedia, being intended to assist those who study an art or science without a master, we shall present the solitary student in singing with the following instructions drawn up in Italian, as we imagined by the late Signor Tenducci, who brought them to the author of the present article to revise and translate; but on comparing them with the preliminary rules placed at the head of the English edition of Aprile's Modern Italian Method of singing, under the title of Necessary Rules for Students and Dilettanti of VOCAL MUSIC; it appears that the Italian copy of the Instructions, brought by Tenducci to be translated, belonged to Aprile, and that the English translation of these rules is literally that with which Tenducci was furnished by ourselves.

**Tenducci's Instructions to his scholars.**

**Necessary rules for students and dilettanti of vocal music.**

I. The first and most necessary rule in singing is to keep the voice steady.
II. To form the voice in as pleasing a tone as is in the power of the scholar.
III. To be exactly in tune; as without a perfect intonation, it is needless to attempt singing.
IV. To vocalize correctly; that is, give as open and clear a sound to the vowels, as the nature of the language, in which the student sings, will allow.
V. To articulate perfectly each syllable.
VI. To sing the scale, or gammut frequently; allowing to each sound one breve, or two semibreves, which must be sung in the same breath, and this must be done, in both, a *mesa di voce*; that is, by swelling the voice, beginning *pianissimo*, and increasing gradually to **forte** in the first part of the time; and so diminishing gradually to the end of each note, which will be expressed in this way.

![Pianissimo](image)

VII. To exercise the voice in solfeggio every day, with the monosyllables, do, re, mi, &c.
VIII. To copy a little music every day, in order to accustom the eye to divide the time into all its proportions.
IX. Never to force the voice, in order to extend its compass in the *voce di petto*, upwards; but rather to cultivate the *voce di testa*, in what is called *falsetto*, in order to join it well, and imperceptibly, to the *voce di petto*, for fear of incurring the disagreeable habit of singing in the throat, or through the nose;—unpardonable faults in a singer.
X. In the exercise of singing, never to discover any pain or difficulty, by distortion of the mouth, or grimace of any kind; which will be best avoided by examining the countenance in a looking-glass, during the most difficult passages.
XI. It is recommended to sing a little at a time, and often, and if standing, so much the better for the chest.
XII. That scholars should appear at the harpsichord, and to their friends, with a calm and cheerful countenance.
XIII. To rest or take breath between the passages, and in proper time; that is to say, to take it only when the periods, or members of the melody, are ended; which periods, or portions of the air, generally terminate on the accented parts of a bar. And this rule is the more necessary, as by dwelling too long upon the last note of a musical period, the singer losses the opportunity it affords of taking breath, without breaking the passages or even being perceived by the audience.
XIV. That without the most urgent necessity, of either a long passage, or of an affecting expression, the words must never be broken, or divided.
XV. That a good *messa di voce*, or swell of the voice, must always precede the *ad libitum* pause \(\textit{a}^{\text{"}}\) and *Cadenza*.

XVI. That in pronouncing the words, care must be taken to accord with the sentiment that was intended by the poet.

XVII. That the acute and super-acute sounds must never be so forced as to render them similar to shrieks.

XVIII. That in singing, the tones of the voice must be united, except in the case of staccato notes.

XIX. That in pronouncing the words, double consonants in the Italian language, must be particularly enforced, and care taken not to make those that are single seem double.

XX. To practise the shake with the greatest care and attention, which must generally commence with the highest of the two notes, and finish with the lowest.

XXI. That the ornaments and embellishments of songs should be derived from the character of the air, and passion of the words.

As Aprile was the real author of these precepts, to whom we did not allow an article when we were at work upon the letter A, not knowing whether he was singing Alleluiahs in this world or the next, we shall endeavour here to make him and our musical readers some amends for the omission.

*Editorial note:* This passage refers to the biography of Aprille, which Burney inserted immediately after the Cantare article. See Biography volume.

These rules are short, but clear and useful; to such as have neither the advantage of a good master, nor are in possession of Tosi's *Observations on florid Song*, in the original, or the excellent translation by Gaillard, which is now become scarce; and, though the book was written early in the last century, most of the precepts it inculcates are still good, and have not yet been superseded by those of any better work on the subject in our own language. See Tenducci.

CANTATA, the title of a short lyric poem, consisting of alternate recitation and air. The word *Cantata*, according to Du Cange, was used in the church as early as the year 1314, to express what we at present mean by *anthem*, with which it is still synonymous in Germany; being chiefly confined in the Lutheran church to sacred music. The Romish church had many admirable *sacred cantatas* during the last century, by Carissimi, Graziani, Bassani, and others. And during the present century, Domenico Scarlatti set one at Home for Christmas Eve, which was performed in the apostolic palace, 1717. Bononcini set another, 1729, for the same occasion and place. The difference at present between *sacred cantatas* and *motets* seems to be the recitative.

The secular *cantata* is a species of composition extremely well suited to the chamber, in which fewer parts, fewer great effects and less light and shade, are necessary, than in ecclesiastic or dramatic Music; for the performance being in still life, and the poet and musician without an orchestra or choir to assist in painting the stronger passions, composers aimed, for a long time, at no effects out of the power of a single voice and a single instrument to produce.

Cantatas of considerable length, accompanied by a numerous band, are usually performed in Italy on great occasions of festivity; as the reconciliation of princes after long disunion, or the arrival of great personages in the capital of a state. Thus, when pope Ganganelli and the king of Portugal were reconciled, in 1770; and soon after, when the Emperor Joseph arrived at Venice, on his first visiting Italy, cantatas were sung at Rome and Venice equal in length to an opera. But these differ essentially from what is usually meant by a cantata or monologue for a single voice, consisting of short recitatives, and two or three airs at most; as they are occasional poems in which several singers are employed; but though in dialogue, they are performed, like oratorios, without change of scene, or action.

As *cantatas* were first suggested by the musical recitation of the opera in which the chief events were related in recitative; in like manner they received several progressive changes during the 17th century, previous to their perfection. First, they consisted, like opera scenes, of little more than recitative; with frequent formal closes, at which the singer, either accompanied by himself or another performer on a single instrument, was left at liberty to shew his taste and talents.

The next change was in having a single air, generally in triple time, distinct from the recitative, and repeated to different stanzas after each narrative part of the poem, like modern ballad airs. At this time the term *da capo* not being in use, the air was written over again, as often as it was wanted, sometimes in exactly the same notes, but more frequently,
with little changes and embellishments to the same base, and to different stanzas.

Before the invention of recitative, madrigals for voices alone, and afterwards for instruments in unison with the several vocal parts, constituted the chief music that was performed in the chamber, and in private concerts, till solo songs, accompanied by a single instrument, were brought into favour by Cacini and his imitators, in Italy and other parts of Europe. See CACCINI.

Adami tells us, page 194, that Giovanni Domenico Poliaschi Romano, admitted into the Pope's chapel 1612, composed several cantatas in a good style, and in the best taste of singing, which were printed 1618; and page 195, that the Cavalier Loreti Vittorij da Spoleto, soprano in the pope's chapel 1622, and one of the first evirati employed in musical dramas on the stage, was a celebrated composer of Arie, e CANTATE da Camera.

The first time, however, that we have found the term Cantata, used for a short narrative lyric poem, was in the Musiche varie a voce sola del Signor Benedetto Ferrari da Reggio, printed at Venice 1638; which is twenty years more early than the period at which the invention of cantatas is fixed by some writers, who have given the honour to BARBARA STROZZI, a Venetian lady, who, in 1653, published vocal compositions, under the title of CANTATE, Arie e Duetti. Ferrari, detto della tiorbo, for his excellent performance on that instrument, was one of the earliest composers of operas for Venice. Of the two first musical dramas that were performed in that city, 1637 and 1638, Ferrari was only the poet; but in 1639, he was author both of the words and music of the opera of Armida, as he was of several subsequent musical dramas.

Carissimi, Cesti, Luigi Rossi, btradella Legrenzi, Bassani, Alessandro Scarlatti, Gasparini, d'Asiorga, Marcello, Bononcini, Porpora, and Handel, all cultivated cantatas, and added something to the beauty of their construction.

The golden age of Cantatas, in Italy, was the beginning of the last century, when they were brought to their greatest degree of perfection, without other accompaniment than a base viol, and harpsichord, by the genius and abilities of Ales. Scarlatti, Francesco Gasparini, Giovanni Bononcini, Antonio Lotti, the Baron d'Astorga, and Benedetto Marcello; and, at a later period in a more elaborate style, with accompaniments, by Nicolo Porpora, and Giovanni-battista Pergolesi, who seem to have been the last eminent composers that cultivated this species of chamber drama, till it was revived by Sarti.

The most voluminous and most original composer of cantatas that has ever existed, in any country to which our enquiries have reached, seems to have been Alessandro Scarlatti. Indeed, this master's genius was truly creative; and we find part of his property among the stolen goods of all the best composers of the first forty or fifty years of the last century.

Pergolesi's cantatas will be considered with his other works, elsewhere.

The French followed the Italian fashion in their rage for cantatas. Their great lyric poet, Baptiste Rousseau, and others, wrote a great number, which were set à la Lulli, and sung à la Françoise; but having never been heard out of France, nor could the music now be found, we believe it; we shall be excused, it is hoped, if we refrain from disturbing the ashes of the dead. There is an excellent critique on Cantatas, particularly those of his own countrymen, by M. Ginguë, in the new Encyclopedia, in which he has treated the subject with much judgment and good taste.

In England, cantatas were published early in the last century, by Handel, Bononcini, Attilio Ariosti, Gasparini, Roseingrave, and Dr. Pepusch; as difficult to find now, perhaps, as those of Clerambaut, Montecclair, Campra, Mouret, and Batistin, in France.

But Cantatas, which were composed with more care, and sung with more taste and science than any other species of vocal music, during the latter end of the 17th century and beginning of the last, seem to have been wholly laid aside, after the decease of Pergolesi, till revived by Sarti, who has set, in the manner of cantatas, several of Metastasio's charming little poems, which he calls canzonette. These exquisite compositions were produced by Sarti expressly for the voices of Pacchierotti, Marchesi, and Rubinielli, and are, in all respects, the most perfect and complete models of chamber music that have ever come to our knowledge.

Indeed, it is to be lamented that a species of composition so admirably calculated for concerts as the cantata, should now be so seldom cultivated: as it
CANTICUS, duets, chorusses, every thing necessary to the celebration of nuptials with the daughter of the King of Egypt. But M. Cahusac saw nothing in the theologians find under this allegory, the union of the epithalamium, composed by Solomon on his own song of songs, which some authors imagine to be an ancient historical monuments. Canticles were sung in Chorus, and often accompanied with dances, as appears in the sacred writings, where the most considerable composition of this kind is the song of songs, which some authors imagine to be an epitaphium, composed by Solomon on his own nuptials with the daughter of the King of Egypt. But theologians find under this allegory, the union of Christ and the church. M. Cahusac saw nothing in the song of songs, but a regular opera: the scenes, recitatives, duets, chorusses, every thing necessary to an opera, according to him, is contained in this canticle, and he doubts not but that it has been represented. Rousseau.

CANTO, Ital. a song, part of a poem. Il canto, in Music, implies the first treble of a vocal composition, in four parts. In a chorus of more than four parts, there is frequently a second canto; as canto 2do. the second treble. Canto fermo, plain chant, canto Gregoriano, the Gregorian chant, or the chant instituted by pope Gregory, written in the Roman missals, in square black notes, on three or four lines only. Canto figurato, florid counterpoint.

CANZONETTA, is the diminutive of canzone, a short lyric poem, and always intended for music.

CAOINAN, the name given to the funeral song of the Irish. Mr. Beauford (Irish Trans. Vol. IV, p. 46, &c.) has presented to the curious a specimen of this song, with the words in Irish and English, set to musical notes, with its full choruses of sighs and groans, and burden of ulla lulla lulla là. He has also prefixed a brief account of the modes of lamentation, by howls, gestures, and ceremonies, which have prevailed, and which still, in a degree, prevail in Ireland. He supposes them to have been derived from the primaeval inhabitants of Ireland, of Celtic race. These, he says, were a timorous and unwarlike race, as their military weapons, and every vestige of their customs and manners strongly indicate: their religion also was spiritual and untainted with human blood. Such a religion and such manners imply a susceptibility of tender impressions, and feminine expressions of sorrow. Accordingly, it has been affirmed of the Irish, that to cry was more natural to them than to any other nation, and at length the Irish cry became proverbial. Cambrensis, in the 12th century, informs us, that the Irish then musically expressed their grief, or applied the musical art, in which they are said to have excelled all others, to the orderly celebration of funeral obsequies, by dividing the mourners into two bodies, each alternately singing their part, and the whole, at times, joining in full chorus. This antiphonal singing is said to have been coeval with Christianity in this isle. See ANTI-PHONY. It was then the funeral elegy rose in poetic numbers, and was sung in poetic accents to the sound of musical instruments. After the body of the deceased, dressed in grave clothes and ornamented with flowers, was placed on a bier, or some elevated
spot, the relatives and "Keeners" ranged themselves in two divisions, one at the head and the other at the feet of the corpse. The funeral caoinan having been previously prepared by the bards and "croteries," the chief bard of the head chorus began, by singing the first stanza in a low doleful tone, which was softly accompanied by the harp: at the conclusion, the foot semi-chorus began the lamentation of "ulla-loo," from the final note of the preceding stanza, in which they were answered by the head semi-chorus; these both united in one general chorus. The chorus of the first stanza being ended, the chief bard of the foot semi-chorus sung the second stanza, the strain of which was taken from the concluding note of the preceding chorus; which ended, the head semi-chorus began the second "gol" or lamentation, in which they were answered by that of the foot, and then, as before, they united in the general full chorus. These alternately were the song and choruses performed during the night: the genealogy, rank, possessions, virtues, and vices, of the dead were rehearsed; and various interrogations were addressed to the deceased. Each verse of the Caoinan, it is said, consisted only of four feet, and each foot was commonly of two syllables; the three first required no correspondence, but the fourth was to correspond with the terminations of the other verses. This kind of artificial metre was much cultivated by the Irish bards; but, on the decline of that order, the Caoinan was assumed by women, and became an extemporaneous performance. Each province was supposed to have different Caoinans, and hence the Munster cry, the Ulster cry, &c. which are only different imitations of the different choruses of the same Caoinan, independent of provincial distinctions. As the Caoinan was sung extempore, and had no genuine established time, each set of "Keeners" varied the melody according to their taste and musical abilities, carefully preserving, however, the subject or burden of the song throughout, both in the vocal and instrumental part; as begun by the leading "Keener." The Caoinan is at present much neglected; and this ancient custom will probably soon cease; English manners and the English language supplanting that of the aboriginal natives. At the conclusion of the "Keenan," the body was conveyed to the place of interment, attended by the friends and relatives of the deceased, and accompanied by the cries of women, who at certain intervals sung the "gol" or "ulla-loo." In ancient times, after the interment, the favourite bards of the family, seated on the grave or sepulchre, performed the "coonthal" or elegy; which they repeated every new and full moon, for the first three months, and afterwards generally once every year, for persons of distinction. The elegy was more regular than the "Keenan," both in respect to its poetical composition and concluding cadence. The families both in Wales and Ireland, retained this custom to the close of the last century, and it is frequently alluded to in the Irish ballads and poetical romances.

CAPO-TASTO, in Music, in high shifts on the violoncello, is shortening the strings, by making the thumb of the left hand serve as a nut on the fingerboard; by which means the four fingers can play as many passages without alterting the position of the hand, as in its natural position, without shifting.

CAPRICCIO, Ital, a musical term for a wild, irregular movement, but full of fire and fancy. It is generally intended to display execution in the performance of new and singular passages, with the freedom of an extemporaneous flight. During the last century, the capriccij of Vivaldi, Veracini, and Locatelli, were in high favour.

CARICATO, Ital, loaded; a term in Music, usually applied to the base singer in an Italian burletta, as Buffa caricato; to a song of which the accompaniments are too full; or to anything crowded or overcharged. See CHARGÉ

CARILLONS, a species of chimes frequent in the Low Countries, particularly at Ghent and Antwerp, and played on a number of bells in a belfrey, forming a complete series or scales, of tones and semitones, like those on the harpsichord and organ. There are pedals communicating with the great bells, upon which the carillonneur with his feet plays the base to sprightly airs, performed with the two hands upon the upper species of keys. These keys are projecting sticks, wide enough asunder to be struck with violence and velocity by either of the hands edgewayes, without the danger of hitting the neighbouring key. The player is provided with a thick leather covering for the little finger of each hand, to guard against the violence of the stroke. These carillons are heard through a large town.
Carillon is likewise the name of a small keyed instrument to imitate a peal of hand bells. The tones are produced by box hammers striking iron bars of different lengths. Handel used to accompany his air in Milton’s Allegro, “Or let the merry bells ring round,” on this instrument. And in Saul, the chorus “Welcome, welcome, mighty king.”

CARILLONEUR, the musician who plays the carillons, or chimes with hands and feet; an office of extreme labour, peculiar to Holland and the Netherlands.

CARNIVAL, or CARNAVAL, a season of mirth and rejoicing, observed with great solemnity by the Italians, and particularly at Venice.

The word is formed of the Italian carnavale; which Du Cange derives from car-n-a-val, because the flesh is then put into the pot, in order to make amends for the season of abstinence ensuing. Accordingly, in the corrupt Latin, he observes, it was called carnelevamen, and carnisprivium; as the Spaniards still denominate it, carnes tollendas. The carnival time commences from Twelfth-day, and holds till Lent. Feasts, balls, operas, masquerades, ridottos, concerts of music, intrigues, marriages, &c. are chiefly in carnival time. During the carnival, St. Mark’s place is the grand scene of riot and folly, where mountebanks and various other impostors are allowed to erect their stages, and to practise on the credulity of the crowds who assemble round them. See VENICE.

CAROLA, Ital. This musical term in Boccaccio, is synonymous with Ballata, which the Crusca Dictionary defines, Canzone che si canta ballando, "a song which is sung and danced at the same time." See BALLAD. This is the sense in which the word Karole is constantly used by Chaucer.

CASTANETS, CASTAGNETTES, or CASTANET-TAS, small musical instruments of percussion, in pairs, with which the Moors, Spaniards, and Bohemians, mark the measures and steps in their dances, holding two in each hand. They consist of two little round pieces of dried wood, and hallowed in the manner of spoons, of which the concavities are placed over each other, fastened to the thumb, and beat from time to time with the middle finger, to mark the steps and gestures. Each castanet is kept in its place by a string passing through a hole pierced through an eminence left for that purpose at the side of the Castanet, and which serves as a neck.

There is a notation for castanets to mark the time, and the two hands ought at least to have as many characters as there are notes in a bar. Dextrous performers will double and triple the notes assigned them.

The tablature for the castanets is marked with the usual characters of the time-table, placed above and below the same staff or line; those above for the left hand, and those below for the right. The bars, whether a single or a five line staff, are to be marked by a perpendicular line. There ought likewise to be a clef, and a character for time at the beginning of each tune.

This article is taken from the new Encycl. Meth.; but we are unable to discover the use of clefs for a monotonous instrument, or rather for an instrument on which no tuneable sound can be produced.

Vol 7 Castramentation-Chronology

CASTRATO, Ital. a male singer, with a soprano or female voice, occasioned by a cruel act, which needs no further explanation than what is given under the article CASTRATION, which see. It is a delicate and difficult subject to discuss. The custom in the East has prevailed from the highest antiquity. The chamberlains of the Egyptian kings, in the time of the Pharaohs, were eunuchs; and in the East the practice of emasculation has long been general on the guardians of females in the harems of the great. Italy is the only country, perhaps, on the globe where the inhuman custom has prevailed of gratifying the auricular sense at the expense of humanity. The Italians pretend to have very severe laws against this inhuman practice; but evirati have been em-
ployed in the pontifical chapel to sing the soprano, or treble parts, ever since the establishment of the opera, in the beginning of the 17th century; till which period the treble parts were sung by Spaniards in falset, which see. The favour and fortune which some of the castrati have obtained by their voice, taste, and talents in singing, have stimulated sordid and unnatural parents to have their children mutilated in expectation of their aggrandizement, though the horrid operation does not give or improve a voice, but only preserves it from a change at the time of puberty; and as not one boy in a 100 has a fine voice, though all boys have a shrill and effeminate voice previous to manhood; yet of all the unhappy children thus mangled, the number is very small of those who have voices fit for the theatre. And even when there is a voice, the want of genius, diligence, figure, and intelligence, will prevent their ever acquiring the favour or the pity of the public; and though they merit the utmost commiseration for the inhumanity of their barbarous parents, they are always treated with scorn and derision by the gross and vulgar part of society. See Eunuch; where we shall resume the subject, and detail the history and use of eunuchs from the most remote antiquity to the establishment of the musical drama in Italy.

CATCH, in Music, is a song in parts generally of a facetious kind; in which, by the disposition and arrangement of the words, some latent humour or jest is produced in singing, which, in reading the words, does not appear. We can trace attempts at this species of humour up to the time of Henry VII, and canons much higher. See CANON. But among the productions for vocal purposes must not be forgotten canons, rounds, and catches; of which ingenious and exhilarating species of composition, the first collection that was ever printed, appeared during the reign of James I, under the title of "Pammelia Musicks Miscellanie; or mixed varieties of pleasant roundelays and delightful catches of 3, 4, 5, 6, 7, 8, 9, 10 parts in one. None so ordinarie as musical, none so musical as not to all very pleasing and acceptable. Lond. printed by William Barley, for R. B. and H. W. and are to be sold at the Spread Eagle at the north doore of Paulcs, 4to. 1609." The names of none of the composers of these epigrammatic and pointed effusions have been preserved; but many of them seem of great antiquity, which is discoverable both by the words and style of composition. Great musical science is manifested in the canons, and the harmony and contrivance of the rest are excellent. The words, indeed, except those of the canons, which consist of small portions of the Psalms and other parts of Scripture, in Latin (which seems to imply that they were set before the reformation), are, in general, devoid of wit, humour, poetry, and common sense. But our lyric poetry, during the 16th and part of the 17th century, was in a barbarous state, and far inferior to the music of the times. But the composers seemed so little solicitous about the words they had to set, as frequently to prefer the syllables of sol-misation "Ut re mi fa sol la; hey down down, derry down;" or merely, fa la, to songs of Spencer and Shakspeare.

The second collection of catches, Hilton ventured to publish in 1652, in spite of the Psalm-roaring, and fanatic gloom which then prevailed, under the title of "Catch that Catch can," or a choice collection of catches, rounds, and canons, for three and four voices. They helped to solace the royalists in private, during the triumphs of their enemies, and suppression of all public amusements. Though many of these rounds and catches were afterwards reprinted by Playford, and retained in later collections; the book, which is of a small oblong form, is not only scarce, but valuable; as it contains several canons and ingenious compositions which are not yet common.

The third publication of catches had John Playford for editor, in 1667, under the same title as that of Hilton; "Catch that Catch can," or the musical companion; which was, indeed, but a second edition. However, in a second part to this publication, there appeared dialogues, glees, ayres, and ballads, of two, three, and four voices, wholly different from Hilton’s second part, which consists of about 40 hymns and canons.

But we must not terminate this article without an honourable and grateful memorial of the catches, rounds, and glees of Purcell, of which the humour, ingenuity, and melody, were so congenial with the national taste, as to render them almost the sole productions of that facetious kind that were in general use for near fourscore years. And though the constenance and premiums bestowed of late years upon this species of composition, as well as modern re-
finements in melody and performance, have given birth to many glee s of a more elegant, graceful, and exalted kind, than any which Purcell produced; yet he seems hardly ever to have been equalled in the wit, pleasantry, and contrivance of his catches.

Canons, rounds, and catches were never published in score till after the institution of the Catch-Club, in 1762. This society was first suggested by the then earl of Eglington, lord March, the present duke of Queensbury, and — Meynel, esq. who soon enlisted under their banners the lords Sandwich, Orford, Fortescue, &c. &c. This institution has given birth to many excellent glee s, in purer harmony and more polished melody than those of former times could boast; but of catches and canons the stock has not been equally augmented. Purcell’s catches are still the best models of that species of composition; and except Dr. William Hayes’s pleasant canon, “Let’s drink and let’s sing together,” Bird’s ”Non nobis Domine” is the only canon that has continued in constant favour and circulation, among all our efforts at similar productions.

CATHEDRAL Service. At the beginning of the reformation, the whole English choral service, including the preces, prayers, and responses, was set to musical notes, and first published in 1550, by John Marbeck, organist of Windsor. The premature re-forming zeal of this musician, nearly made a martyr of him, in the time of Henry VIII. He had, indeed, the honour of being condemned to the stake, with three other persons, who were burnt for heresy, but was pardoned by the intercession of sir Humphrey Foster.

His notation of the English cathedral service was published under the following title:

The Booke of Common Prayer, noted 1550.

Imprinted by Richard Grafton, Printer to the Kings Majeste, cum privilegio ad imprimendum solum.

As this book is become very scarce, we shall present the reader with a considerable extract from it.

"In this booke is conteyned so suche of the order of common-prayer, as is to be song in churches: wherein are used only these iii sortes of notes.
After the Second Lesson one of these that follow.

Benedictus Dominus.

In this manner the whole Morning and Evening Service, as it is now Chanted, is set; except the Litany.

At the end is the name of JOHN MERBECKE.
paring the *Te Deum laudamus*, and other parts of the
cathedral service, in this publication, with the
missals, graduals, and antiphonaria of those times.
The chant to the *Te Deum*, as published by Meibomius,
(Antique Mus. Auct. Sept. Amst. 1652. Vide præf. Lectori benevolo,) from a copy nearly as an-
cient as the hymn itself, and another example of the
same Canto Fermo, given by Glareanus, (Dodecad.
p. 110.) in 1547, correspond exactly with that which
was retained by Marbeck, at the time of the refor-
mation: as the mode, the dominant, and medius, are all
the same; nor is the least deviation discoverable, ex-
cept where the different number of syllables in the
translation required it, and which affect the melody
no more, than those slight changes which happen in
the manner or use of any two choirs in singing the
same chants, or even in adjusting different stanzas of
any song to the same tune.

Marbeck was admitted, in 1549, to the degree of
bachelor in music, at Oxford, according to Anthony
Wood, (Fasti Oxon.) who erroneously calls him
James Marbeck: he is honourably mentioned by
Bale, because he had been persecuted by the Cathol-
cics, and his name is omitted by Pitts, for the same
reason.

It seems as if we may safely conclude, that the
chief part of such portions of Scripture, or hymns of
the church, as have been set by English musicians to
Latin words, were produced before the reformation,
or, at least, in queen Mary’s time; that is, before the
year 1558, when queen Elizabeth ascended the
throne, by which time a school of counterpoint was
formed in this country, that was equal, at least, to
that of any other part of Europe. A reason, however,
may be assigned for the choral music of every Chris-
tian country approaching perfection by nearly equal
strides.

Before the reformation, as there was but one reli-
gion there was but one kind of music in Europe,
which was plain chant, and the discant built upon
that foundation; and as this music was likewise only
applied to one language, the Latin, it accounts for
the compositions of Italy, France, Spain, Germany,
Flanders, and England, keeping pace with each
other, in style and excellence. All the arts seem to
have been the companions, if not the produce, of
successful commerce; and they will, in general, be
found to have pursued the same course, which an
admirable modern historian has so well delineated:
(Hist, of Charles V. vol. i. sect. i.) that is, like com-
merce, they will be found, upon inquiry, to have ap-
peared first in Italy; then in the Hanseatic towns;
next in the Netherlands; and by transplantation,
during the 16th century, when commerce became
general, to have grown, flourished, matured, and
diffused their influence, in every part of Europe.

If this were a place to illustrate such an idea, it
would be easy to shew, that ecclesiastical music, in
the middle ages, was all derived from the papal
chapel, and court of Rome; that counterpoint was
first cultivated for their use; that it travelled thence
to the Hanseatic towns, and the Netherlands, where
the affluence, which flowed from successful com-
merce, afforded encouragement and leisure for its
cultivation; till about the middle of the 16th century,
when, by the general intercourse which traffic and
the new art of printing introduced, all the improve-
ments in harmony, which had been made in Italy
and the Low Countries, were communicated to
every other part of Europe; which not only stimu-
lated the natives to adopt and imitate them, but to
improve and render them more perfect, by their
own inventions and refinements.

CAUDATUS, Lat. in Music, a musical note with a
tail to it; as a minim to distinguish it from a
semibreve, which is round. In the early period of
counterpoint, a tail added to a note made it of
double its natural length; as a tail to a breve made it
a long bes. See the ancient time-table.

CENTONARE. In Italy, a plagiarist in musical
composition, where melody and harmony are mere
patch-work, is said to centonare. Sometimes an opera
consisting of airs selected by the Maestro, or by the
singers themselves from the works of various com-
posers, is called a cento. See PASTICCIO.

CHACONNE, French, a serious and splendid
dance to music formerly written on a ground base;
but that restraint has of late been given up. The
measure, however, is invariably that of ¾, and there
are frequent returns to the subject or first strain,
after episodes and excursions into new modulations
and styles.

The word is formed of the Spanish *chacona*, which
may probably be derived from the Persian shack, a
king, thus intimating, that this might have been a
royal dance; not, as others pretend, front the Italian Cecone, a blind man, the inventor.

CHAMBER Music, compositions for a small concert-room, a small band, and a small audience; opposed to music for the church, the theatre, or a public concert-room. See Musica di CAMERA.

CHANSON, French, a song; a short lyric poem on familiar subjects, of love, wine, joy, sorrow, &c. put to an easy melody for social occasions; at table, to a mistress, to friends, and even to yourself when alone, in order to drive away care, anxiety, low spirits in the rich, and to alleviate fatigue and indigence in the poor.

A song of this kind is totally distinct from what is called an air in a musical drama, which, as a poem when taken out of its niche, has neither beginning, middle, nor end. See SCOLIA, SONG, AIR, BAL-LAD, and NATIONAL MUSIC. French songs, not dramatic, or chansons à table, turn chiefly on love and wine, addressed by their votaries to Venus and Bacchus.

There are in France, likewise, numerous satirical songs, under the denomination of Vaudevilles, which see.

The ancient historians and poets of France mention their military songs of very remote antiquity, in which were celebrated the heroic deeds of their favourite chiefs and most gallant commandants. These used to be sung in chorus by the whole army in advancing to attack an enemy; a custom probably derived from their German ancestors, as the privilege of leading off this kind of war whoop, usually appertained to the bard who had composed it. Charlemagne had a great passion for these heroic songs, and, like our Alfred, not only had them collected, but knew them by heart. However the achievements of this victorious prince and his captains obliterated those of their predecessors, and gave birth to new songs. One of these, in praise of Roland, the Orlando inamorato and furioso of Boiardo, Berni, and Ariosto, was longer preserved than any of the rest. This, the French historians tell us, was begun at the battle of Hastings, where William became the conqueror of the English nation, by a knight called Taillefer, on whom this honour was conferred for his strong and powerful voice. Here he performed the office of herald minstrel (menestrier huchier) at the head of the Norman army, and was among the first that was slain in the onset.

The song upon Roland continued in favour among the French soldiers as late as the battle of Poitiers, in the time of their king John; who, upon reproaching one of them; with singing it at a time when there were no Rolands left, was answered, that Rolands would still be found if they had a Charlemagne at their head. But however popular this song may have been in the fourteenth century, it is not come down entire to the present times.

Concerning the heroic song called l’homme armé, on the melody of which all the first great contrapuntists composed masses of the most elaborate kind; nothing is more probable than that the tune of this song was the famous Cantilena Rolandi, or melody to the song which the French armed champion used to sing at the head of the army, in honor of their hero Roland, in advancing to attack an enemy.

CHANSONS de Gestes. Songs on heroic, historical, and chevaleresque subjects. This kind of song was called in England during the Norman dynasty, chant-royal; and Chaucer, in speaking of the musical talents of the poor scholar Nicholas, in the Miller’s Tale, says:

And after that he song the King’e’s note;  
Full often blessed was his merry throat.

The Chanson de Geste was distinguished from common songs, according to Alberic, by the title of Heroica Cantilena. These historical songs or ballads must have been sung to very short and simple tunes, such as our Chevy-Chaise, or such as is used by the Improvisatori of Italy in accompanying their inspirations, which frequently amount, in length, to many hundred stanzas.

Though the rest of Europe is not partial to the music of France, the words of their songs, from the time of the Troubadours to the present, must be allowed to abound in wit, irony, badinage, and elegant, warm and ingenuous praises of love and wine, more than those of any other country.

CHANSONETTE, French. The diminutive of chanson, a little song.

CHANT, in our cathedral service, bears very little resemblance to the canto fermo, or plain-chant of the Roman Catholics, which is chiefly pronounced, rather than sung by the priest alone, without base;
whereas our \textit{chants} are short phrases of \textit{melody}, sung antiphonally from side to side, in four parts, accompanied by the choir organ, except in the first verse and \textit{Gloria Patri}. Some of our chants are as ancient as the reformation; and perhaps still more ancient, as they resemble, in length, facility, and counterpoint, those used in Italy during the middle of the XVth century. Several composed by Palestrina and his contemporaries have been preserved in an ancient MS. procured in Italy, called \textit{Studii di Palestrina}, and believed to be the autography of that father of ecclesiastical harmony. -  

\textbf{CHANT, Ambrosian. See AMBROSIAN CHANT.}  
\textbf{CHANT, Gregorian. See GREGORIAN CHANT.}  
\textbf{CHANT, French,} is equivalent to melody, or the principal or treble part in a musical composition. See \textit{CANTO; CANTILENA, Ital.}  

\textbf{CHANT, Cantus,} is used for the vocal music of churches. In church history we meet with divers kinds of \textit{chant or song:} the first is the Ambrosian \textit{chant,} established by St. Ambrose.  

The second, the Gregorian \textit{chant,} introduced by pope Gregory the Great, who established schools of \textit{chanters,} and corrected the church song.  

This is still retained in the church under the name of \textit{plain song:} at first it was called the Roman song.  

The \textit{plain,} or Gregorian \textit{chant,} is where the choir and people sing in unison, or altogether in the same manner. See \textit{CHORAL Service.}  

\textbf{CHANT sur le livre, French,} is discant, or singing extempore in the plain song in the cathedral service of the Roman church; which is done by three or four singers on the gregorian notes, in the mass book on the desk in the middle of the choir, so that, except the \textit{canto fermo} in the missal, which is generally sung by the tenor, the singers have nothing to guide them. However, there are choral singers, so versed in counterpoint, that they even lead off and pursue subjects of fugue and canon on this foundation, without confusion, or violating the rules of harmony. See \textit{DISCANT,}  

\textbf{CHANTER, French,} to sing. We shall not go to France for instructions in this art; though Messrs. Framery and Ginguénié have adopted and given in the Encyl. Meth. some very useful precepts from the Italian school, which we apprehend will not be generally received or put in practice by their countrymen for some time. We acknowledge, however, that Mr. Framery has discussed this subject with delicacy, discrimination, and good taste.  

Rousseau's definition of the verb \textit{chanter,} is clear and precise: it is, in its general application, the forming with the voice such sounds as are appreciable. See \textit{MELODY.} But it is more commonly understood to imply the producing, by vocal inflexions, a variety of such tuneable sounds as are agreeable to the ear, and by intervals admitted in harmony, and consonant to the rules of modulation. A singer pleases in proportion as the voice is clear and well toned, the ear perfectly accurate, the organs flexible, the taste well formed, and when instruction and practice have polished and improved the gifts of nature. To which, in imitative and theatrical music, should be added that degree of sensibility which impresses others with the sentiments which we affect to feel. From observations in hearing great vocal performers, many rules have been formed for facilitating and perfecting a vocal student; but many discoveries still remain to be made on the most easy, short, and certain path to perfection in this difficult art.  

\textbf{CHANTOR,} or \textbf{CHAUNTOR,} a person who sings in the choir of a cathedral.  

All great chapters have chantors and chaplains to ease and assist the cannons, and officiate in their absence. St. Gregory first instituted the office of chantors, erecting them into a body, called \textit{schola cantorum:} though Anastasius seems to attribute their rise to pope Hilary, who lived an hundred years before Gregory. But the word grows obsolete in this sense, and instead of it the word choir-man or singing-man is now used.  

\textbf{CHANTOR} is used, by way of excellence, for the præcentor or master of the choir; which is one of the dignities of the chapter.  

The chantor bears the cope and the staff at solemn festivals; and gives tune to the rest at the beginning of psalms and anthems. At St. David's in Wales, where they have no dean, he is next in dignity to the bishop.  

The ancients called the chantor, \textit{primicerius cantorum.}  

To him formerly belonged the direction of the deacons, and other inferior ministers.  

\textbf{CHAPEL Royal Establishment.} We have an account of this establishment in the "Liber niger domus Regis," in the time of king Edward IV, in
which there is likewise a list of the several musicians retained in that monarch’s service, as well for his private amusement as for the duties of his chapel.

As this seems the origin of those establishments, of the chapel royal and king’s band, which still subsist, we shall give the account of them, and their several employments, at full length from this ancient book, as well as from N° 293 of the Harl. MSS. in the British Museum, and N° 1147, 2. 3. 1 1. of the Ashmol. Collect. Oxf. for Ordinances touching the King’s household, made in the time of Edward II. as well as in that of Edward IV.

“Minstrelles thirteene, thereof one is Virger, which directeth them all festyvall dayes in their statyones of blowings and pypyngs to such offfycyes as the offfycyes might be warned to prepare for the King’s meats and soupers; to be more redyere in all services and due tyme; and all thes styting in the hall together, whereof some be trompets, some with the shalmes and smallle pypes, and some are strange menne coming to this Court at fyve feastes of the year, and then take their wages of Housshold, after iiijd. ob. by daye, after as they have byne presente in Courte, and then to avoyd after the next morrowe after the feaste, besydes there other rewards yearly in the King’s Exchequer, and clothinge with the Housshold, wintere and somere for eiche of them xxs. And they take nightelye amon- geste them all iiij galanes ale; and for wintere seaseone thre candles waxe, vi candles pich, iiij talsheids [firewood cleft and cut into billets]; lodging suffytentely by the Herbengere for them and theire horses nightelye to the Courte. Aulso hauing into Courte ij servants to bear their trompets, pypes, and other instruments, and torche for wintere nightes, whilst they blow to suppre of the chaundry; and alway two of themes persons to contynewe stylle in Courte at wages by the cheque rolle whyles they be presente iii; ob. dayly, to warne the King’s ridynge housshould when he gath to horshbacke as oft as it shall require, and that his housshould mene may followe the more redyere aftere by the blowinge of their trompets. Yf any of thes two Min- strelles be lete bloode in Courte, he taketh two loves, ij messe of greate mete, one galone ale. They part not at no tyme with the rewards given to the Houshold. Also when it pleasethe the King to have iij Minstrelles contynuinge in Courte, they will not in no wise that thes Minstrelles be so famylliere to aske rewards.

“Children of the Chapelle viii, founden by the King’s priuie Coffers for all that longeth to their apparell by the hands and oversyghte of the Deane, or by the Master of Songe assigned to teache them, which Mastere is appointed by the Deane, chosen one of the number of the fellowshipe of chappelle after rehearsed, and to drawe them to other Schooles after the form of Sacotte, as well in Songe in Orgaines and other. Thes Children eate in the Hall dayly for the Chappell bord, nexe the Yeomane of Uestery; taking amongste them for lyverey daylye for brekefaste and all nighte, two loves, one messe of greate mete, ii galons ale; and for wintere seaseone iiij candles piche, iiij talsheids, and lyttere for their pallets of the Serjante Usher, and carry-adge of the King’s coste for the competente beddyngye by the oversyghte of the Comptrollere. And amongste them all to have one servante into the court to trusse and bear their harness and lyvereye in Court. And that day the King’s Chappelle remoueth every of thes Children then presente recaueth iiijd. at the Grene Clothe of the Compyng-house for horshire dayly, as long as they be jyrneinge. And when any of thes Children comene to xviii years of age, and their uoyces change, ne cannot be preferred in this Chappelle, the nombre being full, then yf they will assente the King assynethe them to a College of Oxeford or Cambridge of his foundatione, there to be at ?yndyng and studye bothe suffytently, tyle, the King may otherwise aduancc them.”

In the Liber niger, there is likewise not only an account of the gentlemen and children of the chappel, but of the “Deane’s person and establishment, with that of the xxiiij Chaplenes and Clerkes of the Chappelle by the Deane’s electyone or demonymatione,” &c.

The establishment of cardinal Wolsey’s chapel, and of Henry Algemon Percy, fifth earl of Northumber-land, was still more numerous and splendid.

CHARACTERS used in Music.

# Character of a sharp note. This character at the beginning of a line or space, denotes all the notes in that line or space to be taken a semitone higher than in the natural series. And the same affects all their octaves, above and below, though not marked.
When the character is prefixed to any particular note, it shews that note alone to be a semitone higher than it would be without such character.

♭ Character of a flat note. This character, at the beginning of a line or space, shews, that all the notes in that line or space are to be taken a semitone lower than in the natural series; affecting, in like manner, all the octaves, both above and below. When it is prefixed accidentally to any note, it shews that note alone to be a semitone lower than it would otherwise be.

♮ Character of a natural note. Where, in a line or series of artificial notes, marked at the beginning for either sharps or flats, the natural note happens to be required, it is denoted by this character.

Character of treble clef.

H: Mean clef.

J: Base clef.

CHARACTERS of Time.

2, or 3/4 or 4/8 characters of common or duple time, signifying the measure of two crotchets to be equal to two notes; of which four make a semibreve.

C C C C Characters that distinguish the movements in common time; the first implying slow, the second brisk, third, very quick.

3/1, 3/2, ¾, 3/8, 3/16, characters of the simple triple time, whose measure is equal either to three semibreves, or to three minims, &c.

6/4, or 6/8, or 6/16, characters of mixed triple time, where the measure is equal to six crotchets, or six quavers, &c.

9/4, or 9/8, or 9/16; 9/1, or 9/2m characters of compound triple time.

12/4, or 12/8, or 12/16; 12/1, or 12/2 characters of the fourth species of triple time; called the measure of twelve times.

CHARACTER, is a term in common with all the arts, implying something peculiar and original. In Music, perhaps more than in any other art, this term is wanted; as a movement or composition, said to be of a distinct cast or character, implies invention. Without some specific stamp or impression, to awaken in the hearer the idea of some passion, affection, or sensation, it is of no character, but resembles Shakespeare’s “Fellow without mark or likelihood.”

It is but in modern times that this kind of stamp has been aimed at or expected. Neither Corelli nor Geminiani stamped the melodies of their movements with anything but a kind of wafer seal, regularly barred indeed. Pure and sweet harmony, masterly fugues, and pleasing effects are produced in most of their productions; but that innate and striking cast of melody, which is instantly felt, which distinguishes a movement from all others, and which, without learned modulation, studied combinations, or ingenious arrangement of the parts, seizes the attention, impresses itself on the hearer’s memory, never to be effaced, is wanting.

Handel has choruses of every species of character, and more songs than any composer of his time. “Return, O God of Hosts,” is a sublime supplication. “He was despised and rejected,” is impressed with a deep and dignified sorrow. “He shall feed his flock like a shepherd,” has a true pastoral cast.

Pergolesi, Jomelli, Piccini, and Sacchini, have produced airs of characters so frequently, that it is now formed into a principle by men of original genius, such as Pesiello, Cimarosa, and Sarti in Italy, and Emanuel Bach, Haydn, and Mozart in Germany, who have seldom let a movement go out of their hands ere they have affixed their seal to it.

Gluck produced great effects by harmony, energy, and bold modulation; but his melodies have seldom any peculiar mark of pathos, grace, or novelty.

CHARGÈ, Fr. loaded, crowded with parts. This is said of MUSIC, when the subordinate parts are so loud and busy that the principal melody cannot be heard through them. See CARICATA, which has the same meaning in Italian. Rameau and Gluck have been accused of this redundancy of notes in their operas; the former from a systematic determination to give to every base its full harmony; the latter, perhaps, from a desire to please the French in their own
way, by pursuing the method of Lulli and Rameau, but he likewise gratified his own taste in manifesting his ingenuity by giving to each part a different subject in the accompaniment, and also in giving way to the force and fire of his own genius. Piccini, in his early productions, put the instrumental performers in his operas to hard labour by giving them so many notes to execute, that he has been said at Naples, to put the orchestra in flames. But this was in his comic operas, full of quarrels and imbroglios. The Buona sigliuola maritata required more rehearsals than any opera that was ever performed in this country. But he did not crowd his score from pedantry or system, but to produce effects by the instruments which it would have been ridiculous for even comic singers to attempt. When Piccini gave way to his native fire and invention, it was for something ingeniously planned, and which when well executed, interested and delighted the audience.

CHEVROTTER, in *French Music*, is a term given, in derision, by musicians to a bad shake: when a singer, instead of a rapid vibration on two distinct sounds at the distance of a whole tone or a semitone, flutters only on one and the same note. The Italians call this pretended kind of shake, tosse de copra, “a goat’s cough.” Early in the 17th century, before singing had been much cultivated, while a true shake was little known, it was common to write down, and even to print, an iteration of the same note at a close, as a grace, when a real shake was afterwards required, as at a close in F:

This appears in the *Seste Musiche* of Claudio Sera-cini of Sienna, printed and published in 1624. We should have supposed this to have been the caprice of an individual, had we not found it elsewhere; but the same monotonous trill occurs, expressed in notes, not only in songs of this period, but is recommended to the practice of students in singing, by the celebrated Caccini, in his *Nuove Musiche*, printed at Venice, 1615.

CHIAREZZA, *Ital. Clearness*; *a Musical Term*, one of the most essential requisites in a musical composition. The definition of good music, by that spirited and inventive vocal composer, Galuhhi, more frequently called Buranello, though short, is very comprehensive: it consists (he told the author of the Present State of Music in France and Italy) in *vaghezza, chiarezza, e buona modulazione*.

*Clearness* in music is a very different quality from clearness in literature. In prose, verse, or reasoning, when a thought has been presented in the most appropriate terms, exempt from all extraneous matter, but accompanied with the accessories necessary to its development, and intelligibility, it is clear: endeavouring to be too concise occasions obscurity, and in trying to be clear, we become diffused:

— Brevis esse laboro, Obscurus fio.

In literature, the greatest secret of the art, is not the saying all that may be said, but to let that be clearly conceived which is not said. It is totally different in music: the moment we become diffused, we cease to be clear; so that as the opposite to clearness in literature, is obscurity; the opposite to clearness in music, is confusion.

A musical idea, apart from all expression, is not an operation of the mind. It arises from a kind of instinct, or, if you please, from a sentiment which taste only directs; and just as it springs from the head of the musician, it is received by the audience, without the least obscurity. We speak here of simple melody. But if harmony be added to it, each part increases complication, obscures the principal idea, and it is then that clearness is wanted.

Each phrase in music should have a character, and this character arises from the melody. If the accompaniment to this melody forms another melody of a different character from the principal part, and is interesting, to which should we attend; there will then be a confusion.

To make use of a term in painting, upon these occasions, when there are many melodies in motion at once, we should aim at transparency, the several parts should be heard through each other.

M. Framery, in the *Encyc. Méth.*, has extended this article, and pointed out the several causes of confusion and obscurity: one of which he says, and perhaps with truth, is the present rage for modulation, which destroys the unity of melody, and calls off the attention from the melody to the harmony;
breaks the chain of thought, and drives from the mind the original motive, and like sauce that is too acid, or too sweet, totally destroys the flavour of the principal viand. See TRANSPAR-ENCY, MELODY, MODULATION, CHARGE, and LABOURED AC-
COMPANIMENT.

Though clearness is a common epithet, and well understood in common things, it is peculiarly necessary to be explained as applied to music. In compositions of many parts, when the principal melody is not disturbed by the too great complication or activity of the subordinate parts; when not only the principal melody is heard through the rest, but that every part carrying on a particular design, can be distinguished without confusion; here it is that the word transparent might be usefully admitted into the musical technica. However numerous the parts, the principal, the best or most interesting melody should be respected, to whatever part it may be assigned. When many designs are carried on at the same time, as in double fugues with counter subjects, in writing which, as the composer’s task is different, so is that of the hearer; as the science of the one is on the stretch, so is the attention of the other.

The composer should never forget the place and the audience for which he is at work. In productions for the church, where tranquillity and profound attention are supposed to reign, learning and complication are more likely to be understood than in a theatre, where the interest of the drama, the beauty of the poetry, the gestures of the actors, and the pomp of representation, all conspire to attract the attention of the audience from the labours of the musical composer. These considerations not only furnish an apology for a thin score in opera songs, but render it an object of praise. Clearness in dramatic music is so much more necessary than in that of the church or even chamber, as the objects that distract the attention of the audience are more numerous.

CHIMES in Horology.

Editorial note: This article is by John Farey, jr, and is included here because it contains a technical account of pinning chime barrels, The article ORGAN (also by Farey Jr) contains a technical account of an instrument with such a mechanism.
inserted into certain points of its circumference at measured intervals, the pegs serving to lift the hammers in regulated succession both of order and time.

In making a chime barrel for any given tune there are certain necessary conditions to be attended to: First, the barrel must be well turned in a lathe upon its own arbor, so as to have the whole surface of its circumference concentrical, when revolving on its pivots. Secondly, the train of wheel-work, belonging to the chime-work, must make the barrel revolve in a space of time exactly equal to what is required for playing the requisite tune on any other instrument, which time may be exactly limited by proportioning the fly on the last wheel to the power of the weight or spring that urges the first wheel of the train.

Thirdly, there must be as many bells as the compass of the proposed tune contains musical notes, and also as many rows of pegs inserted into parallel circular lines on the circumference of the barrel as there are hammers to be lifted by them; and, lastly, the whole circumference of the barrel must be divided into as many longitudinal parallelograms of equal breadth, as there are musical bars in the proposed tune, each of which must be again subdivided into as many parts as there are notes of the lowest denomination, whether crotchets, quavers, or semi-quavers, in each bar; then the parallel dividing lines will correspond to the bars, and the subdivisions within will be the guides for placing the pegs in those bars respectively: for instance, suppose that Pleyel’s German hymn be required to be played by a chime clock of any description, and that the points on the barrel where the pegs or pins are to be inserted be required to be ascertained

In fig. 1, of Plate VII, (Horology,) [above] it will be seen that this popular hymn is marked 2/4, which implies, that the bar is measured by four, or crotchets, of which there are two in each bar; it is also observable that the quickest note in the tune is a semi-quaver, of which denomination eight constitute two crotchets, or one bar; consequently the bar must be sub-divided into eight. Now suppose the length of the barrel to be represented by the line D D, or d d, because the compass of the hymn is just one octave beginning and ending with D inclusively, the line, D D, or d d, must be divided into seven equal parts, which will require eight points in each to include them, viz. D, E, F, G, A, B, C, D, and d, e, f, g, a, b, c, d; then, because the whole hymn contains 16 bars, the whole line, D d, which we assume as equal to the circumference of the barrel, must be divided into 16 equal parts, which we have made to fall opposite their respective bars, the better to elucidate our example; then each of these parts may easily be conceived to be sub-divided into eight smaller divisions, as from 1 to 2 in the lower line, D d. From the dividing points let straight straight lines be drawn to complete the square, or parallelogram as the case may be, and there will be a figure, D D d d, with 8 x 16 = 128 small squares or parallelograms, which we will suppose to be on paper that will exactly cover the barrel when pasted round it, in order to convey a more distinct idea of the method of ascertaining the true places of the pins on the barrel, which may be thus done.

The first note, B, is a crotchet, and therefore the pin, represented by a dot, that moves its hammer must be in the beginning of the line B b, and the next following pin must be at the space of half a bar forwards to limit its continuance; accordingly the next note, D, is placed on the line, D d, at half a bar forwards; again this second note, D, being also a crotchet, requires the next succeeding note of A to be removed another half bar, namely to the intersection of the lines, A a, with 2 2; but the third note, A, which we have just mentioned, is equal in length to three quavers, or six semi-quavers; the succeeding pin to represent B must consequently be removed 6/8 or 3/4 of the bar, leaving 3/8 or 1/4 for the remaining quaver from B to C, the latter of which, being the first note of the third bar, falls on the intersection of the bar line, 3 3, with the hammer-tail line, C c: by the same rule the crotchet, C, once struck continues half of a bar, and requires the following A to be half of a bar advanced, but A is here 3/4 of a
crotchet, and the following B only 1/4 of the same or 1/8 of the bar; the pin of B must therefore be at 7/8 of the bar, and the succeeding one on the bar line to limit its duration to 1/8. In the fourth bar there is a crotchet rest, which is the reason why there is no dot or pin between its bar lines, as though the B of this bar had been a minim.—We might thus have analysed the whole surface of the barrel, so far as relates to this hymn, but it is presumed the preceding detail, clearly understood, will render the rest perfectly intelligible without further explication.

When the hammers are very heavy, as in church clocks, those bells which have quavers or semiquavers to be struck immediately in succession require to have each two hammers and each a pair of parallel circles pricked to perform within the limit of time; and when either the barrel is made adjustable, or the pins moveable, a number of tunes may be put on the same barrel, and where the bells are sufficiently numerous, the tune may be played in two or even three parts.

This method of pricking a chime barrel for playing on bells differs from that of an organ-barrel in this respect, that in the former the length of the note is measured by the space between the contiguous pins, whereas in the latter the limit of the note is produced by crank pieces, instead of pins, which pieces keep the pipes open, and therefore must cover the very spaces which lie between the pins of the other, the projecting parts of one barrel mutually corresponding to the vacant parts of the other.

Editorial note: The article concludes with technical accounts of the chiming mechanism of the clock at St Margaret's, Westminster, and the chimes of a common clock. They have been omitted here.

CHINESE Music. This subject, of which we knew so little, except from Pere du Halde, whose information did not much enlighten us, has been so amply treated of late years, by Pere Amiot, the Abbé Roussier, M. La Borde, and the authors of the Encyclopédie Méthodique, that little would remain to be said, if we had not other resources from which to draw that which may, perhaps, vary our narrative, if not instruct the reader. The author of the present article, when collecting materials for his “General History of Music in every civilized part of the Globe,” did not forget China, the most ancient, extensive, and polished, empire, that exists. He sent queries to an English gentleman, a good judge of music, who had resided many years at Canton, and who transmitted them to different distant provinces, whence he obtained answers in French and Italian, from missionaries long resident there; and our correspondent at Canton not only transmitted to us their answers, but sent with them a complete set of Chinese instruments; among which there was every species of flutes, several stringed instruments of the lute and guitar kind, the fiao, formerly called yu, tcheo, he, and ching, the appellation to which we shall adhere in the course of this article. The ching is a beautiful instrument, which has a gourd, or bamboo, for its basis, and represents in the arrangement of its reeds or bamboo pipes, the column of an organ; with these we received the largest gong which had ever been brought to England. These instruments were accompanied by Chinese airs in Chinese characters of notation, and in those of Europe, with a treatise on music translated into French from the Chinese, and a poem by the late emperor, Kien-Long, on the suppression of a rebellion in a distant province from the capital. These are dated Canton, 1775 and 1777. Further information from books and various other inquiring friends, was accumulated before lord Macartney’s embassy took place; when, by his lordship’s friendship and liberal spirit of research, not only for the satisfaction of his own mind, but the service of others, he extended his patronage so far as to desire the musical historian to write down a series of questions, not only concerning music, but any thing else that was wished to be investigated; and satisfactory answers were received to most of the queries delivered, at his lordship’s return; drawn up by the learned and ingenious Mr. Hütten, travelling tutor to the son of the late sir George Staunton, a gentleman, who, previous to the Chinese voyage, had resided a considerable time at Naples, and is a well-informed musician. Another chest of instruments, and a gong were added to the collection by the kindness and liberality of lord Macartney, and from all these materials, we shall endeavour to furnish curious inquirers after Chinese music, with as much information as can be compressed into the space usually allowed to articles of a similar kind.

Music has powers so opposite over human affections, that wherever it is cultivated it is sure of at
least two sets of friends of very different dispositions, the grave and the gay. It can equally soothe and exhilarate. The Chinese, the most grave, formal, and frigid people on the globe, boast the having framed the proportions of musical tones into a regular system 4000 years ago, not only long before the time of Pythagoras, but that of the Egyptian “Hermes Trismegistus,” or the establishment of their mystagogues or priests. But music, like other ancient arts, has so much depended on the tranquil and prosperous state of the nations by which it has been patronized, that, after being invented, cultivated, and brought to a certain degree of perfection, it has partly taken of all the vicissitudes and calamities of states, and has been so totally lost during the horrors of invasion, revolution, and ruin, that if, in a long series of years, prosperity should return, neither its music nor its system is to be found, unless in such fragments as, according to M. Baillie’s astronomy, we now possess of the theory and practice of the ancient Greek music. The Chinese in their old books have the numbers of their ancient scales as we have at present the ratios of Euclid and Ptolemy, which give us (according to the abbé Roussier) the “true dimensions of each tone, and their reciprocal generation,” which are insupportable on our keyed-instruments. So that music being lost after the crush of kingdoms, is again to be found by long labour, study, and experience; again to be lost, and again to be found! per omnia secula seculorum.

It is well known in Europe (says and believes Pére Amiot) that Egypt had its Mercury Trismegistus, (thrice great,) who, by the sweetness of his lyre, civilized mankind. It is likewise as well known that Greece had its Orpheus and Amphion, who by their strains stopt the course of rivers, made rocks dance, and even in the infernal regions silenced Cerberus himself; but Europe has still to learn that China has had its philosophical musician, its Lyng-tun, its Kouci, and its Pin-mou-kia; whose strains have been equally miraculous in taming the most furious wild beasts, and in civilizing mankind, often more ferocious than beasts themselves. Pére Amiot de la Musique Chinoise.

The first chapter in the history of every great nation is mythological, and never to be literally understood. And to say the truth, there seems at present in the music of China less enchantment than in our own. Yet the vulgar of all nations prefer their old traditional tunes to the finest compositions, and most exquisite performances that have ever been heard in an opera-house.

“During the first years of my residence at Peking,” says the reverend missionary, “I lost no opportunity of trying to convince the Chinese, that our music was superior to theirs. I was pretty well versed in the art; I performed on the German flute and harpsichord, and those I wished to please were not of an ignorant or mean order, but persons well educated and qualified to compare and judge; in short, persons of the first rank, who, honouring the French missionaries with their benevolence, frequently came to their house to converse with them on objects of science, and such arts as were cultivated in China.

“Les Sauvages, and Les Cyclopes, the most admired harpsichord lessons of the celebrated Rameau, the most beautiful and brilliant solos of Blavet for the German flute, made no impression on the Chinese. I saw in their countenances only a cold and absent air, which convinced me that nothing I played was at all felt. I asked them one day what they thought of our music, and begged them to speak sincerely. They answered with the utmost politeness possible, that, “our music not being made for their ears, nor their ears for our music, it was not surprising that they did not feel its beauties, as they did those of their own country.” “The airs of our music (adds a doctor among them, called Han-lin, and then in the service of the emperor) pass from the ear to the heart, and from the heart to the soul.” “We feel, we understand it: what you have been playing has no effect on us: the airs of our ancient music were still of a higher order. They were not to be heard without rapture. All our books abound with the most pompous encomiums of its charms; but at the same time they inform us how much the excellent methods employed by the ancients in producing such marvellous effects were lost, &c.”

If Pére Amiot had tried to convert the Chinese to a love for European music by French singing, we should not have wondered at his failure; but the instrumental pieces of Rameau and Blavet were justly admired in their day; and there have been long a neatness and precision in the execution of instrumental music in France, which has not been ex-
ceeding in any other country; so that if Pere Amiot did justice to the touch-stones with which he tried the feelings of the Chinese, it was natural to expect a different result.

But a similar disappointment happened to the English musicians during lord Macartney’s embassy. His lordship took with him a complete military band of wind-instruments, several of whom were able occasionally, to perform well on the violin and the violoncello. But the Chinese seemed wholly unmoved by the perfect execution of the best pieces, of the best composers, in Europe. Among the presents which his excellency took to the court of China, was a good barrel organ, made by Grey, as a curious specimen of our mechanism, upon which, besides our best popular tunes, were set several favourite airs of their own country; to some of which a base was added, and others were set on the barrel in their native state, without any accompaniment whatever. The first they did not feel, and the others, perhaps, from not being played in the time and with the expression to which they were accustomed, they would hardly acknowledge. As it was well known that, with all their long cultivation of music, the Chinese had not arrived at counterpoint, or music in parts, the author of this article tried to betray them into a love of harmony, and “the concord of sweet sounds.”

Being in possession of the melody to the hymn that is annually sung by the Chinese with the utmost pomp, reverence, and solemnity, in honour of their ancestors, in the presence of the emperor, entitled, “The Son of Heaven,” attended on this occasion by his sons, all the princes of the blood, the great officers of state, the Mandarins, the lettres, men of science, &c. and whose arrival is the signal for the commencement of the hymn; and the melody to this hymn being, like our psalmody, entirely composed of slow notes of equal length, it was thought a good foundation on which to build harmony in plain counterpoint; and as there are many stanzas to this hymn, a fundamental base only was added to the melody at first; then a second treble; and, afterwards, a tenor; after which a little motion was given to the base, followed by other additional notes to the tenor and base, but always taking care to enforce the principal melody by one of the other parts, either in unison, or in the octave. But this had no other effect than to try the patience and politeness of the Chinese, who heard it without emotion of any kind. And when it was over, one of the Mandarins, an accomplished man of good sense and good breeding, who attached himself to our ambassador, and seemed impressed with a sincere friendship for him, said, but with the utmost politeness, that “he doubted not but that our music was very fine to ears accustomed to it; but that they were not able to understand it. The additional parts confused and bewildered them; they disguised the air, and rendered it doubtful which was the principal sound, adding that such music was too complicated for them, and required more attention than they were accustomed to give to their own airs.” Such are the effects which our harmony has on the ears of the most enlightened Chinese, and indeed on those of all nations out of Europe. So that the opinion of Rousseau, that “our harmony is only a Gothic and barbarous invention, which we should never have thought of, if we had been more sensible to the true beauties of the art, and to music truly natural,” almost ceases to be a paradox.

We shall now endeavour to give a synopsis of the ancient musical system of the Chinese, which, if its chronology is just, must have preceded every other regular system upon earth.

The system of Chinese music bears date from the beginning of the monarchy, at least 2637 years before the Christian era; a proof, according to Pére Amiot, that the Chinese are the original authors of the system of music, which has been so long known in their country; and if it has been altered and abridged in later ages, it must have been from the corruption and decay of the first principles upon which it was founded; and from its being mixed and united with vain and absurd sciences, such as divination by numbers, and judicial astrology, that men of true science have abandoned.

The Chinese have had, at every period of their history, an universal system, united in all its points, to which every thing was connected and referred, as well in politics, as physics and morality. To this system they have wished, in some way or other, to make the rules of music accord as well as those of other sciences, connected with their religious and civil establishments. And Pére Amiot, being pressed to declare what were the peculiar excellence the primitive music of the Chinese, from which it de-
rived its miraculous power, and whether he thought they had ever known harmony or music in parts, similar to that of modern times? he answered in the affirmative; and added, that he thought the Chinese were probably the nation in the world that has best known harmony, and most universally observed its laws. But what is this harmony: “It is that which consists in the general accord of all things natural, moral, and political, including whatever constitutes religion and government; an accord of which the science of sound is only the representation and the image.” So that the expressions concerning this divine music, of which the learned missionary and the Abbé Roussier have laboured so much to explain the laws, are only allegorical and figurative? even the form of their musical instruments was metaphorical.

Their historians tell us that Fohi, the founder of the Chinese empire, 2952 B.C., was likewise the inventor of music; that in framing the instrument called *kin*, a long instrument strung with silken strings; the belly of which was curved to represent the heavens; the back was level to represent the earth; he placed the dragon (the symbol of China) eight inches from the bridge to represent the eight points of the winds, and gave four inches to the neck of the *Fouang-Hoang* to represent the four seasons of the year. This instrument was furnished with five strings to represent the five planets and the five elements, and its total length is fixed at seven feet two inches to represent the universality of things. By means of this instrument he began by regulating his own breast, and confining his passions within just bounds; he afterwards laboured at the civilization of mankind; he rendered them capable of obeying laws, performing actions worthy of recompence, and of peaceably cultivating the earth, which gave birth to the arts. Fohi had patriarchal longevity, having reigned 115 years.

This is all symbolical and imaginary music; all that concerns real music that is intelligible is, that (according to Pere Amiot) long before Pythagoras, or any of the ancient sages of Greece, had travelled into Egypt, before the establishment of Hierophants, and even before the time of Mercury himself, the Chinese knew the division of the octave into twelve semitones produced by a gammut or series of fourths and fifths by the Abbé Roussier’s favourite "triple progression. Of this series of perfect fifths, however, the ancient Chinese used only five, beginning at F, the fundamental of their system, which produced the following treble scales either way, by beginning at the top or bottom of their great Lu, as each distinct arrangement of sounds is called.

And by giving to these sounds a regular diatonic progression, they furnish the following scale without semitones:

And which is, in fact, the precise Scots scale, that may be played on the short keys of a harpsichord, or piano forte, in G♭ or F♯, for example:

Beginning in C, the scale would be equally deficient.

Had they pursued the series of 5ths two degrees further, they would have had E and B; which would have furnished the two semitones necessary to complete the scale in C natural.

The *kin* (which may be called the lyre of Fo-hi), all agree, had at first but five strings, which were afterwards increased to seven. But in process of time, they were again reduced to five, on which the tunes in present use seem chiefly to be formed, as those that are genuine, and not adulterated by Europeans,
who write them down by memory, have no semitones.

Père Amiot’s book is crowded with scales, systems, calculations, and diagrams, which leave us as much in the dark as ever; as to what this learned music was, which ancient sages regarded as the universal science, the science of sciences, whence all other sciences flowed.

Father Amiot did not well know what to do with his Chinese musical discoveries, till he saw the Abbé Roussier’s Treatise on the music of the ancients; nor the abbé how to illustrate his Pythagorean ideas, till he saw the papers of Père Amiot, of which papers he afterwards became the editor, and published them in the sixth vol. des Mémoires concernant l’Histoire, les Sciences, les Arts, &c. des Chinois. In explaining and commenting the work of Père Amiot, the Abbé had a good opportunity, which he did not neglect, of harmonizing the Chinese system with his own.

Not a passage of the ancient music is preserved, or the least idea suggested of what kind it literally could be; but after all these scales and calculations which seem to imply that real practical music, “which at once delighted the sense and gratified the mind, by the evidence of demonstration;” we find that it was an allegorical music, as inaudible as that of the spheres.

Father Amiot observing that the Abbé Roussier spoke favourably of the Chinese, in his Memoire sur la Musique des Anciens, says, the Abbé Roussier might, with the assistance of the Chinese, have become the flambeau; at once to enlighten men of letters and harmonists; the first by a research into ancient usages, and the last in recovering to China that kind of musical omnipotence which it formerly enjoyed, and which it has unhappily since lost.

This is another specimen of the wide extent of father Amiot’s musical creed

But one of his countrymen, a gentleman to whom queries concerning Chinese music had been sent, who had resided many years at Peking, and who seems to have understood the subject better than Père Amiot, says, “To hear the Chinese talk of their music in ancient times, we should suppose it to be something marvellous; they confess, themselves, that not a vestige of it remains, and never cease deploring its loss: but for my part, I can hardly believe that their ancestors had carried the art of music to such a high degree of perfection; if they had, the present Chinese could not fail to have a kind of music at least tolerable, and I am inclined to be of the same opinion as one of their lettrés, who told me, that what we read in their books concerning the excellence of their ancient music, should not be understood literally, but figuratively, of the good harmony between the prince and people, and the different orders of the state.”

The emperor Kan-hi, the grandfather of the late emperor Kien-long, who began his reign in 1662, and reigned 61 years (Eloge de la Ville de Monkden, Poëme par l’Empereur Kien-long, 1770, 8vo.), was a true lover of arts and sciences, who tried to procure from the Europeans residing at Peking all the knowledge possible on every sort of subject. With their assistance he had new books written in the Chinese language upon astronomy, mathematics, geography, medicine, &c. which ought to be recorded in our histories, that if in future times it is said that excellent books on these subjects have been written in China, it might be known to whom the best are due.

The ancient Chinese had no notation; but at present they express sounds by the characters of their language, in imitation of the Europeans. But they have no modulation, and consequently know not what is meant by a ♭, ♯, or half note.

In the southern part of China they have only five notes or tones in the octave; but in the north, bordering on Tartary, seven can be distinguished. The generation of the 12 lu, or scales, in this MS. tract, differ considerably from those of Père Amiot. But these scales, in Chinese characters, for which we have no types, though they might gratify curiosity, could convey no more intelligence to the reader concerning the practical music of the Chinese, than those in the treatise of Alypius, in Meibomius, of the practical music of the Greeks, concerning which we know little more than the alphabet.

After the scales and table of the twelve lu, or orders of sounds, combined with the five tones, or rather table of the variations of different lus, the very intelligent correspondent of our zealous friend (Mr. R.) concludes thus: “This, sir, is all that I can at present communicate concerning the music of the Chinese, of which Kan-hi said with great truth, the more pains were taken to understand it, the more
obscure and perplexing it became, for want of being able to trace it up to its true principles.

“It was asked, whether eunuchs were employed as singers on the stage, or in the palace; and the answer was, that some from Europe had been introduced in the palace early in the reign of the late emperor, as musicians, to sing, play on instruments, and teach others; but that was not of long continuance; and now, as formerly, no other use is made of them than as guardians of the wives and concubines of the emperor and of great personages.” This communication bears date, Peking, 1780.

We have a letter, likewise procured by Mr. R. from an Italian missionary, on the same subject, who had been near thirty years in China, and had been admitted into the imperial palace to perform to the emperor, among European musicians, who had been sent for, expressly, for that purpose.

Of the ancient music of the Chinese we can have no account but from books, equally fabulous with Egyptian mythology and the Grecian pantheon. But of the modern, we can form an idea, not very wide of the truth, by correspondence and conversation with intelligent persons, judges of European music, who have long resided in China, as well as by drawings of their instruments, and by the instruments themselves in our possession, and by specimens of Chinese melodies (they have had nothing else) current from time immemorial, and they are still current throughout the empire.

But the national airs of China being appropriated to particular times and occasions, are constantly recognized, felt, and understood; so that no Chinese Fontenelle need ask, “Sonate que vent-tu?” the times and the seasons would save him that trouble. Some of these airs are only publicly performed once a year, others twice, and the rest are usually confined to one particular occasion. In high antiquity the nomoi of the Greeks had all appropriate names and applications; and their ancient modes the same, which must greatly heighten their popular effects. “God save great George our King,” in turbulent times, and “Rule Britannia” (which has supplanted “Britons strike home”) in time of war, are proofs of the effects of appropriate tunes.

But the variety after which musicians and dilettanti are ever craving in Europe, prevents all popular effects from new music, however good the composition and performance. Fine music can never have the general effect of familiar and simple airs, which require no science to comprehend. Mr. R.’s friend says, that Pére Amiot has written a treatise of great length on the music of the Chinese, chiefly the ancient, which has certainly suffered many changes from time, and which is now very difficult to verify. It is by the Europeans that the notation which the Chinese now have has been furnished, from their own alphabetic characters. That given for the instruments does not correspond with the same European notes as the vocal.

The Chinese, formal and symmetric in every thing, have a specific number of airs for great occasions, which are never changed or varied.

1. The court airs, performed on the emperor’s birthday, and on days of ceremonial, but always when his imperial majesty is present. W

2. Airs to inspire true concord and national felicity, performed at the beginning and end of each year, when the emperor ascends his throne. -

3. Airs of incitement to virtue, when an eloge on the emperor is read, and his imperial majesty offers sacrifice in a temple to the souls of his ancestors.

4. Ditto, on another day of sacrifice.

5. When his imperial majesty dines in public.

6. Airs performed after a grand council has been held, and the emperor returns to his apartments.

7. Ditto at the solstitial ceremonies, when the emperor offers sacrifice on a round altar.

There is a certain number of mandarins to superintend the musicians on all these occasions; the musicians, too, are limited to a certain number, and to instruments of different kinds, on different occasions.

This will account for the torpid state of the art, and the insensibility of the ingenious inhabitants of China to European music. People must learn to hear music, as well as to perform it. There is no forcing pleasure on any animal, and every man will be pleased his own way—“Not by compulsion, Hal!”

The Chinese began with simplicity, and habit has fixed that simplicity into an immutable law. The Europeans began their present poliphonic music with complication and eternal change of style; and effusions of unbounded imagination will preclude simplicity, and prevent any music from living to be
superannuated, or becoming venerable for its antiquity.

On the grand annual feast given by the emperor when he receives the homage of governors of provinces, chiefs of tribes, tributary princes, &c. the grand music begins. It has nine strains, or movements, performed between the several courses, which are eight in number. The first music precedes the first course, the other seven are severally performed between and after the eight courses. Pere Amiot.

Of all the Chinese instruments which we have seen, or which have been described in books, there is no one which seems likely to please Europeans, except one instrument made of a sonorous stone, and another of small reeds of the bamboo. The instrument formed of the pierre sonore is of the highest antiquity, and mentioned with great encomiums in their most ancient books.

It is hard to say whether it was an invention of the original inhabitants, or brought thither by colonial invaders. The instrument is called the king, is made of all shapes and sizes, hanging like a bell, and beat with a covered mallet, like a gong. Its tone is as clear as if of glass or metal. This sonorous stone Pére Amiot believes to be metalline crystallized, of five different properties; hardness, weight, colour, grain, and tone. It is as hard as agate and precious stones; so that it resists the best tempered steel. The harder it is, the higher it can be polished, and the clearer its sound. It is so heavy, that a rude piece of it, such as one man might be thought able to carry, requires four to move it. As to colour, it partakes of yellow, carnation, white, red, cinnabar, and deep brown. It oft resembles marble of five colours.

The principal use made of these pierres sonores, is giving signals for a concert to begin or end: the entrance or exit of the emperor, or other great personages, as in Europe by a great bell or cannon.

As to the pitch and tuning of these lapidary instruments, the abbé Roussier tries hard to prove it to be from the datum F, in the triple progression. These instruments are suspended by a ring, or rings, to a frame, and the largest give the national pitch, F, to which the rest are proportioned. (See Plates, Music.)

One of the most useful qualities of the king, is, that its pitch is never subject to variation, by heat or cold, like instruments of wood or metal.

The Chinese have such a reverence for this instrument, that they hold it profanation to use it on common occasions, as the Germans do an organ; and think the English very profligate in using it any where but in a church.

Pliny. 3, c. 10, mentions a sonorous stone, under the title Καλϰοϕωος. “Calcophonos nigra est; sed il-lisa, æris tinnitum reddit.”

But the Ching is the only instrument that we have received from China, which would please European ears. It is composed of reeds of different lengths, arranged into columns of organ pipes. See Plate, Music.

[Editorial note: In fact plate 1 of Miscellany]

Its tone is more sweet and delicate than that of any of our wind instruments. It is not loud enough for a theatre or concert room; but in a small apartment of a mansion, if cultivated by a musician of taste and science, it might be made the most exquisite and captivating of instruments. It has from 13 to 19 pipes, which speak either by blowing or inhaling, so that a tone may be continued to any length. It never speaks till a hole is stopt, and as many vestiges as are covered by the fingers, so many sounds...
will be produced; so that duets may be played on a single individual instrument, or even chords, which, if harmonically proportioned, like the tones of our instruments, would greatly delight ears well organized. But no scale has ever been sent to Europe which has come to our knowledge. Père Amiot evades giving one. The master of the Ching is equivalent to organist or maestro di capella. These regals, as we may call them, are of different size and compass, and composed of a different number of reeds. The small Ching, of which we have three in our own possession, has 13 pipes or reeds, which, says the abbé Roussier, give the 12 semitones of the octave above the generator, or principal. But query, how can we reconcile this to there being no semitones in Chinese melodies?

The belly of several stringed instruments in China is a section of the gourd or pumpkin. Such is that of the Yee-Yen, which is played with a bow, and has two strings which are tuned fifths.

But the Ching has sometimes a section of the coconu-nut for its basis. This instrument is composed of many pipes; each of its reeds has a different tone, produced by a very narrow, thin, brazen or copper plate, such as is used in the reed-work of an European organ.

The scale of this sweet little instrument, remains the grand desideratum in Chinese music.

The Chinese vocal music is not likely to please any other ears than their own. Most of them, even boys not excepted, sing in falsetto, and it seems as if a natural voice was as much disliked by them, as the original shape of a woman’s foot. Nor did the officers or attendants in lord Macartney’s embassy ever hear in China a base or tenor voice. This unnatural method of singing is not improved by the perpetual tumultuous motion of the voice.

The sound of a double base they detest; yet, notwithstanding their dislike of low tones, on their seeming to like the bassoon better than any other of our wind instruments, lord Macartney offered to give it them; but they declined the acceptance, and immediately set a joiner to work, who placing it on the ground, took the exact dimension of its several joints, keys, &c. and made one for themselves.

The Chinese have theatrical dramas, with and without music. Of the latter kind are their comedies and farces. But their tragic scenes are generally accompanied with all the noise of drums, gongs, &c. and the screaming and bawling of mandarins, after which they commonly introduce love scenes and pastoral entertainments.

All the Chinese airs which we have seen or heard, are in common time. “At Canton (says Mr. Hüttner) we were surprised by an opera consisting of recitativos and airs that did not want expression. At least I observed that most of our party seemed to be highly pleased with them, and though ignorant of the Chinese language, to understand in some measure the meaning of the words, which, if I am not mistaken, was entirely owing to the excellent imitation of the different accents of the passions, and to their adequate movements and gestures. These players, natives of Nanking, reminded me of the famous music of ancient Rome. The instrumental music which constantly accompanied both recitativos and airs, was very pleasing and in excellent time.

“The military music of the Chinese is indeed miserable, and certainly not at all calculated to inspire courage. It has neither melody, expression, nor time. Hautbois and horns together make such a continued and jarring noise, as if they vied with each other to imitate the wawling of cats. Their horns, however, have a very good tone, and resemble our serpents.

“The best music we heard, was at the presentation of the embassador at Geho. After the emperor had ascended the throne and a religious silence prevailed through the numerous assembly, we were struck with a delightful music from the great tent. The soft sound, the simple melody, the solemn progress of a slow hymn, gave at least to my mind that elevation to which only Handel’s music can raise it. For a long time I remained doubtful whether I heard human voices or instruments, till the latter were seen by some that stood nearer; they were stringed instruments, and a sort of bamboo-syrinx. The hymn resembled those sung in Protestant churches, but had no parts. Between each bar a seemingly metal cymbal sounded the tone of the following bar, which had a very good effect; but this was probably a large pierre sonore, and the bamboo syrinx was doubtless a ching.

“What the Chinese judged of the embassador’s band, I am not able to determine, but our interpreter told me, they liked their own music much better.
They took great notice of the construction, neatness, and management of our musical instruments, as well as of our musical notation.

“For though the missionaries have introduced musical signs in China, they seem to be known only by a few individuals, more as a curiosity, than as the easiest and most accurate method of communicating musical ideas. All the music we heard was played by rote, yet I have seen several printed Chinese books of music or musical notes. “The gentlemen in the ambassador’s suite, who are fond of music, sometimes used to take a part in the concerts performed by the band. At this some of the mandarins were surprised; upon my inquiring the reason, I learnt that they, like the Romans, thought music no proper amusement for a gentleman.”

That the exquisite harmony with which Mr. Hüttner was so surprised and pleased on the day of presentation in the great imperial tent, was produced by the Ching, we have no doubt. That instrument, of which the tones are so extremely sweet, has harmony in itself, as every ventage in the swazzuds, or pipes of which it is formed, when stopt by a finger of the player, produce a different tone; and as many holes as are stopt produce an equal number of sounds; and though we know not the scale, nor how to find the several notes, so as to form melody or harmony, yet by chance at different trials, we have found 3ds, 5ths, 8ths, and every interval consonant and dissonant in the diatonic scale.

Mr. Barrow’s account of the music that was prepared for the embassador and his suite at Canton, is the following:

On the arrival of lord Macartney and his officers at the factory, they found in the midst of a garden prepared for them on the opposite side of the river, “a company of comedians hard at work in the middle of a piece, which it seemed had began at sun-rise; but the squalling, and their shrill and harsh music, were so dreadful, that they were prevailed upon, with difficulty, to break off during dinner, which was served up in a viranda directly opposite the theatre.

“Next morning, however, at sun-rise, they set to work afresh, but at the particular request of the embassador, in which he was joined by the whole suite, they were discharged, to the no small astonishment of our Chinese conductors, who concluded, from this circumstance, that the English had very little taste for elegant amusements. Players, it seems, are here hired by the day, and the more incessantly they labour, the more they are applauded. They are always ready to begin any one piece out of a list of 20 or 30 that is presented for the principal to make his choice.” Travels through China.

But though the music of the Chinese is severely censured by the gentlemen of the embassy, they all agree that they are excellent actors. The best of those that perform at Canton generally come from Nanking.

CHINNOR, an instrument of music among the Hebrews, consisting of thirty-two chords. Kircher has given a figure of it.

CHITARONE. A large Spanish chords. Kircher.

CHITARRA, Ital. See GUITAR.

CHIUDENDO, in Italian Music, to conclude ; as chiudendo col ritornello, col l’aria, signifies to end with a ritornello, or some passage which has been before sung in some parts of the piece.

CHIUSO, Ital. Close, concealed, locked up: as in Music, canone chiuso, is a canon, not in score, but written entirely on one staff, sometimes without any indications of clefs, signals when the several parts come in, or information of any kind to point out the solution. See CANON.

CHŒUR, French, a chorus, or a musical composition of never less than three or four vocal parts, in which the harmony is complete, and performed simultaneously by all the voices, enforced by the orchestra. See TENOR, and BASE.

CHOIR, that part of a church, cathedral, &c. where the clergy and choristers, or singers, are placed.

The word, according to Isidore, is derived à coronis circumstantium; because, anciently, the choristers were disposed round the altar to sing; which is still the manner of building altars among the Greeks. Others derive the term choir from χοφος, a dancer, or a company of dancers, alleging that dancing was one of the religious ceremonies of the church, although numerous anathemas against it occur in the works of the fathers, among the primitive Christians, as well as the Hebrews and Pagans. The following passage from St. Augustine’s eighth sermon is cited to prove that the early Christians made dancing a part of their Sunday’s amusement, and that they ac-
companied their sacred songs with instruments. “It is better to dig or to plough on the Lord’s day than to dance. Instead of singing psalms to the psaltery or lyre, as virgins and matrons were wont to do, they now waste their time in dancing, and even employ masters in that art.” The above derivation is remarkable, and not one of those that can be suspected of proceeding from fancy, and accidental similitude of sound. One of the acceptations of the term χορος; given by Suidas, is, το συνεπρα των ευ ταις εκκλησιας αδουίων, a company of singers in a church, that is, a choir. It seems to have been sometimes used, like our word choir, in the local sense: χορος says Suidas, was of και οι χορευίς, και ο τόπος, &c. that is, dancers, and the place in which they danced. It is so used by Homer, (Od. viii, 260,) Δεηυαυ δε χορου; they made smooth or level the place appointed for dancing. Father Menestrier (Des Ballets, anc. et mod. P. ris, 1682), after speaking of the religious dances of the Hebrews and Pagans, observes, that the name of choir is still retained in our churches for that part of a cathedral where the canons and priests sing and perform the ceremonies of religion. The choir was formerly separated from the altar, and elevated in the form of a theatre, inclosed on all sides with a balustrade. It had a pulpit on each side, in which the epistle and gospel were sung, as may be still seen at Rome in the churches of St. Clement and St. Pancratius, the only two that remain in this antique form. Spain, continues this author, has preserved in the church, and in solemn processions, the use of dancing to this day. France seems to have had the same custom till the 12th century, when it was abolished by the synodical constitutions of Odo, bishop of Paris. The same author, however, in his preface, informs us, that he himself had seen, in some churches, the canons, on Easter-Sunday, take the choristers by the hand and dance in the choir, while hymns of jubilation were performing. Burney’s Hist. Music, vol. ii. See DANCING.

Editorial Note: The following passage between the square brackets is in the American edition only.

[In the foregoing article, there is cited an opinion, said to be entertained by some, that dancing was one of the religious ceremonies of the church: an opinion, not only contrary to unequivocal facts, but untenable on the grounds, should they be supposed correct, stated in the article, as those on which the opinion rests. The word “zopog” sometimes signifies a company of dancers, as there mentioned: but it also signifies a company of singers. Its use is well given in Leigh’s Critica Sacra——“Propria est multitudo carnentium aut saltantium.” The passage produced from Austin is a Censure on Dancing ; but neither expresses nor implies, that there was any thing of the sort in the church.]

The choir with us is distinguished from the chancel, or sanctuary, where the communion is celebrated: as also from the nave, or body of the church, where the people are placed.

The patron is said to be obliged to repair the choir of a church; and the parishioners the nave.

The choir was not separated from the nave, till the time of Constantine: from that time the choir was railed in with a balustrade, with curtains drawn over, not to be opened till after the consecration. In the twelfth century they began to inclose the choir with walls; but the ancient balustrades have been since restored; out of a view to the beauty of the architecture. The chantor is master of the choir.

In nunneries, the choir is a large hall, adjoining to the body of the church, separated by a grate, where the religious sing the office.

CHORAL music, music sung in a chorus, as in churches. It is sometimes used for musica piena, canto fermo, or what we call plain chant, or song. See CHANT and CHORAL.

CHORAL, signifies any person that, by virtue of any of the orders of the clergy, was in ancient times admitted to sit and serve God in the choir.

Dugdale in his History of St. Paul’s Church, says, that there were with the chorus formerly six vicars choral be-, longing to that church.

CHORAL service. The difference between cathedral or choral service and i, consists in the choir of cathedrals chanting the psalms, accompanied by the organ, in four parts, antiphonally, instead of the minister and the clerk and congregation, as in parish churches, reading them verse for verse without music. The responses are chanted in cathedrals, and the Te Deum, Jubilate, Magnificat, and Nunc dimittis, are either chanted like the psalms, or sung to measured

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and elaborate music, under the title of *Choral Service*. See *Cathedral Service*, *Choral Service* and *Chapel Establishment*.

**CHORDS, or CORDS, in Music.**

Editorial note: A scientific article by John Farey, Sr. He sometimes used the term *v. g.* This means *verbi gratia*, or namely, and is a synonym for *e.g.* It includes several diagrams, copied from plates III and IV of Geometry to enhance the mathematical account.

[These] denote the strings, or lines, by whose vibrations the sensation of sound is excited; and by whose divisions the several degrees of tune are determined. They are called *cords*, or *chords*, from the Greek χορδη, a name which the physicians give to the intestines; in regard the strings of musical instruments are ordinarily made of guts: though others are made of brass or iron wire; as those of spinets, harpsichords, &c. See STRING.

Chords of gold wire in harpsichords, yield a sound almost twice as strong as those of brass; chords, or strings, of steel, yield a feebler sound than those of brass; as being both less heavy, and less ductile.

Mr. Perrault observes, that of late they have invented a way of changing the chords, to render the sound stronger, without altering the tone.

The sixth chord of bass-viol, and the tenth of large theorbo, consist of fifty threads, or guts; there are some of them a hundred feet long twisted and polished with equisetum, or horse-tail.

**CHORDS, for the division of, so as to constitute any given interval, the rules are as follow:**

1. **To assign such part of a chord A B, as shall constitute any concord, v. g. a fifth, or any other interval, with the whole.**

   Divide A B into as many parts, as the greatest number of the interval has units; v. g. the fifth being 2 + 3, the line is divided into 3. Of these take as many of the lesser number, v. g. 2 = AC; then is AC the part sought; that is, two lines, whose lengths are to each other as A B to A C, make a fifth.

   Hence, if it be required to find several different sections of the line A B, v. g. such as shall be 8ve, fifth, and 3d g : reduce the given ratios 1 : 2, 2 : 3, and 4 : 5, to one-fundamental; the series becomes 30, 24, 20 : 15. The fundamental is 30, and the sections sought are 24, the third g; 20, the fifth; and 15, the octave.

2. **To find several sections of a line A B, that from the least, gradually to the whole, shall contain a given series of intervals in any given order; viz. so that the least to the a fifth; and that to the whole, an octave.**

   Reduce the three ratios 4 : 5, 2 : 3, 1 : 2, to one series; hence we have 8 : 10 : 8 10 15 into the number of parts

3. **To divide a line AB into two parts, to contain between them any interval, v. g. a fourth.**

   Add together the numbers containing the ratio of the interval, v. g. 3: 4; and the line divided into as many parts as the sum contains, v. g. 7; taken to any of the C given numbers, v. g. 4, or C, gives the thing sought.

4. **For the harmonical division of Chords. To find two sections of a line, which with the whole shall be in harmonical proportion, with regard to their quantity.**

   Take any three numbers in harmonical proportion, as 3, 4, 6; and divide the whole line into as many parts as the greatest of these three numbers, v. g. 6; and at the points of division answering to the other two numbers, v. g. 3 and 4, you have the sections sought.

5. **To find two sections of a line, which together with the whole shall be harmonical, with respect to quality or tune.**

   Take any three numbers, concords with each other, v. g. 2, 3, and 8, and divide the line by the greatest; the points of division answering to the other two, give the sections sought.

6. **To divide a CHORD, A B, in the most simple manner, so as to exhibit all the original concords.**

   Divide the line into two equal parts at C, and subdivide the part C B into two equal parts at D; and again, the part CD into two equal parts at E.
Here A C to A B is an octave; A C to A D a fifth; A D to A B a fourth; A C to A E a third; A E to A D a third; A E to E B a sixth; and A E to A B a sixth. Malcolm’s Treat. of Music, ch. 6, sect. 1, 2, 3.

To find the number of vibrations made by a musical chord or string, in a given time, its weight, length, and tension being given.

Before we proceed to the solution of this problem, we shall premise and demonstrate the principle on which it is founded; and, with this view, we shall adopt the method of demonstration presented to the Royal Society by Dr. B. Taylor, and published in the Philosophical Transactions, N° 337; or Jones’s Abr. vol. iv, p. 391.

Lemma 1. Let A D F B, A A 1 B (Plate III, Geometry, fig. 45)

be two curves, the relation of which is such, that the ordinates C A D, E Φ F, being drawn, it may be C A : CD :: E Φ : E F. Then the ordinates being diminished ad infinitum, so that the curves may coincide with the axis A B; the ultimate ratio of the curvature in A will be to the curvature in D, as C A to CD.

Demonst. Draw the ordinate c d d very near to CD, and at D and A draw the tangents D t and A d, meeting the ordinate c d in t and d. Then because of c d : c d :: C A : CD (by hypothesis), the tangents being produced will meet one another, and the axis, in the same point P. Whence, because of similar triangles C D P and c t P, C A P and c d P, it will be c θ: c t :: C A : C D :: c θ: c d (by hypoth.) :: δ θ (c θ –c δ) : d t (c t – c d). But the curvatures in A and D are as the angles of contact θ A d and t D d, and because δ A and d D coinciding with c C, those angles are as their subtenses δ d, t d, that is, by the proportion above, as C A, CD. Therefore, &c. Q. E. D.

Lemma 2. In some instant of its vibration, let a string, stretched between the points A and B, fig. 46, put on the form of any curve A p π B; then the increment of the velocity of any point o, or the acceleration arising from the force of the tension of the string, is as the curvature of the string in the same point.

Demonst. Conceive the string to consist of equal rigid particles, which are infinitely little, as p o, o π &c. and at the point o erect a perpendicular o R, equal to the radius of the curvature at o, which let the tangents p t, π t, meet in t, the parallels to them π s, p s, in s, the chord p π in c. Then by the principles of mechanics, the absolute force by which the two particles p o and o π are urged towards R, will be to the force of tension of the string, as s t to t p; and half this force by which one particle p o is urged, will be to the tension of the string, as c t to t p; that is (because of similar triangles c t p, t p R) as t p or p o to R t, or o R. Wherefore, because of the force of tension being given the absolute accelerating will be as \( \frac{dt}{oR} \). But the acceleration generated is in a compound ratio of the ratios of the absolute force directly, and of the matter to be moved inversely; and the matter to be moved is particle itself o p. Wherefore the acceleration is as; \( \frac{1}{oR} \) that is, as the curvature in o. For the curvature is reciprocally as the radius of curvature in that point. Q. E. D.

Prob. 1. To determine the motion of a stretched string.

In this and the following problem, we suppose the string to move from the axis of motion through an indefinitely little space; that the increment of tension from the increase of the length, also the obliquity of the radii of curvature, may safely be neglected.

Therefore let the string be stretched between the points A and B, fig. 47, and with a bow let the point z be drawn to the distance C z, from the axis AB. Then taking away the bow, because of the flexure in the point C alone, that will first begin to move (by Lem. 2.). But no sooner will the string be bent in the nearest points 2 and d, but these points
also will begin to move; and then E and e, and so on. Also because of the great flexure in C, that point will first move very swiftly; and hence the curvature being increased in the next points D, E &c they will immediately be accelerated more swiftly; and at the same time the curvature in C being diminished, that point in its turn will be accelerated more slowly. And, in general, those points which are slower than they should be, being accelerated more, and the quicker less, it will be brought about at last, that the forces being duly atempered one with another, all the motions will conspire together, and all the points will at the same time approach to the axis, going and returning alternately, ad infinitum.

Now, that this may be done, the string must always put on the form of the curve A C D E B, the curvature of which, in any point E, is as the distance of the same E \( \eta \) from the axis; the velocities of the points C, D, E, &c. being also in the ratio of the distances from the axis C, D \( \delta \), E \( \eta \), &c. For in this case the spaces C \( x \), D \( \delta \), E \( \epsilon \), &c. described in the same infinitely little time, will be as the velocities; that is, as the spaces described C \( z \), D \( \delta \), &c.

Wherefore the remaining spaces \( z \), \( \delta \), \( \epsilon \), &c. will be to each other in the same ratio. Also (by Lem. 2.) the accelerations will be to one another in the same ratio. By which means the ratio of the velocities always continuing the same with the ratio of the spaces to be described, all the points will arrive at the axis at the same time, and always depart from it at the same time. And therefore the curve A C D E B will be rightly determined. Q. E. D.

Moreover the two curves A C D E B and \( \Delta x \delta \epsilon \) B, being compared together, by Lemma 1, the curvatures in D and \( \delta \) will be as the distances from the axis D \( \delta \) and \( \delta \) \( \delta \); and therefore, by Lemma 2, the acceleration of any given point in the string will be as its distance from the axis. Whence (by Sect. 10, Prop. 51, of Newton’s Principia), all the vibrations, both great and small, will be performed in the same periodical time, and the motion of any point will be similar to the oscillation of a body vibrating in a cycloid. Q. E. I.

Cor. Curvatures are reciprocally as the radii of circles of the same degree of curvature. Therefore let \( a \) be a given line, and the radius of curvature in E will be equal at at to \( \frac{aa}{E\eta} \).

Prob. 2. The length and weight of a string being given, together with the weight that stretches the string, to find the time of a single vibration.

Let the string be stretched between the points A and B, jig. 48, by the force of the weight P, and let the weight of the string itself be N, and its length L. Also let the string be put in the position A F p C B, and at the middle point C, let CS, a perpendicular, be raised, equal to the radius of the curvature in C, and meeting the axis A B in D; and taking a point \( p \) near to C, draw the perpendicular \( p \ c \) and the tangent \( p \ t \).
\[ \frac{x^2}{2} - \frac{b^2}{2} + v^2 a^2, \] Here the given quantity \( \frac{vb^2}{2} + v^2 a^2 \) is added that it may be \( \ddot{z} = \ddot{v} \) in the middle point C.

And hence the calculus being completed, it will be \( \ddot{z} = \frac{ax}{(bb - xx)}. \)

Whence \( y = \frac{b}{a} z \), and \( z = \frac{a}{b} y \). And making \( x = b = CD \), in which case it is also \( y = \) quadrantal are D PE, and \( z = A \ D = \frac{1}{2} L \); it will be \( \frac{1}{2} L = a \frac{DE}{CD} \) and \( a = L \times \frac{CD}{2DE} \). Let it be therefore \( CD : 2 \ DE :: \) diameter of a circle : circumference :: \( d : c \); and it will be \( aa = \frac{LL}{xc} \times \frac{dd}{cc} \). Therefore this value being substituted for \( aa \frac{N}{P} x L \times \frac{dd}{cc} \) will be the length of a pendulum, which will be isochronous to the string. Therefore let \( D \) be the length, whose periodical time is \( I \), and \( \frac{x}{\sqrt{P} \ x \ x} \) will be the periodical time of the string. Q. E. I.

For the periodical times of pendulums are as the square roots of their lengths.

Cor. 1. The number of vibrations of the string in the time of one vibration of the pendulum \( D \), is

\[ \frac{\sqrt{P} \ x \ D}{L} \]

Cor. 2. Because \( \frac{d}{\sqrt{P}} x \sqrt{1/D} \) is given, the periodical time of the string is as \( \sqrt{P} \ x \ x \ L \). And the weight \( P \) being given, the time is as \( \sqrt{N} \ x \ x \ L \). And the strings being made of the same thread, in which case it is \( N \) as \( L \), the time will be as \( L \).

If we take \( L \) for the number of inches and decimals contained in the length of the chord, and the length portion of the tension to the weight of the chord as \( n \) to 1, then will the number of vibrations of the chord in one second be (by Cor. 1.) \( \frac{355}{113} \sqrt{391.12 \times \frac{7432}{18.7}} \).

Whence \( \frac{x}{\sqrt{P} \ x \ x} \) will be the number of vibrations there fore by the rule will be \( \frac{355}{113} \sqrt{391.12 \times \frac{7432}{18.7}} = 391.4 \). See Taylor’s Methd. Incrm. Prop. 29. Maclaurin’s Fluxions, §929. Smith’s Harmonics, Prop. 23 and 24. Malcolm’s Music, ch. ii., § 2.

By logarithms the rule may be thus expressed

\[ \frac{L + W}{2} + C = V \]

Where \( L \) is the logarithm of the ratio of a pendulum, vibrating seconds, to the length of the given string; \( W \) the logarithm of the ratio of the tension to the weight of the string; \( C \) the logarithm of the ratio of the circumference of a circle to its diameter, or 0.4971500; and lastly, \( V = \) logarithm of the required number of vibrations in one second.

From what has been above laid down, we may easily deduce the following particulars relative to stretched chords or strings. (See Cavallo’s Philosophy, vol. ii.)

1. If a stretched cylindrical chord be struck, and then be left to vibrate by itself, it will perform its vibrations, whether large or narrow, in equal times, and, of course, the sound, though decaying gradually, yet continues in the same pitch; excepting, however, when the string is struck violently; for in that case its sound is a little higher at first, viz. its vibrations are a little more frequent at first.

2. If various strings be equally stretched, and be of the same substance; or, in short, if they be equal in every respect, excepting in their lengths; then the duration of a single vibration of each string will be as the length of the string; or (which is the same thing) the number of vibrations performed by each string in a given time will be inversely as the length;
for instance, if a string be four feet long, and another string, ceteris flaribus, be one foot long; then the latter will vibrate four times whilst the former vibrates once. Or if the length of the former be to that of the latter as 10 to 3; then the vibrations performed by the latter will be to those that are performed by the former, as 3 to 10; and so on. Also, the same thing must be understood of the parts of the same string; for instance, if a certain string perform eight vibrations in a second; then, if that string be stopped in the middle, and one half of it only be caused to sound, then that half will perform 16 vibrations in a second—One-third part of the same string will perform 24 vibrations in a second; and so on.

The length of the string is reckoned from one bridge to the other, or from one resting place to the other. The tension of the string is measured by the weight which is suspended to one end of it. If instead of stretching a string by suspending a weight to it, the string be twisted round a peg, after the manner commonly used in musical instruments, then the tension still must be expressed by a weight; meaning a weight which may be capable of stretching the string as much as it is stretched by turning the peg.

3. If various chords differ in tension only; then the number of vibrations which each of them performs in a given time, is as the square root of the stretching weight. Thus, if a chord be stretched by a weight of 16 pounds, and another chord be stretched by a weight of 9 pounds; then the former will perform 4 vibrations in the same time that the latter performs 3 vibrations.

4. If cylindrical chords differ in thickness only; then the number of vibrations which they perform will be inversely as the diameters, viz. if the diameter of a chord be equal to twice the diameter of another chord; then the former will perform one vibration in the same time that the latter performs two vibrations.

5. By a proper adjustment of the lengths, thicknesses, and stretching weights, dissimilar chords may be caused to perform any required number of vibrations; which is evidently derived from the preceding paragraphs.

6. The actual number of vibrations, which are performed by a given stretched chord, may be determined, without any great error, by using the following rule; provided the length and weight of the vibrating part of the chord, and likewise the stretching weight be known. —Rule. Multiply the stretching weight by 39.12 inches (which is nearly the length of the pendulum that vibrates seconds). Also multiply the weight of the chord by its length in inches; divide the first product by the second; extract the square root of the quotient; multiply this square root by 3.1416, and this last product is the number of vibrations that are performed in one second of time by the given chord—The resistance of the air, as also some other fluctuating causes of obstruction, not being noticed in this rule; it is most probable that the real vibrations are not quite so numerous as they are given by the rule.

The pitch in music is denoted by the number of vibrations that are performed in a given time, or by the length of the string which emits each of those sounds; for it has been already shewn that, when stretched strings are alike in all other respects, excepting in their lengths, then the duration of a single vibration of each string is proportionate to the length of the string; or (which amounts to the same thing) that the number of vibrations performed by each string in a given time, is inversely as the length of the string.

If you take several strings, or chords, precisely of the same substance, the same form, and the same thickness, and stretch them equally by suspending equal weights at their extremities or otherwise; and their respective lengths be made of the due proportions; then these strings, when struck, will express the proper musical sounds or tones, and the whole set is called "the Scale of Music." See (SCALE, STRING, and VIBRATION.

Mr. Euler informs us, that he found the chord, making 392 vibrations in a second, to be at unison with the key called a in instruments, that is, an octave and sixth major above the lowest C in our harpsichords or violoncellos. Consequently the note C, being to a as 3 to 10, will make 118 vibrations in one second. And the highest C, or c”, as Mr. Euler calls it, being four octaves above the lowest c, will vibrate 1888 times in one second of time. Mr. Euler supposes the limits of the human ear to be, with respect to gravity, two octaves lower than C; and with respect to acuteness, two octaves higher than c”. See INTERVAL and VIBRATION.
CHORD, is sometimes also used for accord. Thus we say, the common chords to such a bass note, meaning its third, fifth, and octave. See ACCORD.

CHORD is also used, in Music, for the note or string to be touched or sounded, in which sense it is applicable to all the intervals of music.

CHORD is also a technical term in music, implying a combination of not less than three sounds, as the third and fifth to any base, or the $\frac{8}{5}$, which compose what, in practice, is called a common chord; which may be written and played three several ways, as

$$\begin{align*}
8 & 3 & 5 \\
5 & 8 & 3 \\
3 & 5 & 8
\end{align*}$$

C.C.

The first of these is called the common chord; the second, the chord of the 6th; the third, the chord of the 4th; yet still each of these is but the common chord to C, the fundamental or principal base, reversed. See COMMON chord, FUNDAMENTAL BASE, ACCOMPANIMENT, and THOROUGH-base.

CHOREOGRAPHY, as defined by Noverre, is the art of expressing a dance in writing, by means of different characters or notes in a similar manner to music; with this difference, that a good musician will read 200 bars in an instant, and an excellent choreographer will not be able to decipher 200 bars of a dance in two hours.

Thoinet Arbeau, canon of Langres, was the first who acquired reputation by a treatise in 1588, which he entitled “Orchesographia.” He wrote below the notes of the air such movements and steps of the dance, as he thought suitable. Beauchamps afterwards gave a new form to choreography, and perfected the sketch of the ingenious Thoinet Arbeau; he found the means of writing the steps by signs to which he assigned a different signification and value; so that he was declared the inventor of this art by a decree of the French parliament. Feuillet applied himself entirely to this art, and has left several works on the subject.

Mr. Weaver, a ballet-master, who wrote at sir Richard Steele’s request, the three spectators on dancing, Nos. 67, 334, and 370, translated, at the request of Mr. Isaac, another eminent dancing-master, from the original of M. Feuillet, this then new art of dancing by notation, to which all the dancing-masters of eminence subscribed; and we remember it in general use even in the country, among the professors of the Art. Mr. Weaver, besides his professional knowledge, was a man of infinite wit and considerable learning, who, after retiring, from the capital, ended his days at Shrewsbury, where he had established a boarding-school of great reputation, and continued teaching to dance till he was 90 years of age. At his balls the children, besides the minuet, rigadon, and louvre, performed figure dances, such as the wooden-shoe dance, Mars and Venus, with Vulcan’s discovery and imprisonment of the lovers in a cage, in Panto-mimes, &c. in which our own juvenile van-
ity was highly exalted by being honoured with a part. See DANCE.

CHORO favorito, in the Italian Music, a chorus, in which are employed the best voices and instruments to sing the recitatives, play the ritornellos, &c. It is otherwise called the little chorus, or choro recitante

CHORO spezzato, a composition of two, three, or more chorusses. It is often met with instead of tutti or da capella, which mean the grand chorus. A doi, a tre, a quatro chori, is for two, three, or four chorusses. When after the name of a part we find primo, Í° choro, we must understand that it is to be played in the first chorus; if 2, Í°, or secondo choro, the part must be sung or played in the second chorus. And consequently it shews, that the composition is for eight voices or different parts.

CHOROCITHARISTRIA, in Music, he who accompanies dances on the cithara or harp.

Chorus, in Music. It has already been said, (see Chœur) that there are choruses of various kinds: ecclesiastical choruses, such as those in the mass of Roman Catholics, in the service of the Lutheran church, in the psalmody and hymnology of the Calvinists, and in the cathedral service of the church of England. In this last, a species of music has been retained to English words, such as had been cultivated in all Christian churches before the reformation, to Latin words. In our choral music, fugues, canon learning and complication, with what was called by the Puritans curious singing, have been allowed to have place with propriety in our services and anthems on Sundays and festivals, regarding them as the voice of prayer, supplication, or jubilation, by voices of different pitch, harmonized; but always with one mind, addressing the Supreme Being, sometimes together, and sometimes after each other, as the psalms and responses are uttered in a parish church, but with less regularity and reverence.

To dramatic choruses there are many objections, on the side of probability, to elaborate counterpoint, when different personages are uttering different words at the same time, all talking together, without listening to each other. This is unnatural, and as difficult to perform without book, as if it were extemporaneous.

There are few dramatic situations where a chorus, even in plain counterpoint, can have place with propriety. It may happen, indeed, that the representatives of a whole people at once shall cry out with joy, sorrow, or even demand concessions with united clamour; as the citizens in Metastasio’s oratorio of Betulia liberata did, to surrender the town, uttering the same words in the language of the piece, be it sung or declaimed. This may, for a short space, be reconciled to probability; but for a whole nation to continue a long discourse in the same words, is improbable, unless they were supposed to be formed into an harangue, and gotten by heart, as a hymn to some divinity, or on a solemn celebration of rites.

A distinction should therefore be made between an extemporaneous chorus, and a chorus repeated by memory, as well as between an oratorio chorus performed by book, and an opera chorus sung in action by heart. Handel, whose sublime choral genius enabled him with facility to produce choruses of all kinds, never exercised that genius in composing elaborate choruses for his operas, all which were as short and simple as those of the Italians in present use; all built on a short air easily retained in memory. But Sacchini, and other Italian masters, finding how much Handel was admired and revered for his oratorio choruses, composed some to be performed in action on the stage; but though many of these, particularly Sacchini’s, were admirable productions, full of grace, pathos, and dramatic effects; yet, being performed by occasional singers, unacquainted with the Italian language and vocal expression, they produced no other effect than that of exciting as much laughter as our early operas did, when sung half in Italian and half in English. See Spectator, No. 18.

An ecclesiastical chorus may be extended to what length the composer pleases; but a dramatic chorus, analogous to the fable, and situation of the interlocutors, must be of a length and character suitable to the drama, and the scene in which it is introduced. See GENERA and Ancient Greek MUSIC.

CHROMA, in the Italian Music. The Italians take this term from the Greeks, but use it to signify a note or character of time, by us called a quaver, and when the word semi is added thereto, it means our semi-quaver. Eight of the former are contained in a bar, and sixteen of the latter, in common time.

CHROMA is also a graceful way of singing, or playing with quavers and trilloes.
CHROMA also sometimes signifies the same as the chromatic Diesis or semitone minor.

CHROMA is also used to signify the genus chromaticum. In this sense we find it used by Aristoxenus, and in Ptolemy's Harmonics.

CHROMATIC, in the Ancient Music, the second of the three genera, or kinds, in which the consonant intervals were subdivided into their concinnous parts.

The other two kinds were, the enharmonic and the diatonic. The chromatic consisted of semitones, and minor thirds: it had its name, either because the Greeks marked it with the character of colour, which they call χρωμα; or as P. Parran suggests, because the chromatic kind is a medium between the other two, as colour is between black and white; or else because the chromatic kind varies and embellishes the diatonic kind, by its semitones; which have the same effect in music, with variety of colours in painting. M. Rousseau says, that this species of music was written in coloured notes. Aristoxenus divides the chromatic genus into three species; the molle, hemiolion, and tonicum; Ptolemy into molle or antiquum, and intensum.

These species were also called chroai, or colours of the genera; the molle expresses a progression by small intervals, the intensum by greater.

The chromatic and enharmonic kinds only contain the smallest of the diatonic degrees; so that they have the same proportion to the diatonic, as fractions have to integers.

Bœthius, and after him Zarlin, attribute the invention of the chromatic genus to Timotheus, a Milesian, in the time of Alexander the Great. The Spartans banished it their city, on account of its softness. The characters of this genus, according to Aristides Quintilianus, were sweetness and pathos.

Mr. Malcolm observes, that we are at a loss what use the ancients could make of these divisions and subdivisions, into genera and species. All acknowledge the diatonic to be the true melody; the others seem only humorous irregularities, calculated to please the fancy by their novelty and oddness; and were besides so very difficult, that few, if any, are said to have ever practised them accurately.

The moderns have been much perplexed to understand the different species of the chromatic music in use among the ancient Greeks. Most of our musicians have no other notion of the chromatic than of a melody proceeding by semitones, major and minor. This is what Brossart says of it. But this is not sufficient to convey a true notion of the chromatic. Dr. Pepusch has given us a clearer light in this affair: his doctrine is as follows.

The ancients distinguished three sorts of chromatic, which were denoted by the names, molle, sesquialterum, and tonicum.

The chromaticum molle, was a division of the diatessaron, or fourth, into three intervals, which were two subsequent semitones minor, and the interval, which is the complement of these two to the fourth; and this interval will be found equal to a third minor added to an enharmonic diesis. This species is not to be met with among the moderns.

The chromaticum sesquialterum, or hemiolium, was a division of the fourth into a semitone major, a semitone minor, and a third minor. This is mentioned by Ptolemy as the chromatic of Didymus. It occurs in modern compositions.

The chromaticum tonicum, or tonicum, was a division of the fourth into a semitone major succeeded by another semitone major, and the complement of these two to the fourth, which is the interval, commonly called a superfluous tone. This often occurs in modern music. Dict. de Musique, p. 19. Phil. Trans. N° 481, p. 272. Wallis, Append. Ptolem. Harm. p. 164.

Of the modern chromatic, the scale of which is so different from the ancient, we can easily explain the principles upon which it is built, by giving it a fundamental base. The regular chromatic scale in modern music, consisting entirely of a series of major and minor semitones, such as the temperament of our keyed and wind-instruments allows, ascending and descending, may receive the following fundamental bases. As it can very seldom happen that a complete octave of half notes can be wanted with a base to them, in order to avoid double sharps and flats, we have divided the chromatic octave into two tetrachords.
These are the general ideas throughout Europe of the ancient and modern chromatic. But the abbé Feytou, who has meditated on these matters more perhaps than any other modern theorist, has furnished an article to the musical Encyclopedists, which, though very ingenious, will, we fear, puzzle the cause, and destroy the few ideas concerning this genus, which had been formed from the perusal of ancient and modern authors on the subject. The first period of this article is, however, clear and indisputable.

“CHROMATIC. The semi-tone is the element, the precise interval which constitutes the chromatic genus; as the tone is that of the diatonic; and the quarter-tone that of the enharmonic; the half-quarter tone that of the diatonic. This is evident, but it remains to be discovered, what ancient Greek, and modern authors, understand by a semi-tone.

“1st. It is more than probable that Aristoxenus did not understand himself, in speaking of half tones, or a third or fourth part of a tone; it is in vain for him to say that he was accused wrongfully of dividing a tone rigorously into halves, (Meibomius, p. 46, Aristox. of consulting in his division of tones, only the judgment of the ear, (ib. p. 32.) which are their natural signs, and the proof of their degree of consonance and dissonance, i.e. of their harmonic or enharmonic character, it is wholly impossible for him to prove that a nominal semi-tone is, or is not, the precise half of a tone given.

“2dly. The Pythagoreans of the last ages of Greece, those who dared to assume that title, after the total extinction of the Iatric sect, were not much more reasonable than the Aristoxinians, their opponents. Neglecting to consult the sounds themselves in their theory, they were carried away by certain metaphysical prejudices, to calculations too complicated to lead to the simplicity of the ratio of sounds. Did they think that the ratio of the interval from the 7th to the 8th of a key (as in C, BC) which is 15 to 16, was with them 243 to 256: that of the major 3d (which is 4 to 5) to be 64 to 812 which rendered it so dissonant, that they agreed with the Aristoxinians, that it ought not to be ranked among concords. Aristoxenus pp. 20 and 45; Nichomachus, p. 20 and 21; Bacchius, pp. 3; Arist. Quint. p. 16. N. B. These three last were Pythagoreans, that is to say, pretended to possess the numerical theory of Pythagoras. Aristides Quint, indeed, (p. 114.) tells us, that the ancients, meaning the Pythagoreans, had determined the ratio of the semi-tones to be 16 to 17, and 17 to 18; but we do not find that this division had been adopted in the chromatic genus, when the semi-tones were from 243 to 256.

“3dly. The moderns make the chromatic scale proceed by semi-tones, major and minor, alternately; the first in the ratio of 15 to 16, the other of 24 to 25. Now an interval from 15 to 16, is not a semi-tone, but a true diatonic interval, a real sound of the natural scale. Modern chromatic, therefore, admits but a single chromatic interval, which therefore cannot constitute a genus; for the chromatic genus ought to proceed by semi-tones. Now it is impossible in practice, to use two equal intervals without changing the key. Chromatic melody therefore would not have place in any of our keys. We must then either suppose that the moderns have no chromatic genus, or that they use many kinds of semi-tones, which are only equalized by temperament.”

It has long been said by writers on the subject, that modern chromatic is totally different from the ancient; but the abbé Feytou endeavours to assign reasons for the difference, which we shall translate, not with a very lively hope that we shall be understood.

“Chromatic genus in Greek Music. It would be of little use to employ our time on the ratio of the chromatic strings of the tetrachordal system. What seems necessary to observe is, first, that all the formulae of the three genera have two strings in common, the lowest and the highest. Thus the diatonic formula, in modern notes, being B C D E : B and E are the strings common to the three genera; these being what were styled Chordæ stables. Whence I conclude that the Greeks never executed their different formulae at once, but successively; whence we may infer, that they were not the inventors of their formulae.

“2dly. That in each formula of the chromatic genus, the first semi-tone is always equal to the second; (see the table of Aristoxenus’s system at the head of his treatise). Hence I conclude, that the Greeks had not the least notion of what we call a key; because they had not the curiosity, I durst not say the science, to use every tetrachord in one sole key. Now it is impossible to produce two consecut-
ive similar intervals in one single key. But Ptolemy, in re-establishing the ratios of the Greek system in their ancient simplicity, demonstrates that these semi-tones were rendered equal only by temperament. (What says the abbé Roussier to this?) What ought to confirm us more and more in this idea, that the Greeks were not the inventors of their system, is their ignorance of its harmonic character, its modulation, and its relations. Though the tetrachord was the most ancient system of the Greeks, we must not conclude that it was the only one in each genus; they had likewise pentachords and diapasons, of which the intrinsic form has not been always the same: (could the diapason or octave have a latitude 2) But in the last analysis, each of these systems is resolved, ultimately, in the tetrachord, which is, properly speaking, the gamut of the Greeks.

“CHROMATIC, in Modern Music. The chromatic may be practised in modern music by using at pleasure different gamuts, passages, transitions, and chromatic graces or embellishments.

“1st. Of Gamuts. The natural, physical, and primitive form of a gamut is progressive, since every scale is included in a progression of the harmonics of a generator, that is, of a key note. Thus the diatonic gamut is the result of the regular production of sounds, comprehended between the extremes of the 4th octave from C the generator. The chromatic gamut immediately follows the diatonic in the acute, and is comprised between the 16th and 32d harmonic of C. Thus this gamut forms the 5th octave of the key note.

But much is wanting to render our chromatic gamut progressive, in which the semi-tones decrease uniformly from grave to acute. For including only semi-tones major and minor, its melody is less natural than a melody formed of progressive sounds; and the accompaniment is forced, being reduced to three or four chords at most. For, when the chromatic melody proceeds by semi-tones major, in ascending, each note is successively 7th and 8th of a key, or 3d and 4th, and reciprocally in descending. When the melody proceeds by semi-tones minor, we are driven to different combinations of the chord of the extreme flat 7th. When a succession of sounds alternately major and minor is used, we have a series of minor tones. But it is easy to procure a chromatic accompaniment superior to all those which have been in use hitherto, in supposing our gamut really progressive and altered only by temperament. Now temperament ought not to change the harmony. Upon this supposition, when we sing C, C♯, D, D♯, E, we are supposed to sound the natural gamut,

C, C♯, D, D♯, E, and we accompany it with this fundamental base only

C, C, C, C, C,” (which is making the intermediate half notes between C and E passing notes; and in a rapid succession of half notes rising or falling, allowing a base to the first and last note is sufficient. And this is the best apology that can be made for rapid semi-tonic successions).

“CHROMATIC Passages, which we have hitherto accompanied by the several revolutions of the extreme flat 7th, and extreme sharp 6th, may be regarded as parts of the natural gamut. With a little use we may refer them to the true chord to which they appertain; in remembering that the major semitone has no place in the chromatic scale, and that its true and only place, even in the modern gamut, is between the sharp 7th and 8th of the key note; and consequently, in ascending, it may be accompanied by all the chords which include the sharp 7th; as in the key of C: G B D F, C E G B, D F A B, D F G♯B, F A B D♯, &c. and by the chords upon which they ought to be resolved; and in descending, by a contrary motion; i.e. making the resolved chord precede and follow the discord.

“But a general rule is, that every time the semi-tones succeed each other chromatically, that is, without being separated by wider intervals, we ought never to suppose them equal; but always gradually, and progressively unequal. If this rule is violated, you will have passages, but never chromatic melody; and a harmony which, far from determining the key of the treble, will have no other effect, than to puzzle and mislead the hearer.

“CHROMATIC transitions consist in changing the key at each note of the melody; which is supposing all the half notes equal. But this supposition is more
favourable to the ignorance of the composer than to
the effect of the harmony and melody. The composer
regards each sound as 7th and 8th of a key success-
ively, as superfluous 5th and 6th, or indeed as 3d
and 5th below the key note, so that one form only of
resolution serves him for the most considerable
traits in harmony; an harmonic mechanism more
likely to degrade the melody than to enforce the
effect. In general, it is the ignorance of the key of a
chromatic melody, and of its true harmony, which
drives composers to transitions (modulations). To
this there are some exceptions, but they are rare.

“CHROMATIC graces, or embellishments, are
passages not allowed for in the time, by which pi-
ano-forte players, when the right hand is low on the
keys, mount up to the point where the melody re-
commences. It is, however, a feat which destroys all
idea of the key of the piece, if such runs are not very
short and rapid, and the performer has not the taste
and address to make the principal chords of the key
heard; which would require a profound knowledge
of harmony, and a very active finger. But good har-
monists leave to mediocrity these childish orna-
ments, which are truly offensive to delicate ears.”

For our own parts, the running up and down the
keys in semi-tones is now become so common, af-
fected, mechanical, and unpleasant a trick, that we
never wish to hear it performed more frequently
than once a year.

The nice discriminations of major and minor
semi-tones in the abbé Feytou’s ingenious article
Chromatic, whence we have made such long extracts,
are speculations for discussion, and materials for
disputation, rather than practice. In composing for
our keyed instruments, and in playing on them, both
the composer and performer are at the mercy of the
tuner, and of his habitual temperament. The com-
poser writes, and the performer plays, as if the in-
strument were perfect. Our forefathers, knowing
where the wolf lay in the organ and harpsichord,
touched that key and its relatives as seldom as pos-
sible. A composition in E♭ or E♮, with a sharp 3d,
is hardly to be found in music of 200 years old; and
we have old organs where E♭ and A♭ seem by the
dust with which they are covered, as if they had
never felt the finger since the instrument was ere-
ted. But now the bold modulations of Emanuel Bach,
Haydn, and Mozart, have provoked another tem-
perament; the tuners have, by degrees, been obliged,
much against their will, to try at equal harmony; and
composers and performers may now ramble about,
without the fear of offending nice ears by one key
more than another. There is not time for calculation
during the performance of a written piece, much less
of a voluntary. If a keyed-instrument is out of tune,
the auditor knows that it is the fault neither of the
composer nor player, and accommodates his auricu-
lar organ to the evil; but if a vocal performer sings
out of tune, or the intonations of a violin player are
false, it is never forgotten or forgiven. Imperfection
of intervals in singing, however, depends on the
chest of the singer, and on the strength of hand in
the violin player, more than on the ear of either; the
mischief being done before the ear of either is offen-
ded. The abbé Feytou justly calls chromatic passages
in which the key is so disguised as not to be known,
ichromatic graces; very different things from chromatic
modulations. See in Plates of Music examples of
modern chromatic to a fundamental base; of contrap-
punto d’oppio in genero chromatico; and of Rousseau’s
chromatic successions.

Vol 8 Chronometer-Colliseum

CHRONOMETER. A generical term for an instru-
ment to measure time in Music. Accordingly a clock,
a watch, or a sun-dial, is a Chronometer. See the pre-
ceding article. There are, however, chronometers
constructed purposely to regulate the bars and
measures of music; one in particular invented by M.
Sauveur, described in his “Principles of Acoustics.”
It was a pendulum of a particular kind, which he ex-
clusively applied to ascertain the time in the per-
formance of musical compositions. L’Affilard, in his
“Principles dedicated to Religious Ladies,” placed at
the head of all his airs, figures which expressed the
number of vibrations of the pendulum, during the
performance of each bar.

Rousseau said in his dictionary, 34 years ago, that
it was then 30 years since a similar instrument ap-
peared under the title of chronometer, which beat
the time itself; but neither the one nor the other has
succeeded. Many, however, continues Rousseau,
have pretended that it is very much to be wished
that such an instrument was completed in order to
fix with precision the time of each bar in a piece of
music; as, by that means, the true original measure of each composition would be recorded, without which expedient, it loses its character; and after the death of the author, it is only by a kind of tradition, very likely to vary and be lost, that the time is known. Old people already complain that the time of many airs is lost; and it is believed that they are performed too slow. This may have come on by degrees, from the characters in present use, which look much quicker than those of a hundred, or indeed of fifty years ago, when demi-semiquavers were seldom used, and where there are now only minims, there used to be semi-breves, as in alla breve time. We are certain from our own memory, that the time of Handel’s music is often mistaken, and performed sometimes quicker and sometimes slower than under his own direction.

The Encyclopaedists of the present time dispute Rousseau’s opinions about such an instrument to regulate the measure of each bar throughout a piece, which would be too mechanical, and trench on the authority of the leader. It has long been observed that music on a barrel is stiff, and without that flexibility, feeling, and expression, that are given to it by the human hand or voice, though the accuracy of clock-work is proverbial. But though we are equally disturbed by the abuse and bungling use of rallentando, yet there is a retardation as well as acceleration of time, which is almost imperceptible, in the execution of particular passages of pathos and of spirit by a great musician, which sensibility alone can produce or understand.

If a chronometer were to beat the time aloud, it would carry us back to musical infancy; or if the pendulum were to be watched in its oscillations, it would take the performer’s eye from the book, and too much divide his attention. We can therefore only recommend with sincerity, the construction of a small machine, which might be an appendage to a piano-forte, to ascertain by the vibration of a pendulum the original time in which every movement of a composition was conceived, as indicated by numerical signs at the beginning of each strain, by the composer himself.

Ciaccona, in Music, in Italian means the same thing with Chaconne (which see) and is of so ancient an invention, that the origin of the term is disputed. Frescobaldi has composed variations on the ciacona; and a whimsical composer of Bergamo, Il Cavalier Tarquinius Merula, in a volume of his works published in 1635, has a composition which he calls “Duo sopra la Cieconna,” on a grand base. Etymologists are doubtful whence the word chaconne or ciaconna is derived; it has been imagined in Italy by some that a cieco, or blind file, had invented the air, and that it had its name from that circumstance. And we are able to give some weight to this conjecture, from recollecting, that in the “Hist, of Mus. vol. ii,” there is an account of a celebrated blind organist, who flourished at Florence so early as the middle of the 14th century, and who was probably author of the air upon a ground, called the cieconna, or ciaconna. Philip Villani, the youngest of the Florentine historians of that name, in his “Vite d’Uomini illustri Florentini,” has inserted the life of Francesco Cieco, the blind organist, who died in 1390. “Many,” says this writer, “are the Florentines who have rendered themselves memorable by the art of music; but all those of former times have been far surpassed by Francesco Cieco, who still lives; and who, during childhood, was deprived of sight by the small-pox. He was the son of Jacopo, a Florentine painter, of great probity and simplicity of manners; and being arrived at adolescence, and beginning to be sensible of the misery of blindness, in order to diminish the horror of perpetual night, he began in a childish manner to sing; but advancing towards maturity, and becoming more and more captivated with music, he began seriously to study it, as an art, first by learning to sing, and afterwards by applying himself to the practice of instruments, particularly the organ, which he soon played, without ever having seen the keys, in so masterly and sweet a manner, as astonished every hearer. Indeed, his superiority was soon acknowledged so universally, that, by the common consent of all the musicians of his time, he was publicly honoured at Venice with the laurel crown for his performance on the organ, before the king of Cyprus and the duke of Venice, in the manner of a poet laureat.”

As the beautiful chaconne by Jomilli, which terminated a grand ballet at the Opera House in 1772, and in which Mademoiselle Heynel displayed her unrivalled powers of grace and execution, is not yet forgotten, we shall here insert a few bars of it, as an
CITHARA, in *Ancient Music*, a stringed instrument of the harp or lute kind. The idea of producing sound from a string, ascribed to Apollo, was, according to Censorinus, *De Die Nat.* cap. 22, suggested to him by the twang of his sister Diana’s bow. Ψαλλτιυ is strictly to twang a string, and Ψαλμος the sound which the bow-string produces at the emission of the arrow. Euripides in Bacch. v. 782, uses it in that sense,

——τοξωυ χεξι ,
Ψαλλΰστ υευας
Who twang the nerve of each elastic bow.

Father Montfaucon says it is very difficult to determine in what the lyre, cithara, chelys, psaltery, and harp, differed from each other; as he had examined the representations of 600 lyres and citharas in ancient sculpture, all which he found without a neck, and the strings open as in the modern harp, played by the fingers. Antiq. Expl. tom. iii, lib. 5, cap. 3. But though ancient and modern authors usually confound these instruments, yet a manifest distinction is made by Arist. Quintil. in the following passage, p. 101. After discussing the characters of wind instruments, he says, “Among the stringed instruments, you will find the lyre of a character analogous to masculine, from the great depth or gravity, and roughness of its tones; the *sambuca* of a feminine character, weak and delicate, and from its great acuteness, and the smallness of its strings, tending to dissolve and enervate. Of the intermediate instruments, the *polypthongum* partakes most of the feminine; but the *cithara* differs not much from the masculine character of the lyre.” Here is a scale of stringed instruments; the *lyre* and *sambuca* at the extremes; the *polypthongum* and *cithara* between; the one next to the *sambuca*, the other next to the *lyre*. He afterwards just mentions that there were others between these. Now it is natural to infer, that as he constantly attributes the manly character to gravity of tone, the cithara was probably the more acute instrument of the two; less loud and rough, and strung with smaller strings. Concerning what difference there might be in the form and structure of the instruments, he is wholly silent. The passage, however, is curious as far as it goes, and decisive. The cithara may perhaps have been as different from the lyre, as a single harp from one that is double; and it seems to be clearly pointed out by this multiplicity of names that the Greeks had two principal species of stringed instruments: one, like our harp, of full compass that rested on its base; the other more portable, and slung over the shoulder, like our smaller harp or guitar, or like the ancient lyres represented in sculpture.

Tacitus, *Annal.* xvi, 4, among the rules of decorum observed by public performers, to which Nero, he says, strictly submitted, mentions, “That he was not to set down when tired.” *Ne fessus resideret.* It is remarkable that he calls these rules, *cithare leges,* “the laws of the cithara;” which seems to afford a pretty fair proof of its being of such a size and form as to admit of being played on *standing*.

The use of the *phorminx* in Homer leads rather to the rough, manly, harp-like character. But a passage in Orpheus (Argon 381) seems to make *phorminx* the same as *chelys*, the lutiform instrument of Mercury. It is there said of Chiron, that he “sometimes strikes the cithara of Apollo; sometimes the shell-resounding *phorminx* of Mercury.”

Δλλοτε δ αυ Φοιϐϖ ϰιθαρηυ μετα χερσιυ αραωυ
Ηλιγυρηυ Φοςμιψψα χελυϰλουου Ερμαωυ
This passage is curious; for though the Argonauts were not written by Orpheus himself, they have all the appearance of great antiquity. - The belly of a theorbo, or arch-lute, is usually made in the shell-form, as if the idea of its origin had never been lost; and the etymology of the word guitar seems naturally deducible from cithara; it is supposed that the Roman C was hard, like the modern K, and the Italian word *chitarra* is manifestly derived from χθαρα, cithara.

In the hymn to Mercury, ascribed to Homer, Mercury and Apollo are said to play with the cithara under their arms, ver. 507. ὁ δ υπολευιου χθαριζευ,
sub ulna Citharâ ludebat, “played with the Cithara under his arm.” So in ver. 432. ἐπολευιον, at his arm, should, according to the critics, be ὑπολευιον, as it is afterwards. This seems to point out a guitar more than a harp; but the ancients had lyres, citharas, and testudos of as different shapes from each other, as our harp, spinet, virginal, and pianoforte.

These passages in old authors are a kind of antique drawings, far more satisfactory than those of ancient sculpture; for we have seen the syrinx, which had a regular series of notes ascending or descending, represented with seven pipes, four of one length, and three of another, which of course would furnish no more than two different sounds. The cymbals too, which were to be struck against each other, are placed in the hands of some antique figures in such a manner, that it is impossible to bring them in contact with the necessary degree of force, without amputating, or least violently bruising the thumbs of the performer. And it is certain that artists continue to figure instruments in the most simple and convenient form for their designs, long after they had been enlarged, improved, and rendered more complicated. An instance of this in our own country will confirm the assertion. In the reign of George the Second a marble statue was erected to Handel, in Vauxhall gardens. The musician is represented playing upon a lyre. Now if this statue should be preserved from the ravages of time and accident 12 or 1400 years, the antiquarians will naturally conclude that the instrument upon which Handel acquired his reputation was the lyre; though we are at present certain that he never played on, or even saw a lyre, except in wood or Stone.

In one of the ancient paintings at Portici, we saw a lyre with a pipe or flute for the cross-bar, or bridge, at the top; whether this tube was used as a wind instrument to accompany the lyre, or only a pitch-pipe, we know not; nor, within the course of our inquires, has any example of such a junction occurred elsewhere.

CITHARÆDIST, a performer on the cithara, or lute.

CITHARÆISTIC, in Ancient Music, music and poetry fitted to the accompaniment of the cithara.

CITOLE, an old musical instrument, mentioned by Gower, supposed to be derived from cistella, a small chest, probably a kind of dulcimer.

CLARINET, the name of a musical instrument, which has not been known in this country till within about 50 years ago, and which is said to have been invented about the close of the 17th century by John Christopher Denner, a wind musical instrument maker of Leipsic. This instrument has been found liable, by long use, to get out of tune, by the widening of the bore, which is a fault that cannot afterwards be remedied. Messrs. Goulding and Co. of Pall-Mall, have lately obtained a patent for an improvement in the construction of this instrument. In order to prevent the inconvenience above-mentioned, the patentees have constructed an instrument which is lined throughout with a tinned brass tube, intended both to prevent the wood from decaying and to improve the tone of the instrument. Another inconvenience arising from the leathering of the keys, which was apt to be out of order in marching regiments, is remedied by lining the holes with a soft metal pipe ground perfectly flat upon the surface, to which a stopper is screwed, that renders the pipe air-tight.

CLARINO, in the Italian Music, signifies a trumpet; thus, a duo clarini, added to any composition, denotes that it was made for two trumpets. See CORNET and TRUMPET.

CLARION, probably the claret of Luscinius, a kind of trumpet, whose tube is narrower, and its tone acuter and shriller, than the common trumpet.

Menage derives the word from the Italian clarino, of the Latin clarus, by reason of the clearness of its sound. Nicod says, the clarion, as now used among the Moors, and the Portuguese, who borrowed it from the Moors, served anciently for a treble to several trumpets, which sounded tenor and bass. He adds, that it was only used among the cavalry and the marines.

CLAVECIN, Fr. in Music, a harpsichord.

CLAVECIN oculaire, an ocular harpsichord. Father Castel, an ingenious and whimsical Jesuit, who was a geometrical and a great mechanic, passionately fond of music, finding in sir Isaac Newton’s “Optics,” that he compared the seven prismatic colours to the septenary or seven notes that lead to the octave in music, imagined it possible to excite the same sensations of pleasure to the eye by the
melody and harmony of colours, as the common harpsichord produces to the ear by a series or combination of sounds.

He supposed that there was in nature a primitive and fundamental sound, and called that sound C; and that there was likewise in nature a principal and original colour, or key-note, among colours, which was the base and fundamental of all other colours, and that this was the primitive colour blue. And further, as there are in music three tones or essential sounds dependent on the primitive sound C, which compose the perfect or common chord C E G, or 8th, 10th, and 12th of the fundamental C, there are likewise three original colours dependent on blue, that are not compounded of any other colours, but are distinct and original: these are blue, yellow, and red. Blue is the key-note, red the 5th, and yellow the 3d or 10th.

There are in music five tones, and two semitones, C D E F G A, and F B. There are likewise five primitive whole colours, blue, green, yellow, red, and violet, and two semitonic colours, orange and purple. The scale of music is therefore C D E F G A B, and the scale of colours, blue, green, yellow, orange, red, indigo, and violet; and as the whole tones in music are divided into half notes by flats and sharps, so the colours may be shaded off by the neighbouring colours, and rendered demi-blue, demi-yellow, &c. going through the whole musical system, and composing colours upon the original septenary to suit all kinds of modulation.

It was so early as the year 1725, that Pére Castel announced his idea of an ocular harpsichord, and wrote an ingenious paper or memoire on the subject, in the "Journal des Savans" to which he long contributed; Diderot likewise drew up a description of the new instrument, and the celebrated German musician, Tilemann of Hamburgh, undertook to compose for it. A pamphlet on the subject was published in London about the year 1750, preparatory to an exhibition, and great expectations were raised in the credulous all over Europe.

Pére Castel in his youth chiefly attached himself to geometry, and published many tracts that were esteemed for their originality. His style was lively, free, natural, simple, and sentimentally energetic; but without method, and so visionary and whimsical, that he often touched and affected his readers at the same time that he made them laugh; and it was by this means that he amused and persuaded. His project of a clavecin oculaire, upon trial, was found ridiculous and impracticable, and was soon forgotten. He died in the year 1757, at the age of 68; and in 1763 there was published a collection of the bons mots, salies, and singularities of Pére Castel.

CLAVICHORD, in Music, a keyed instrument, long known, and still much used in Germany. Its form is that of a small piano forte; it has no quills, jacks, or hammers. The strings are all muffled with slips of red cloth, and the tone is produced by little brass wedges, placed at the ends of the keys, which, when put down, press against the middle of the strings, acting as a bridge to each. When this instrument is touched by a great master, it is capable of great expression, though of a melancholy kind, something like the effect of the old close-shake on the violin. We had in 1772, the extreme pleasure of hearing the incomparable Emanuel Bach touch his favourite clavichord at Hamburgh; when he threw away such thoughts and execution in his toccate or preludes, as alone would have set up a young professor, and have established the character of a great musician.

In pathetic and slow passages on this instrument whenever he had a long note to colour, he absolutely produced the effect of a cry of sorrow and complaint, such as could only be effected on the clavichord, and perhaps by himself.

The antiquity of this keyed instrument in Germany is very great among modern musical inventions; as there is a description and a representation of it cut in wood, in the Latin "Musurgia" of Ottomarus Luscinius, printed at Strasburg in 1536. But we find mention made of it, as a common instrument, in England, under the name of clarichord, by Taverner, still more early.

CLAVICITHERIUM. See CITOILE.

CLAVICYMBALUM, in Antiquity, a musical instrument with thirty strings, in a perpendicular situation. Modern writers apply the name to our harpsichords.

CLAVIER, French, implies, in Music, what we mean by the complete set of keys on the organ, harpsichord, piano forte, virginal, clavichord, and spinet. When it is said of a performer on any of these instruments, qu’il sait bien son clavier, it implies that he has
a good method of fingering, understands modulation, and has a neat and clean execution: as we say in England of a great player on the violin, that he knows the finger-board well.

CLAVIOL, a musical instrument, said in the True Briton, August 9, 1802, to be constructed by a Mr. Hawkins of New York. By the description in this paper, it seems much to resemble the lyre-cord of Plinius, that was exhibited for two or three years in the middle of the last century; the tones of which were produced by wheels resined, which in their revolution acted as so many fiddle-bows; the strings being brought into contact with the wheel by the pressure of the fingers on the key. One peculiarity in the lyre-cord was, that the strings were tunca by weights. The bases were very fine, but the treble screamed intolerably. Plinius was a German, and the first who attempted to make large piano fortes in England.

The instrument called a claviol by Mr. Hawkins, “produces its effects from bowed strings, by a resined horse-hair bow, and is played with finger keys, like the harpsichord. The tones of this instrument are stated to possess the sweetness of the armonica, the richness of the violin, and the grandeur of the organ.” We have never heard or seen this instrument, and have not discovered that any one has been sent to England; and only give this account of it as an advertisement. If its perfections are not exaggerated, its invention would be a valuable discovery.


CLEF, (from clavis, Lat, and κλῆις, Gr, a key), a character in Music to denote what part of the general scale the sounds before which it is placed are to be sung or played. Previous to the time of pope Gregory, to whom the square and lozenge notes used in canto fermo are ascribed, and which are now best known by the name of Gregorian notes, there were various methods of pointing out the elevation and depression of the voice in chanting the mass, not only before the time-table was formed, but even before lines and spaces were used. These indications of change of voice were placed over the words long before a single line ascertained the difference of their situation. This was followed by a 2d, a 3d, and a 4th line, to which, with the spaces, canto fermo, in Roman missals, is still limited.

The names and examples of all the first characters used for the modulation of voice may be seen in the General History of Music, vol. ii, from p. 33 to 55.

After lines had increased to 8, in the 10th century, only the spaces were used, not for the notes, but syllables, the notes being placed in a kind of frame, on the left side, one to each syllable of the words. After this an alphabetic character was placed at the beginning of each line, capitals for the grave sounds, and minuscules for the acute. To this kind of notation points succeeded. Padre Martini has given three examples of only one line, to regulate the points used as notes over the words, a red line for the key of F, and a yellow one for that of C. This seems the origin of clefs, which are only Gothic letters corrupted.

Vincenzio Galilei (Dial. della Mus. Ant. et Mod. p. 36.) says, that a little before the time of Guido the points were placed on seven lines only, without using the spaces; perhaps in imitation of the seven strings of the ancient lyre. Few, however, of these methods of notation seem to have been generally received in contemporary missals, after the Greek characters were disused; for in the MS., specimens which we have seen, the marks placed over the words in the middle ages, previous to the time of Guido, often appear arbitrary, and to have been adopted only in some particular church, convent, or fraternity.

The singing clefs, or claves signate of the middle ages, were nothing but a c, a g, or an F, placed only on one of the four lines used in canto fermo, as thus, \[ \overbrace{\underbrace{\text{c}}_{\text{g}}}_{\text{F}} \]. Having traced the origin of clefs from ancient MSS., and the progressive improvements in simplifying them in proportion as the musical art became more complicated, we shall waste no time or paper in describing new schemes of notation, and expedients for diminishing or augmenting the number of clefs in present use, but proceed to exhibit their form and explain their practical use in the most precise and clear manner we are able, without deviating from the method in which they have long been taught by the most learned, intelligent, and experienced musicians, who have submitted to the drudgery of instructing, not only pupils who receive
The tenor clef on the 5th line is equivalent to the base clef on the 3d line, and in old music, these two clefs are used promiscuously.

Alto tenore, or high tenor clef on the 4th line, renders sounds 5 notes higher than the base.

Contralto, or counter-tenor clef on the 3d line, 7 notes lower than the treble, and 7 notes higher than the base.

The mezzo soprano, or second treble clef on the 2d line, is 5 notes lower than the treble.

This clef is now seldom used; but in Purcell's time the alto viola, or instrumental tenor part, was written in the mezzo soprano clef, which was the custom in France till the middle of the last century.
Soprano, or supreme clef, in which all treble voice-parts are composed in Italy and Germany, is the tenor clef on the first line, and renders every sound a 3d lower than the "treble."

Dr. Pepusch, after giving his pupils a regular scale in each clef, made them familiarize themselves to the changes which they occasioned in the names of the notes and in their situation on the staff, by written exercises, giving them a series of 8 or more notes on the same line or space, and obliging them to find a clef for every note which will make it ascend or descend one degree, as thus:

or, though seeming to ascend, remaining stationary,

This method was recommended by Mr. Galliard, in his translation of “Tosi’s Observations on florid Song,” Pl. No. 2. p. 17. pointing out its utility in transposition. But he was not the first who suggested this expedient; we find it in “Cerone della Musica,” p. 515, a work in Spanish, published at Venice, 1614. See TRANSPOSITION.

Rousseau (Dict. de Mus.) has adopted the same method, and given in Plate A, fig. 4 and 8, the two following examples.

Notes ascending by 3ds.

Unisons.

CLERGY, Corporation of the Sons of the, a benevolent institution, which seems to have originated in the time of the Usurpation, when a sermon was preached at St. Paul’s, Nov. 8, 1658, to the sons of ministers solemnly assembled; the design of which was to promote charitable contributions in favour of the sons of the clergy. Whether or not sermons of this kind were annual before the Restoration, we are not able to ascertain; however, afterwards, a charter was granted, bearing date July 1, 1678, by which a body politic and corporate was constituted, under the name of “The Governors of the Charity for the Relief of the poor Widows and Children of Clergymen,” with licence to possess any estate, not exceeding the yearly value of 2000 l. Upon the accession of a gift by Dr. Thomas Turner, amounting to about 18,000 l. the governors obtained, Dec. 16, 1714, an augmentation of the said grant, by a licence to possess the yearly value of 3000 l. over and above all charges and reprises, as also over and above the said 2000 l. per annum. To promote the useful and laudable purpose of this institution, a sermon was preached at the anniversary meeting of the sons of clergymen in the church of St. Mary le Bow, Nov. 7, 1678, by Dr. T. Sprat, afterwards bishop of Rochester, in which it appears, that those services had been customary before they were encouraged by a royal establishment. These sermons continued to be preached at Bow church till the year 1697, when Dr. George Stanhope preached his sermon for the benefit of this charity at the cathedral church of St. Paul, at which time it is supposed the thought was first suggested of a grand musical performance in aid of the charity. The annual feast of the sons of
the clergy appears to be prior to their incorporation; for in the London Gazette of Nov. 22, 1677, the annual feast of the sons of the clergy was advertised to be held at Merchant Taylors Hall, on Thursday the 29th of November following. Since the year 1697, there has been constantly an annual sermon, and also a grand musical service at the cathedral church of St. Paul, for promoting the ends of this charity. The most eminent divines of the church have preached on these occasions, and the musical performance has acquired celebrity from the concurrence of eminent persons of the profession. For many years past it has been the practice of the stewards of the corporation, to have at St. Paul’s, on the Tuesday preceding the day of the sermon, what is called a rehearsal of the performance, and also a collection for the charity. The corporation is under the management of a president (the archbishop of Canterbury), a vice-president, three treasurers, and a numerous court of assistants.

The society for maintaining, educating, and apprenticing poor orphan children of clergymen, was instituted in 1749, and is under the direction of a president (bishop of London), a vice-president, a treasurer, and secretary.

CLOSE, in Music, simply means an end or termination to a movement, vocal or instrumental. See CADENCE, CADENZA, COUNTERPOINT, and COMPOSITION. But since the establishment of the opera, or musical drama, and singers of great abilities, taste, and execution, have been employed and frequently left to themselves, ad libitum, at a pause, or at the conclusion of an air, by a close or cadenza is understood such an extemporaneous effusion of taste and fancy, terminated by a shake, as could be executed in one breath. See Tosi, chap. viii, p. 126, and Italian Tour; Reflections on the length and abuse of closes.

Long closes were a nuisance in Italy thirty years ago. When it was observed that at Rome, Cristoforo, who sung in Guarducci’s polished manner, though his closes were excellent, full of fancy and good taste, yet they appeared too long; this fault was then general throughout Rome and Naples, where such a long-winded licentiousness prevailed in the cadences of every singer, as was always tiresome, and often disgusting; even those of great performers needed compression, and those made by performers of an inferior class, not only wanted curtailing, but correction. A few select notes, with a great deal of meaning and expression given to them, is the only expedient that can render a cadence desirable, as it should consist of something superior to what has been heard in the art, or it becomes impertinent. This abuse in making closes is not of very ancient standing, for in a serious opera of old Scarlatti, composed in 1717, there is not a single place for a cadence, ad libitum, to be found. But, to length is now added another complaint, by that part of an audience who have heard the great performers of former times; which is, the taking breath, sometimes even more than once, before the concluding shake is made, after which the performer expects to be “welcomed home.”

Vol 9 Collision-Corne

COLOURS, Colores, in the Ancient Music, was used to signify the musical species belonging to a genus.

In this sense the chromatic genus was said to have three colours; and the diatonic two. The enharmonic, having no subordinate species, had but one colour. Hence the ancients reckoned three genera, and six colours, in music; that is, so many different divisions of the diatessaron, or fourth.

COLOURS, diatonic, or musical scale of.

Editorial Note. A scientific article by John Farey, Sr.

In the course of sir Isaac Newton’s experiments on the properties of light, (Optics, book i, part ii, prop. 3,) he discovered the remarkable fact, that the spectrum of the sun’s image, formed by refracted light, let into a darkened room, is longitudinally divided by the points separating the different colours, viz. violet, indigo, blue, green, yellow, orange, and red, into spaces which a respectively equal to \( \frac{1}{5} \), \( \frac{1}{10} \), \( \frac{1}{15} \), \( \frac{1}{20} \), \( \frac{1}{30} \), \( \frac{1}{40} \), and \( \frac{1}{60} \), parts of the double length of the spectrum, as, suppose the spectrum to be 360 parts in length, then \( \frac{80}{360} \), \( \frac{90}{360} \), \( \frac{180}{360} \), \( \frac{240}{360} \), \( \frac{270}{360} \), \( \frac{360}{360} \), and, \( \frac{450}{360} \), will represent the length of each colour respectively, and adding these successively in the reverse order, to \( \frac{450}{360} \), we have \( \frac{405}{360} \), \( \frac{432}{360} \), \( \frac{480}{360} \), \( \frac{510}{360} \), \( \frac{540}{360} \), \( \frac{570}{360} \), and, \( \frac{600}{360} \), which, in their lowest
terms, are $\frac{1}{2}$, $\frac{2}{15}$, $\frac{3}{12}$, $\frac{5}{6}$, $\frac{8}{9}$, and 1, and appear to to be the diatonic ratios answering to the octave, minor seventh, major sixth, fifth, minor fourth, minor third, major second, and key note; or, to VIII, 7th, VI, V, 4th, 3d, 11, and key, represented in the gamut by c, b, A, G, F, b E, D and C.

From the experiments of Henry Brougham, jun. esq. Philosophical Transactions, 1796, it appears that not only by refraction, but by inflection, deflection, and reflection, the rays of light may be separated on a chart or screen: and he mentions numerous experiments, wherein the limits of the several colours on the spectrum were carefully marked with the point of a needle, after which the papers thus marked were put away, and a fresh paper substituted for other experiments: the measurement or comparison of the lengths of the intervals occupied by each colour on the different papers, being purposely deferred, until the whole course of experiments was completed, in order to prevent any pre-conceived opinions from operating, in making the experiments: the results are represented as agreeing, in the spaces $rac{1}{9}$, $\frac{1}{18}$, $\frac{1}{12}$, $\frac{1}{12}$, $\frac{1}{15}$, $\frac{1}{16}$, and $\frac{1}{16}$, occupied by the violet, indigo, blue, green, yellow, orange, and red colours, being the very same, as to arrangement, as those by refraction above intended.

It is observable, that the notes composing the octave thus produced, do not answer to the major-key of bB as it might seem to do, although some writers on musical intervals have asserted, that nature produces only the major-key or division of the octave, and that the minor third bE or $\frac{5}{6}$ is nowhere to be found in nature. If we were to consider the coloric ratios $\frac{1}{2}$, $\frac{9}{16}$, $\frac{2}{3}$, $\frac{5}{6}$, $\frac{8}{9}$, and 1, found above as a minor octave, and to belong to the notes in the gamut a, G, F, E, D, C and B; and find the ratios answering to the octaves of C and B, viz. $\frac{5}{12}$, and $\frac{5}{12}$, or c and b; then, if from each of the above ratios we deduct the ratio $\frac{5}{12}$ (or multiply by $\frac{6}{5}$), we obtain $\frac{2}{5}$, $\frac{8}{15}$, $\frac{3}{5}$, $\frac{27}{40}$, $\frac{18}{25}$, $\frac{2}{9}$, $\frac{9}{10}$, and 1, for the notes in the octave c, b, a, G, F, D, and C, but which is not a major diatonic octave, because those principal notes, the V and 4th, or G and F, have not the ratio of $\frac{2}{3}$ and $\frac{5}{7}$ as they ought to have. Thus we see, that the eight notes answering to a coloric minor-key, do not hold the proper relation between themselves, for forming a major-key, by merely assuming the third of the first key, as the new key-note: and strictly speaking, the same may be observed of any other transposition or modulation whatever, upon eight diatonic notes, or even upon any 12 notes composing an octave, taking all the concords into account; although most of the keyed instruments, as organs, harpsichords, &c. in use, are made and played upon, and the notation or writing of music itself is founded upon this supposition, which is far from being correct.

Comedy, in its proper sense, signifies an allegorical representation of some characteristic transaction in private life. The drama, under its various forms, has in all ages and countries been cultivated, not only as a rational and polite amusement, but as a serious art, affecting the moral conduct of men, and influencing the condition of society. According to the field it occupies, whether the lighter traits of incidental character, or the important events of life, it assumes the form of tragedy or comedy. The first commands awe; the last excites more pleasurable and exhilarating sensations. The first exhibits the fall of a hero; the last conducts the fortunes of lovers to the goal of marriage, and sets down the eccentricities of every character it meets with on the way. If therefore tragedy is more exalted, comedy comes closer to the heart, and appeals more powerfully to the experience of man. The stronger passions, the virtues, the crimes, the sufferings of mankind are the theme of the one: our humours, our follies, the effervescence of youth, or the severity of years the topics of the other. Terror and pity are the instruments of pleasure in the first case, but ridicule in the last.

It is therefore very easy to discriminate the general spirit and strain of comedy from that of tragedy. Neither is it less moral or less useful, when considered as a satirical exhibition of human life, with all its improprieties and absurdities. There is nothing in the nature of these compositions, in either kind, which militates against good morals; though a French author endeavoured to affix the imputation of a profane and antichristian spirit on the great Corneille. The improvement of manners, the regulation of social intercourse, the subjection of vicious conduct to the lash of infamy, are among the benefits resulting from this species of poetry. Ridicule often succeeds where argument fails. Yet is it a dan-
dangerous weapon, when unskilfully wielded. For it is by no means the test of truth. It may be applied to mislead and seduce, instead of reforming; and the blended colours of ridicule are sometimes more difficult to separate, that the strong lights and shades of truth and error. Cicero quotes some lines of a comedy, where love is represented as the greatest of the deities. On the strength of this sentiment, he exclaims loudly against comic poetry as a corrector of morals; contending at the same time, that the art could not exist, if it had not vanity or villainy to feed upon. Besides this, it happens too frequently, that the ridicule falls where it is least deserved. This however is the fault of the writer, and not to be imputed to the nature of his subject. It depends on the combatant, whether the sword shall be drawn in a good cause, or in a bad one. The success of tragic representations gave rise to the ancient comedy at Athens. In the latter, as well as in the former, the unity of action and subject is absolutely requisite, and those of time, and place should be as nearly as possible preserved. By this is meant, that the time of action should be reduced to moderate limits, and the place never changed but with the termination of the act. The scenes of conversation must be united in a natural succession, and the stage should be perpetually occupied during the continuance of the act. The audience should likewise be made to perceive the necessity of the various personages appearing and disappearing just as they do. By these means, the imitation is allied to probability, and pleases in proportion. Probability is indeed more indispensably necessary in comedy, which descends to ordinary life, than in tragedy. Nature, whether in the management of the incidents, or the delineation of character and sentiment, is the only solid foundation for this species of writing. The scene and subject of comedy should be laid in the country and time, where and when it is to be represented. The little proprieties or indecorums of character and behaviour vary with the moment, and become uninteresting or unintelligible, except where they are seen and known in real life.

The various personages in a well managed comedy ought to be distinctly marked, without the affectation of contrasting them by pairs. Ordinary writers may seem to acquire a strong light and shadow by quaint artifices like these: but a master looks no further than real life, and represents it as it is. The diction should be easy, natural, and polished, on a level with the conversation of gentlemen in the higher walks, but above the grossness of the vulgar in the lower. Perhaps there is nothing in the art so difficult, as to support a spirited and happy diaThe parade of misplaced wit has spoiled almost as many comedies as actual dulness.

The feast of Bacchus, Susarion on his stage, and Thespis in his cart, are the humble origin usually ascribed to the drama. Susarion represented his first pieces towards the year 580 B.C. Thespis made his first attempts in tragedy, and acted his Alcestis in 536 B.C. The former attacked the vices and absurdities of his time; and the latter treated more noble subjects, which he took from history. See DRAMA and THEATRE. Comedy had three stages among the Greeks. The ancients indulged in the licence, not only of dramatising actual and well-known occurrences, but of identifying them with living persons. The name even of Socrates was not withheld from theatrical ridicule; and the philosopher was among the number of the audience. This licence in process of time was interdicted by the authority of the magistrates. The players no longer at liberty to sport with real names, contrived masks to resemble the features of those whom they meant to attack: this was the middle comedy. This latter abuse was scarcely less offensive than the former; and was at length prohibited. Deprived of masks as well as of names, the new comedy confined itself within those modest and moral bounds, which Menander set to its irregularities in the time of Alexander the Great. On this model, Plautus and Terence formed their style, without taking the trouble of transferring the scene to their own country. This species of entertainment was then scarcely naturalized among the Romans; and their performances. were rather translations than originals. In the course of time, Rome distinguished its comedy, founded on native manners, by the name of Comedia Togata, and that which was borrowed from the Greeks, was distinguished as the Comedia Palliata.

Before the introduction of modern comedy, a species of dramatic representation was in vogue, taken from the stories in the Old and New Testament, the Martyrdoms of the Saints, and other religious subjects. They were called mysteries: as the
mystery or the play of the Passion, the mystery of the Acts of the Apostles, the mystery of the Apocalypse, &c. These entertainments were at first given in the churches, and made a part of the ecclesiastical ceremonies. Afterwards the mysteries were played on a public stage. On the entrance of Charles VII, into Paris in the year 1437, scaffolds were erected all along the great street, St. Deny’s, on which were acted, with splendid and appropriate decorations, the Annunciation of the Blessed Virgin, the Nativity, our Lord’s Passion, his Resurrection, the day of Pentecost, and the last judgment. In the year 1486, the chapter of the cathedral at Lyons voted sixty livres to the performers in the mystery of Jesus Christ’s passion. About 1540, the same city exhibited on Sundays and holidays, for the space of three or four years, the greater part of the historical facts in the Old and New Testament, succeeded by a farce, in the same manner as in our theatres. The popular name of the play-house was Paradise. These sacred comedies were much in fashion in France under Francis I, who patronized them, and attended their representation. One of those, which attracted his approbation, was entitled the mystery of the passion of our Lord and Saviour Jesus Christ. It is said in title page to have been performed “triumphantly at Angiers:” and indeed so it must have been; for there were one hundred and forty-one characters in the dramatis personae. The date of it is 1541. But the abuses to which these religious performances gave rise occasioned at length a very severe law throughout the kingdom, against the exhibition of “Our Lord’s Passion,” and other similar subjects. Many of these pieces are still extant in print. One of the first objects in modern comedy, is the Spanish theatre, fertile as it has been in dramatic productions. Lopez de Vega, Guillin, and Calderon, are the principal comic writers of Spain. The first of these, and the most celebrated, is said to have written above a thousand plays. But our surprise at their number is lessened when we become acquainted with their nature. Neither the unities, nor any other rules of dramatic writing are in any degree observed. One piece often contains the life of a man, nor is the scene limited to one quarter of the globe. They are for the most part tragi-comedies, taken from Spanish history; where war and heroism are coarsely mixed up with ridicule and buffoonery. Allegorical and mythological characters, the Pantheon and the sacred mysteries, contribute their joint stock to these extravagant and unique performances. Yet are they not without strong traits of genius, and much splendour of imagination. The characters are sometimes well drawn, and the situations happy. To this writer, more than any other, are the public indebted for that taste for the surprising, which so strongly pervades the modern drama. It is plain from his own apologies, that Lopez de Vega complied with the whimsical fancies of his countrymen; and that had he been at liberty to have led the taste of his times, instead of following it, his stories would have been more natural, his intrigues more skilfully entangled and unravelled, and his characters more consistently preserved.

The French comic theatre is in general an excellent school of manners; correct, chaste, and decent. It may well boast of such writers as Regnard, Dufresny, Dancourt, and Marivaux; but Moliere is the glory of their stage. No writer in any department rose to a higher reputation, in the brilliant age of Louis XIV. It may indeed be questioned, whether any comic writer has ever appeared with so many excellencies and so few defects. Vice and folly are the only objects of his satire. Though his characters are often peculiar to his own country and times, the ridicule is applied so justly as scarcely to have lost its force with foreigners or with posterity. His mirth is not indulged at the expence of good morals. The “Misanthrope,” and “Tartuffe,” are in verse; they therefore rise into greater dignity, and assume the style of elegant satire. In his prose comedies he is more ludicrous. His excellence consists more in the strength of his characters, than in the conduct of his plots. He is occasionally too farcical in his prose, and too prolix in his verse. “Tartuffe” in the grave comedy, and his “Avare,” in the lighter, are usually considered as his master-pieces. English comedy abounds more in original characters, than the comedy of any other modern nation. Humour is a leading feature in the character of the people. The freedom of our government and manners affords a wider scope to the comic muse, than she is allowed in the despotic courts of the continent. This boldness has, however, too often degenerated into a licence almost bordering on the immorality of the ancient Greek comedy. But this error has, however, been corrected in later times, and the stage has conformed
The triumvirate, such as was never equalled, before or since, in the republic of letters, was completed by John Fletcher, whose merits are closely blended with those of his associate Beaumont. His genius rather assimilates with Shakspeare than with Jonson, to whom he is confessedly inferior in propriety and precision, while he surpasses him in creative powers and poetical fecundity. The next writer that obtained a large portion of the public favour and attention was Davenant, whose propensity to poetry is said to have appeared sufficiently early in life to attract the favourable notice of Shakspeare, though the great bard died when this young rhymer was only ten years old. What is commonly considered as Davenant’s first play was produced in 1629, though he had attempted dramatic composition two or three years before. It is not worth while to enumerate the order or titles of his plays and masques; which were in general well received, and procured his promotion to the laurel, vacant by the death of Jonson, as a reward for the assiduity with which he directed the diversions of the court, as long as the troubles of the times permitted it to have any. It was to his address, that the people were indebted for the gradual restoration of the muses, after an interregnum of severity and gloom. At first he prevailed on men of taste and learning to countenance a hasty species of dramatic melange, which was allowed because it was bad, by the ignorant bigots who held the reins of empire, while rational and regular plays were absolutely prohibited. But he imperceptibly enlarged his sphere of composition, and after the restoration obtained the patent of the theatre in Lincoln’s Inn Fields. The stage is not perhaps more deeply indebted to any man than to Davenant, for the convenience and aptitude of its arrangements in the manager’s department. Besides many less material improvements, it owes to him the introduction of female performers, and painted scenery; and from his revival of “Macbeth” and the “Tempest” may be dated that devotion to embellishment, which has ever since inundated the English stage, and, in the judgment of severer critics, overwhelmed the sense and discernment of the audience. His irregular entertainments, resorted to in the first instance only as substitutes for the public will at length be exhausted, without some sources of repletion from change of scene or circumstances.

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better things, may indeed be considered as the root of all that theatrical evil, we so gravely condemn, but at the same time so freely encourage. Yet he had the praise of bringing forward to the public eye scenery, women, and Betterton.

Massinger was also among the sterling supports of the English drama; of which he may justly be reputed one of the fathers. His style was rough, manly, and vigorous; he pressed upon his subjects with a severe but masterly hand; his wit was caustic, and his serious dialogue, according to its subject, stern and impressive, or natural, easy, and interesting.

Dryden did not commence his career as a writer for the theatre, till the thirty-second year of his age; but from that period he kept possession of it, and produced eight and twenty dramas, not indeed without competition or censure, but with a large share of predominant reputation. His first production was the “Wild Gallant;” a comedy, which met with so indifferent a reception, that had Dryden been a man of fortune, the stage had never again been benefited by his assistance. He was associated with Davenant, in the alteration of the “Tempest; but he acknowledges the invention and writing of the new characters chiefly to belong to his colleague. We cannot, however, help contemplating the perfections of Shakspeare with astonishment, when we find that two such powerful minds could produce little or no addition to the effect. On the character of his comedies, it will not be difficult to decide. He has, himself, acknowledged his inaptitude to that species of composition; and certainly his plays in general have much less merit than his other writings. Yet, after all, he has established a reputation that will never fade, even in this branch of poetry; and his drama of the “Spanish Friar” may be selected, as an instance of happy coincidence and real ingenuity, in the combination of serious and risible materials. Indeed the unfitness of his comic performances for modern representation arises more from their extreme licentiousness and immorality than from any defect of power.

The comedies of Otway are deservedly excluded from the reading desk as well as from the stage, on account of their undisguised obscenity.

Congreve, at the age of twenty-one, produced the “Old Bachelor,” at the theatre in Drury Lane, to amuse himself in a slow recovery from a fit of sickness. It received some requisite touches from the mature judgment of his friends, and Dryden declared that he had never seen such a first play. The “Double Dealer,” and “Love for Love” succeeded it, at an interval of a year each. Five years afterwards his comedy, called the “Way of the World,” closed his dramatic labours at a time of life, when writers in general are but beginning their career. The indifferent success of his masterpiece excited his disgust at the caprices of the public. He never resumed his pen in the service of the theatre, except to write a masque, called the “Judgment of Paris,” and an opera, called “Semele,” which was never represented; but as his fame rests on his five regular pieces, we may consider him as lost to the stage, after the unkind reception of a play, which has since vindicated its station among the most brilliant ornaments of the drama.

It is on his comedies principally, that Congreve’s reputation subsists. Here, all is luminous, all genuine, pointed, and original. His men of fashion are gentlemen, and even his fops are wits. Congreve is considered as having less humour and less of real life, than his illustrious rivals of the sock. But, surely “Foresight” abounds with the richest humour, and that of a description, which, though now antiquated, was living and current at the time. Indeed it is an undoubted testimony to the happy drawing of this character, that though it is only recognized by the modern spectator as a picture of the days that are gone by, it never fails to excite risibility on the stage in a very powerful degree. The leading feature of Congreve’s genius is wit. Dr. Johnson says, that he formed a peculiar idea of comic excellence, which he supposed to consist in gay remarks and unexpected answers. Now, certainly, in adopting such a theory of composition, he too much narrowed his own sphere. Still, however, no more is to be required of a writer, than what he himself undertakes; and Congreve performed what he undertook with a brilliancy of success, which, with the exception of Air. Sheridan, has neither been rivalled nor approached in the revolution of the century that has elapsed. It has been objected, that “his personages are a kind of intellectual gladiators; every sentence is to ward or strike: the contest of smartness is never intermitted.” This remark is undoubtedly true; yet, when we find Congreve thus formidably censured for the ex-
uberance of his wit, it is impossible not to feel as the
king of Prussia did, when he wished a certain mad
commander to bite some of his generals.

Could the licentiousness of Congreve’s topics be
as easily justified as the overflows of his gaiety,
his fame would continue to blaze without danger of
eclipse. But in truth, the offence his muse occasions
to the purer ears of a more moral age, has an un-
happy tendency to shorten his theatrical existence.
The observation applies equally, if not in a greater
degree, to all his witty, but graceless contemporar-
ies; and it may be remarked on such freedoms in
general, that they create disgust and alienation, at
least in some minds, in a place and on an occasion,
where it should be as much an author’s study never
to offend any, as occasionally to please all; con-
sequently though they may increase the number of
temporary plaudits, they infect the vitals of a reputa-
tion, that otherwise might have been immortal, with
a principle of early decay.

To particularize the merits either of Congreve’s
rivals, Wycherly, Farquhar, Vanburgh, &c. or the num-
ceros class of writers in the succeeding ages, who
have cultivated the comedie larmoyante, would exceed
the limits of this article. The latter is indeed almost
as obsolete as the coarse but sterling wit of king
Charles’s days. It has given place to the distorted
portraits and philosophy-run mad of the German
school; a taste from which it is most devoutly to be
wished that the drama may be speedily rescued.

COMMA, in Music.

A scientific article by John Farey, Sr

By this term, theoretic writers on music have de-
nominated several different small intervals in the
musical scale, which makes it necessary that we
should here enter rather minutely into the subject.
We shall begin with that very essential interval in al-
musical scale, which makes it necessary that we
should here enter rather minutely into the subject.

COMMA Major, Greater Syntonic or Elementary of
various writers, being also the schism or schisma of
Des Cartes, Holder, and others. This interval seems
first to have been noticed by the Greek writers, as
the quantity by which the major tone \( T \frac{8}{9} \) exceeds
the minor tone \( t \frac{9}{10} \); its ratio is \( \frac{40}{41} \) and its value in
the common or Briggs’s logarithms is .9946049,6811,
or when reckoned downwards .0053950,3189; and in
the logarithms of Euler .017920; this last being, in
fact, its decimal value, compared with the octave = 1.
This comma is usually marked C, and is equal to
11.0078631 times the schisma (Σ) = to 73.55 198 times
the lesser fraction (\( t \)) = to 1400.0913 times the minute
(\( m \)), and = to \( \frac{1}{75.8} \) of the octave nearly.

It is equal to the sum of 11 schimas and a
minute, (11 Σ + m), or of a minor comma and a
schisma: it also results as the difference or re-
mainder, after subtracting the following intervals
from each other, viz. a schisma from a diaschisma, a
minor comma from an enharmonic diesis, a
semitone minor from a semitone medius, a semitone
medius from an apotome, (here observing that \( \frac{1167}{2043} \)
is the apotome and not \( \frac{2027}{2043} \), erroneously printed in
our article), an enharmonic diesis from a semitone
minimum, a limma from a semitone major, a
semitone major from a semitone maximum, a
semitone subminimum from a semitone minor, &c.
The comma major is equal to the following additions
of intervals, in triples, viz. two schimas, a medius
residual and a major residual; three schimas, a
minor residual and a major residual; five schimas, a
lesser fraction and a major residual; ten schimas, a
lesser fraction and a greater fraction; ten schimas,
three lesser fractions and a medius fraction, &c. See
these several articles.

The curious, and those concerned in these kind of
calculations, will find a great variety of other rela-
tions, in which the comma major stands, to the mu-
sical intervals, both great and small, in the elaborate
manuscript treatises on music by the late Mar-
maduke Overend, organist of Isleworth, and by the
late Dr. Boyce, which Dr. Callcott lately presented to
the library of the Royal Institution in Albemarle
street, after kindly permitting the writer of this arti-
cle to peruse and extract from them for the use of
this work. The ratio of the major comma may be re-
solved into the component primes \( \frac{333333}{222222} \), and then,
according to the method of Mr. Farey in the Philo-
sophical Magazine, vol. xxvii, p. 193, (See our arti-
cles Musical PRIMES, and Tuneable INTERVALS)
can be resolved into factors \( \frac{3}{2} \), \( \frac{3}{2} \), \( \frac{3}{2} \), \( \frac{3}{2} \), or two
fifths (V) reversed, a fourth (IV) and a major sixth
(VI); whence it appears, that the interval of a major
comma can be tuned on an instrument, having a sufficient number of strings or pipes, by tuning two fifths downwards in succession, and thence upwards a major sixth, and a minor fourth in succession, or VI + 4 - 2 V; where it is observable that two Vth's might have been tuned upwards, and a V and 4th downwards, which would also produce the interval of a major comma, but above the first or key note, instead of below it, as in the first case, where VI + 4 - 2 V is a negative quantity, as well as all the following. The fraction \( \frac{\sqrt{161} - 1}{\sqrt{161} + 1} \), does not at first appear capable of division into any other tuneable ratios, than the above: but, if we multiply the same by \( \frac{5}{7} \), it will then be resolvable into the factors \( \frac{3}{7}, \frac{3}{7}, \frac{3}{7}, \frac{3}{7}, \frac{3}{7} \), and may be tuned thus, 2 VI + III - 2 V; or multiplying by \( \frac{3}{7} \), we can obtain 2 fourths - V - 3; or if by \( \frac{4}{7} \), we can get 2 fourths + III - 2 V; if by \( \frac{2}{7} \times \frac{3}{2} \times \frac{3}{2} \), we may get 3 fourths - 6 - V; and if \( \frac{3}{7} \times \frac{2}{2} \times \frac{5}{2} \) by we shall have 2 fourths - III - 2 thirds: and thus, we have six methods of exactly tuning a major comma, either above or below any given note, by help of perfect intervals only.

The method above explained, of analysing musical ratios or intervals, and expressing them in different ways, by the use of tuneable intervals only, is calculated to instruct the musical student, in the curious and important relations which the several concordant intervals bear to each other: hence we see, for instance, that if in any chant, or passage in a melody, to be performed by voices, by violins, or other perfect instruments, any one of the above six successions of notes were to occur, and the intervals were all to be performed perfect, or without temperament in the melody, the conclusion would not be in the key-note, or that set out from, but a comma different in pitch, which property of the musical scale is called divergence of tune; see that article.

It is observable, that all of the above six expressions or passages in melody, which diverge a comma, contain two fifths or two fourths, each moving the same way, and to which the divergency seems attributable, when the same is not counteracted by a proper succession of other intervals. Mr. Maxwell in his "Reformed or Complete Diatonic Scales for the Organ and Violin," &c. in his "Essay on Tune," (and so does Overend in his manuscripts) proposes to mark the rise of a comma by the acute accent ('), and the fall of the same by the grave accent ("), and that when either of these are required to be taken off, this mark (") is to be used, in the writing of music, in the same way as the musical mark \( \frac{2}{2} \) is used, to take off or destroy the effect of a ♭ or ♮, which has gone before, either accidentally, or in the signature of the staff. Mr. Maxwell shews, how a violin performer may practically tune a comma upon his instrument, in a variety of ways.

Modern writers on the temperament of the musical scale, usually refer their temperament, or small corrections, to be applied to the concords, to this major comma as a unit or standard, on which account we shall present our readers with some further particulars relating to this small interval of the scale. Dr. Robert Smith, in his "Harmonics," Lemma to the 9th proposition, cor. 4, has demonstrated, that if any part or parts of a comma \( c \), denoted by \( \frac{p}{q} \cdot c \) be the interval of imperfect unisons (or temperament), the ratios of the times of their single vibrations will be 161 \( g - q \) to 161 \( g + q \) extremely near: for example, if we want a finite or approximate ratio for a \( \frac{1}{4} \) of a comma, we have \( q = 1, p = 4 \), and \( \frac{161 \times 4 - 1}{161 \times 4 + 1} = \frac{643}{642} \) is the ratio, the complement arithmetical of its logarithm being 13487, which is true to the last 7 places of figures: in like manner, \( \frac{161 \times 3 - 1}{161 \times 3 + 1} = \frac{482}{484} \) or \( \frac{241}{242} \) is the ratio answering to \( \frac{1}{5} \) c, or \( \frac{5}{6} = \frac{60}{71} \) which is also true to the last of 7 places in the logarithm, and is sufficiently accurate for all purposes: but it must be noticed that these are not composed of musical primes.

It may be of use here to enquire, what proportion the major comma, or ratio of \( \frac{80}{81} \) bears, to the hemitone or ratio \( \frac{16}{15} \) for which purpose we have the logarithm of the former \( \frac{20}{37} \) =5.195282 the number of major commas in one hemitone (or H) very nearly: and as it may be useful on many occasions for the student to know, how many major commas make up any interval, we have subjoined a short table, shewing very exactly how many major commas make up the different concords within the octave, and also some of the smaller discords.
From the above table it appears, that the octave, whose ratio is $\frac{1}{2}$, contains something more than 55 $\frac{3}{4}$ major commas, the VI, a little more than 41 commas, &c. We shall next consider the

**COMMA Minor, or Lesser, of Rameau, Overend, &c., being also the *apotome* minor of Salomon de Caus, Boëtius, &c. the *diaschisma* of Euler, and the major *diesis* of Maxwell. This interval seems first to have been noticed by the Greek writers, as the quantity by which two *semitones* major 2 $\text{S} \left(\frac{15}{16} \times \frac{15}{16}\right)$ exceeded the tone major $\text{T} \left(\frac{23}{24}\right)$. Its ratio is

\[
\frac{2025}{2048} = \frac{125}{128} = 12 \Sigma + m,
\]

and its value in Briggs logarithms .9950950,7525, which reckoned downwards, by its arithmetical complement, is .00490492475; and its value in Euler’s logarithms is .016295, being that decimal part of an octave. The minor comma is marked by Overend, Dr. Boyce, Dr. Callcott, and others, with a dashed c, &c., being also the *comma* minor or *apotome*, and 4 made their *semitone minus* or a medius fraction and two lesser fractions, &c. (See *Philolaus*, according to galileo, had a ratio of $\frac{32}{27}$, which is now called the semitone minus, which see.)

**COMMA of Philolaus**, is the ratio of $\frac{32}{27}$, intended as an approximation for $\frac{1}{4}$ part of a tone major, but which it exceeds considerably; besides, the fraction $\frac{32}{27}$, is not composed of the small or musical primes 2, 3, and 5, and cannot therefore be admitted into musical computations.

**COMMA of Boëtius**, according to Glareanus, also of D. Nicola was $\frac{1}{5}$ part of the tone major, or $11\frac{1}{2} \Sigma + \frac{1}{2} f + m$, whereof 5 made their semitone majus or apotome, and 4 made their semitone minus or limma: this interval was anciently supposed by some to be the same with the modern *diaschisma* (12 $\Sigma + m$), but from which it differs,

\[
\frac{1}{2} \Sigma - \frac{1}{2} f = 477702 \times \Sigma,
\]

or nearly half a schisma.

The ancients mention another comma, of the tone minor or $11\frac{1}{8} \Sigma + \frac{1}{8} f + m$ (See Dr. Callcott’s “Musical Grammar,” pages 119 and 49.)
COMMA, Artificial, of Nicholas Mercator, is the $\frac{1}{53}$ part of the octave, or $11\frac{51}{53}f + m$. (See Mercator’s Temperament of the musical Scale”).

COMMA of Mercenius. According to Holder’s “Treatise on Harmony,” page 104, Mersennus divided the octave into about 58 ½ parts, and called one of these a comma.

COMMA of Galileo. The interval $\frac{521441}{524288}$, called comma in the writings of this author, was intended to have been the diacism $\frac{524288}{531441}$ as Mr. Overend has shewn, vol. i. p. 140, of his MS. before referred to; the error originated in an erroneous multiplication, in the second figure of Galileo’s numerator, by which it was rendered unfit for the musical scale. (See sir John Hawkins Hist. Mus. vol. i. p. 321.)

COMMA and half of Galileo, has a ratio of $\frac{625}{548} = 32\ f + 3\ m$, which is the SEMITONE minimum; see that article.

COMMA and half of Rameau. This interval results from the addition of a major comma and a major residual, and is also the difference between a semitone subminimus and the hyperoche; its ratio is $\frac{1993125}{1990625}$, its common log is .99173382179 and Euler’s log.

0.027456 = $17\ f + 2\ m$. The component primes of this ratio are $\frac{5}{247}$, whence it appears, from the process before explained, that $3^2\ -\ 3^3$, of five minor thirds upwards, and four major thirds downwards, furnish a practical method of tuning this interval above any note, and the reverse of this process or $4^3\ -\ 3^2$ would tune the same below any given note.

COMMA, Semi. See SEMI-COMMA.

COMMA Redundant, or superfluous, or deficient or diminished; these terms are applied to such intervals, whether concords or discords, as exceed or fall short of the true ratio of that interval by a major comma, as a comma redundant fifth, a comma deficient third, &c. Sometimes the term comma is omitted in naming these intervals, as a redundant fifth, a deficient third, &c. See FIFTH, THIRD, &c.

COMMEMORATION of Handel, in Music. In order to record an event so honourable to a liberal art, we shall draw our information from the history of that art, and from the account itself of the commemoration written expressly at the time, and published in 4to. by the same author, an attentive auditor of all the performances, whose sensations and memory were more fresh then, than at the distance of 22 years.

In the “History of Music,” vol. iv. p. 518, it is said, that “The year 1784 was rendered a memorable aera in the annals of music, by the splendid and magnificent manner in which the birth, genius, and abilities of Handel, were celebrated in Westminster Abbey and the Pantheon, by five performances of pieces selected from his own works, and executed by a band of more than 500 voices and instruments in the presence and under the immediate auspices of their majesties and the first personages in the kingdom. This event so honourable to the art of music and an illustrious artist, and so worthy of a place here, having been minutely recorded already in a distinct work, viz. “Account of the musical performances in commemoration of Handel,” by the author of this history, written and published for the benefit of the musical fund, an establishment which his majesty having since deigned to honour with his patronage, the members and guardians have been permitted to incorporate themselves under the title of Royal Society of Musicians: We shall only add, that this celebration has been since established into an annual musical festival for the benefit of the fund, in which the number of performers, and perfection of the performances, as well as favour of the public, have continued to increase. In 1785, the vocal and instrumental band amounted to six hundred and sixteen. In 1786, to seven hundred and forty-one; and in 1787, to eight hundred and six vocal and instrumental performers.”

And in the same “History of Music,” at the end of the same vol. the author tells us, that “The commemoration of Handel, in 1784, having been crowned with a success equally honourable to that great artist and to the nation, similar performances have since been annually repeated, to still more numerous audiences, for charitable purposes, in Westminster-Abbey, under the title of a “Grand Musical Festival.” In 1787, the band of vocal and instrumental performers amounted to eight hundred and six musicians, exclusive of the principal singers, consisting of twenty-two, with Madame Mara, Rubinelli, Harrison, and Morelli at their head. And such is the state of practical music in this country, that the increase of performers, instead of producing confusion, as might have been expected, has con-
stantly been attended with superior excellence of
eecution; as experience, the best of all teachers, has so
guided the zeal of the directors, and the science of
the conductor and leader of this great enterprize,
that a certain road to full perfection in every depart-
ment seems to have been attained.

Though this celebration happened so recently,
and is so well known as scarcely to need being men-
tioned here for the information of the present race,
among musical articles; yet as our plan extends to
history and biography, as well as definitions and sci-
entific explanations, a record of a musical event of
such magnitude seems necessary for the information
of distant times, if we may dare hope to reach them.
The origin and progress of the plan, as related in the
introduction to the printed narrative, dedicated by
permission to the king, is the following:

“It was in the year 1783, that the idea of this great
enterprize was conceived in a conversation between
lord viscount Fitzwilliam, the late sir Watkin Willi-
amis, and Joah Bates, late commissioner of the
victualling office, on observing how much more
London abounded with great musicians, vocal and
instrumental, foreigners and natives, than any other
city in Europe: but so disunited and dispersed at the
operas, oratorios, theatres, and public and private
concerts, that they can never be heard in the aggreg-
ate, not can the effects which may be produced by
such a united band as our capital could furnish, ever
be known, unless some plan was formed of a public
periodical occasion for collecting and consolidating
them into one band; by which means a performance
might be exhibited on so grand and magnificent a
scale as no other part of the world could equal. The
birth and death of Handel naturally occurred to
three such enthusiastic admirers of that great mas-
ter, and it was immediately recollected, that the next
(now the present) year, would be a proper time for
the introduction of such a custom: as it formed a
complete century since his birth, and an exact
quarter of a century since his decease.

The plan was soon after communicated to the
governors of the Musical Fund, who approved it,
and promised their assistance. It was next submitted
to the directors of the concert of Ancient Music,
who, with an alacrity which does honour to their
zeal for the memory of the great artist Handel, vol-
untarily undertook the trouble of managing and dir-
eting the celebrity. At length, the design coming to
the knowledge of the king, it was honoured with his
majesty’s sanction and patronage. Westminster Ab-
 bey, where the bones of the great musician were de-
posited, was thought the properest place for the per-
formance; and application having been made to the
bishop of Rochester for the use of it, his lordship,
finding that the scheme was honoured with the pat-
ronage of his majesty, readily consented; only re-
questing, as the performance would interfere with
the annual benefit for the Westminster Infirmary,
that part of the profits might be appropriated to that
charity as an indemnification for the loss it would
sustain. To this the projectors of the plan acceded;
and it was afterwards settled, that the profits of the
first day’s performance should be equally divided
between the musical fund and the Westminster In-
firm; and those of the subsequent days be solely
applied to the use of that fund which Handel him-
self so long helped to sustain, and to which he not
only bequeathed 1000 l., but which almost every mu-
sician in the capital annually contributes his money,
his performance, or both, to support.

Impressed with a reverence for the memory of
Handel, no sooner was the project known, but most
of the practical musicians in the kingdom eagerly
manifested their zeal for the enterprise; and many of
the most eminent professors, waving all claims to
precedence in the band, offered to perform in any
subordinate station, in which their talents could be
most useful.”

“By the latter end of February, the plan and ne-
cessary arrangement were so far digested and ad-
vanced, that the directors ventured to insert in all
the newspapers, the following advertisement:

Under the Patronage of His Majesty,
In Commemoration of Handel, who was buried in
Westminster Abbey, on the 21st of April, 1759.
On Wednesday the 21st of April next, will be performed in
Westminster Abbey, under the management of the
Earl of Exeter | Lord Paget
Earl of Sandwich | Right Hon. H. Morrice
Viscount Dudley Ward | Sir W. Williams Wynn, Bart.
Viscount Fitzwilliam | Sir Richard Jebb, Bart.
Directors of the concert of Ancient Music.

Some of the most approved pieces of sacred music,
of that great composer.
The doors will be opened at 9 o'clock, and the performance will begin precisely at twelve.

And on the evening of the same day, will be performed, at the Pantheon, a grand miscellaneous concert of vocal and instrumental music; consisting entirely of pieces selected from the works of Handel.

The doors will be opened at 6 o'clock, and the concert will begin exactly at eight.

And on Saturday morning, April 24th, will be performed, in Westminster Abbey, the sacred oratorio of the Messiah.

Such is the reverence for this illustrious master, that most of the performers in London, and a great many from different parts of the kingdom, have generously offered their assistance; and the orchestra will consist of at least 400 performers, a more numerous band than was ever known to be collected in any country, or on any occasion whatever. The profits arising from the performances, will be applied to charitable purposes.

In order to render the band as powerful and complete as possible, the trombone, sacbut, or double curtul, and double kettle drums, were sought and their use revived.

In preparing Westminster Abbey for the reception of their majesties and the royal family, as well as the archbishops and bishops, judges, great officers of state, and principal nobility and gentry in the kingdom, to the amount of three or four thousand, Mr. James Wyatt, the admirable architect of the ill-fated pantheon, furnished the elegant drawings for the orchestra, throne, and galleries.

As this commemoration is not only the first instance of a band of such magnitude being assembled together, but of any band, at all numerous, performing in a similar situation, without the assistance of a manu-ductor, to regulate the measure, the performances in Westminster Abbey may be safely pronounced, no less remarkable for the multiplicity of voices and instruments employed, than for accuracy and precision. When all the wheels of that huge machine, the orchestra, were in motion, the effect resembled clock-work in every thing, but want of feeling and expression.

And, as the power of gravity and attraction in bodies are proportioned to their mass and density, so it seems as if the magnitude of this band had commanded and impelled adhesion and obedience, beyond that of any other of inferior force. The pulsations in every limb, and ramifications of veins and arteries in an animal, could not be more reciprocal, isochronous, and under the regulation of the heart, than the members of this body of musicians under that of the conductor and leader. The totality of sound seemed to proceed from one voice, and one instrument; and its powers produced, not only new and exquisite sensations in judges, and lovers of the art, but were felt by those who never received pleasure from music before.

This celebration was at first designed to be extended to no more than two performances on the same day: one at noon in Westminster Abbey, for sacred music; and the other in the evening of the same day at the Pantheon, for secular compositions, selected from the operas and miscellaneous works of the hero whose apotheosis was the efficient cause of this extraordinary undertaking. But being countenanced by his majesty, the directors of the concert of ancient music, the governors of the musical fund, and eagerly patronized by the public in general, while the plan was digesting, it determined the projectors, at the instigation of his majesty, to have three performances. The first and third in the morning, at Westminster Abbey, and the second at the Pantheon.

These performances having given such entire satisfaction to all that were present, and becoming, of course, the general subject of discussion and praise, excited a great desire in all lovers of music, and even of splendid spectacles, who were absent, to be enabled to judge and speak of transactions so memorable, from the conviction of their own senses. But even these were not more eager in wishing there might be a repetition of the performances, than those who had already attended them. Luckily for all parties, the wishes of their majesties coincided with those of their subjects; and as the scaffolding was still standing, and the band not yet dispersed, two more opportunities were given for the display of Handel's wonderful powers, and the gratification of public curiosity. The fourth day was supplied with a well chosen selection of Handel's most grand and captivating compositions, from his oratorios and anthems; and on the fifth, that sublime production, the Messiah, was repeated; and though it had been performed in the Abbey but a week before, in so perfect and magnificent a manner, that no re-
hearsal, previous to its repetition, was necessary to the band; yet, to gratify the wishes of many timid and infirm lovers of music, who dreaded the crowd that was likely to be assembled at a public performance, as well as to raise money for charitable purposes, another rehearsal would certainly have been announced, if it had not been prevented from taking place by the celebration of his majesty's birth-day, on which occasion there was a certainty that the chief part of the performers and company would be engaged. Those who attended this day's commemoration at the Abbey were, seemingly, of a higher class than had yet appeared there; so that though the crowd was somewhat less than at the preceding performance of the same oratorio, the exhibition was more splendid. Indeed, as a spectacle, it was so magnificent to the sight, and, as a musical performance, so mellifluous and grateful to the ear, that it will be difficult for the mind's eye of those who were absent, to form an adequate idea of the show, or the mental ear of the sound, from description. Every one present must have found full employment for the two senses which afford us the most refined pleasure; as it is from the eye and the ear that intellect is fed, and the mind furnished with its best intelligence.

At the first performance of the Messiah, his majesty expressed a desire to the earl of Sandwich of hearing the most truly sublime of all chorusses, “Alleluia! for the Lord God omnipotent reigneth,” a second time; and this gracious wish was conveyed to the orchestra, by the waving of his lordship's wand. At this second performance of that matchless oratorio, his majesty was pleased to make the signal himself with a gentle motion of his right hand, in which was the printed book of the words, not only for the repetition of this, but of the final chorus, in the last part, to the great gratification of all his happy subjects present; and, perhaps, the subjects of no sovereign prince on the globe were ever before so delighted with the effects of a royal mandate.

Thus ended the fifth and last of the performances for this memorable celebration; and so great and perfect was the pleasure which the audience had received, that those who had attended all the five exhibitions seemed most to regret this final close.

The whole receipts at the five performances of this most splendid and magnificent celebration amounted to 12,736 l. 12s. 10d. Of which, after all disbursements for building, band, and other incidental expenses, to the amount of 5736 l. 12s. 10d., 6000 l. remained for the fund of the society of decayed musicians, and 1000 l. for the Westminster hospital.

At the end of the printed account of the first year's Commemoration of Handel, is added in the Appendix, a “History of the Rise and Progress of the Fund for the Support of decayed Musicians and their Families, established in 1738,” which has been since laudably imitated by other professions, and in other countries; and it appeared in 1784, after these performances, that by the great accession to the fund from the commemoration, its capital became a serious and weighty concern, amounting to upwards of 22,000 l., in South-sea annuities and three per cents.; which realizes and ascertains an income of 678 l. a year, exclusive of benefits or subscriptions. The path therefore which the governors and court of assistants have now to pursue, is perfectly plain and pleasant; the power of alleviating distress and misery, of feeding the hungry, clothing the naked, and administering comfort to age and infirmities, is placed in their hands, without the trouble of providing the means.

COMMON Chord, in Music,

*Editorial note: a scientific article by John Farey, Sr.*

[This] is sometimes used to denote the third, fifth, and octave of any note, considered as a bass. It will afford some light into the composition of chords, to exhibit all the possible variations in the order or arrangement of the concord, major third (III), minor third (3d), and minor fourth (4th), constituting the common chord in the following manner, viz.
By a comparison of the several chords in the first arrangement above, it will appear, that when the four notes, C, E, G, and C, constituting the common chord, are sounded together, all of the seven concords, viz. 3rd, III, 4th, V, 6th, VI and VIII are in reality heard between the different notes, except the VI: and this circumstance, combined with the III being above the bass or lowest note, seem essential to a full or common chord. In the second arrangement, or C,♭E, G and C, it will be perceived, that all the concords are heard except the 6th; and this, combined with the third above the bass note, constitutes the common chord of the minor mode. In the third arrangement, it will be seen, that there is no V produced, while a III occupies the place immediately above the bass note, being the chord of sixth. The fourth arrangement will also be found without a V, but with the 3d next the bass, constituting the chord b6. The fifth arrangement will be found without a 6th, and with no third (but a 4th). And next to the bass, and this constitutes the chord b6. Lastly, the sixth arrangement will be found without a VI, or a third above the bass, which constitutes the chord b6.

In performance by voices and perfect instruments, as violins, violincellos, &c. these several chords will be all heard perfect; and in each of the six cases, a union or blending of the six concords, almost similar to a single sound, will be perceived, but much more delightful to the ear; the characteristic differences of which constitute the character of the common chord and its five inversions, as above. But upon the common keyed instruments, such as organs, pianofortes, harpsichords, &c. which contain but twelve sounds within the octave, it is impossible that these single or compound chords can all be heard perfect, but the greater part of the whole of them must be tempered or slightly altered from the true chord (see TEMPERAMENT). If, for instance, the III C E above, were sharpened seven schismas, or 7 Σ, which is very nearly the case in Equal Temperament (which see), the 3d E G flattened 8 Σ, and the 4th GC sharpened Σ: the common chord, or first arrangement upon such an instrument, would produce the following tempered concords, viz. 3d - 8 Σ, III - H 7 Σ, 4 + Σ, V - Σ, and 6th - 7 Σ, combined with VIII; which chords, combined and blended, impress upon the ear the peculiar sensation of the common chord in this temperament. In the second arrangement, or common chord minor, the effect produced will depend upon the union of the following tempered chords, viz. 3d - 8 Σ, III - H 7 Σ, 4 + Σ, V - Σ, VI + 8 Σ, and VIII. A common chord C E G C, upon an instrument tuned according to earl Stanhope’s temperament, (see Philosophical Magazine, vol. xxviii. p. 141) will be found to consist of the following perfect chords, viz. 3d, III, 4th, V, 6th, and VIII; whence his lordship denominates his key of C major to be perfect (see STANHOPE TEMPERAMENT); but if we consider the second arrangement, or common chord of C minor, upon one of his lordship’s instruments, we shall find 3d - 10½Σ, III + 10½Σ, 4th, V, VI + 10½Σ, and VIII to constitute this chord, nearly, the very small interval minute (m) only, being in any case omitted. Thus it will be easy to compare the effect of any inversions of the common chord, in this, or any other temperament of the scale which may be proposed

COMPASS of voices, in Music. In early times of counterpoint, human voices of different compass, occasioned by age, sex, and natural organ, were classed and divided into four distinct kinds, at the distance only of a third above each other, which the base, or F clef, placed from line to line, expressed. The lowest of these was called the tenor, the next contratenor, motetus the third, and triplum the highest, or treble; of which term this was the origin.

After this, about the middle of the fifteenth century, as different parts began to be multiplied, the scale received six divisions: base, baritone, tenor, contralto, mezzo soprano, and soprano. The natural pitch of these is about three or four notes above each
other, as their several clefs, which originally served as barriers, will discover. It seldom happens that a voice has more than ten real, steady, and full, natural notes, in its compass, without a mixture of falset, which, being of a different register, is easily discovered. The following are the names and usual extent of the several species of human voice.

But as there are sometimes base voices which go down to double F, and even lower; so there are in the treble, among modern vocal phenomena, singers that go higher than F in altissimo; which makes the whole diapason of octaves exceed four octaves. And there is at present (1802) in England a German buffo singer with a base voice that goes down to double gamut in real musical tones; and in falset, up to G on the second line in the treble. No public use was made of this extraordinary voice. He arrived in autumn, when no theatres were open, and remained but a short time.

But though parts in choral music were multiplied, not only to six, but even thirty-six, before the close of the fifteenth century; yet the general, and established number, in the pope's chapel, by which probably all other choral service was regulated, amounted to no more than four: cantus, altus, tenor, and base; which see severally.

If it be asked why so many clefs are used: It may be answered, to keep the melody of these several voices within the compass of the five line staff; to prevent the perplexity of a great number of leger-lines, which in singing, and playing at sight, frequently alarm and embarrass the performer.

Of all the expedients proposed by speculative and ingenious men, for the abolition of tenor clefs, the only one that seems practicable, and has the merit of great simplicity, was published in our own country in the time of Charles II, under the title of "An Essay to the advancement of Music, by casting away the perplexity of different cliffs; and uniting all sorts of music, lute, viols, violins, organ, harpsichord, voice, &c. in one universal character, by Thomas Salmon, A. M. of Trinity College, Oxford." London, 1672. This book is well written, and though very illiberally treated by Lock, Playford, and some other professors, contains nothing that is either absurd or impracticable; nor could I discover, says Dr. Burney, any other solid objection to its doctrines being adopted, than the effect it would have upon old music, by soon rendering it unintelligible. At present the tenor cliff alone is thought an insuperable difficulty in our country, by Dilettanti performers on the harpsichord; but if Salmon's simple and easy musical alphabet were chiefly in use, the base cliff would likewise be soon rendered as obsolete and difficult as the tenor; so that two parts or cliffs out of three, in present use, would become unintelligible. The author's plan was simply this: instead of the eight or nine clefs that were then in use, as,

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G in every part of the scale being on the first line, a on the first space, b on the second line, &c. the letters preceding each septenary implying base, mean, treble, supreme. To this proposal there seems no cogent objection; professors would not be humbled by having anything to learn. The base clef, which every tyro knows, repeated in octaves, without changing a single name or character, would accomplish the whole business. The principal evil, and a great evil it would be, is the certainty of soon rendering all former music, printed or in manuscript, obsolete and unintelligible. This has been effected in a great measure, lately, by new editions of the harpsichord and organ music of the last century, and the total rejection of every tenor clef in music for keyed-instruments; of which we have already pointed out the inconvenience. See ACCOMPANIMENT and CLEF.
COMPOSER of Music, a person who invents a melody, and clothes it with harmony, according to the established rules of the art. Under the word composition we shall detail the qualifications requisite to support this character. Yet these are insufficient to form a complete composer, whose productions will be felt and admired whenever they are heard. All the science possible, without the inspirations of genius, is unable to command attention, and interest an audience, at all times, and in all places. They are only gifted men that possess such powers. What is meant here by genius, is not a whimsical and capricious imagination, that quits a flowery road to ramble in thickets, through briars and brambles; that to render harmony piquant, loads it with discords; and instead of grace and elegance, is labouring to surprise by extraneous modulation, and to divide the whole scale into half notes; true genius is that latent fire which inflames the composer, irresistibly forces him to write, and incessantly supplies him with new melodies, always agreeable, expressive, and natural, accompanied by a harmony pure, touching, and majestic, which embellishes melody, without overpowering it. "This was the guide," says the Citizen of Geneva, "that led Corelli, Vinci, Perez, Jomelli, and Durante, to the sanctuary of harmony; and Leo, Pergolesi, Haffe and Buranello, to that of good taste." We have to add to these, Handel, whose sublime works were never heard by Rousseau; the elder Stamitz, Piccini, Sacchini, Cimarosa, and Paisiello, with Haydn and Mozart, who have gone somewhat further in vocal music, and many leagues in instrumental.

The knowledge of harmony is doubtless the foundation of composition. To fill the chords, prepare and resolve discords, find the fundamental base, and know all the other little elementary rules, is necessary; but with the rules of harmony alone, we are not nearer being composers, than being orators by knowing the rules of grammar. Padre Martini says, that no one can be a good composer without singing in good taste, and playing well upon the organ. His rules are for a real maestro di capella, an ecclesiastical composer; but for secular music he would have said it was necessary to sing and play well on the harpsichord or piano forte. In setting words for the stage, he ought to know what passages are difficult, and what easy to execute; what style suits the singer, and what the character he has to represent; he is to know the compass of voices and instruments, and their peculiar genius and powers; how to produce effects, and when to apply them: to feel the character of different measures; to know all the difficulties and pedantry of the art: imitations, figures, canons, double counterpoint, and how to write for double, triple, and quadruple choirs. To these add the mysterious laws of modulation, and all this is no more than preparatory to composition. But he must inherently possess a fund of beautiful melodies, sublime harmony, and grand designs.

Besides correct harmony, correct expression, in lyric compositions, is required. The spirit of three several kinds of composition must be called up in writing for the church, the stage, and the chamber. In the first, solemnity and harmony must be invoked; in the second, a distinct style for each character, strongly marked by the poet; ingenious and spirited symphonies, picturesque accompaniments, a judicious mixture of instruments, and their peculiar powers, occasionally called forth; and for the third species of composition, pieces that require but few hands and few voices; free from all tremendous difficulties, in want of no wind instruments; and, unless catches and glee s are in question, no provision need be made for more than one or two voices, and a quartet band. La musica di camera, chamber music, requires ease, grace, and elegance, more than force, energy, and feats of execution.

Among the various styles of composition for which an accomplished master should be prepared, is the military, in which wind-instruments and drums are chiefly employed. To know the compass, scale, genius, and defects, of the trumpet, horn, clarinet, hautbois and bassoon, both in the orchestra and the field, will require some study, counsel and experience.

Rousseau seems sometimes to regard musicians as mere instruments, incapable of reflection; and that it is the business of philosophers to think for them; so imagine M. Suard, and all speculative musicians; but in the following advice to a composer, Jean Jaques seems to require more meditation and reflection than the daemon of composition, by which a man of genius is possessed, will allow; who, absorbed in his own ideas, or impelled by the ideas of
others, flies to his pen or his instrument, without metaphysical reasoning, or analytical inquiry into the foundation of his art. But Rousseau sums up the article Composer (Compositeur), in his Dictionary, with the following instruction. “In composing, the author has to consider the physical production of sound, and that its sole use is to delight the ear; or if he mounts up to imitative music, he has to move the passions by moral effects. In the first instance, he has to select the most pleasing series of sound, and agreeable harmony; but in the second, he ought to consider music with respect to its similarity with the inflexions of the human voice in speech, and the possible conformity between the harmonical combinations of sound and imitable objects.” This is all very fine and profound; but we apprehend that the most happy effusions of genius have been generated without speculative assistance.

For the mechanical rules by which a composer is to steer, we shall refer our readers to the article COUNTERPOINT; where, though its principal rules are dispersed through the work, we shall collect and form them into a synopsis, and illustrate precepts by examples.

In this musical grammar, we shall perplex the student with no mathematical calculations, no ratios, harmonics, or speculations on the philosophy of sound; but adhere closely to practical knowledge of immediate use in the first stages of study. We shall not even attempt to give new melodies, or harmonical combinations; but endeavour to indicate the foundation on which the best models of composition have hitherto been built. See COUNTERPOINT, CONCORDS, DISCORDS, HARMONY, and MODULATION.

COMPOSITION, in Music, implies harmony, music in different parts, according with each other; and by the mixture of concords and discords embellishing melody, and communicating at once, to a well organized ear, the double delight arising from the union of the two great constituent ingredients in music, MELODY and HARMONY. To be able to write down or dictate a melody or single part, does not exalt its author to the rank of composer; though many have assumed that title, who have not been possessed of science sufficient to make a base to a ballad or minuet.

As the term composition implies the union of various ingredients we shall endeavour in the important article COUNTERPOINT, from our own knowledge, and from the precepts and practice of the greatest masters of the art, to describe these ingredients, and point out their legitimate use. See COUNTERPOINT, which is so nearly synonymous with Composition, that we know not how to separate them.

We take it for granted, before a musical student is inflamed with the ambition of becoming a composer, that he is perfectly acquainted with the elements of the art; that he has read, or at least heard, the principal productions of great masters; that he knows intervals, and their relation to the key note and distance from every other sound of the scale. See SCALE and INTERVAL. That he knows the different measures or kinds of time in music, nor is unacquainted with rhythm, nor where the accents of each bar should be placed. See TIME, ACCENT, and MEASURE. That he knows and feels the difference between concords and discords; is offended with false intonation, and instruments out of tune; feels something wrong in the regular succession of two sharp 3ds or 6ths; two 5ths or two common chords rising or falling one degree; that he knows the compass and genius of the voice or instrument for which he writes. But we must not take too much for granted, or in order to save ourselves trouble, tease our readers with too many references to articles connected with composition; we shall therefore refer our readers to the article Counterpoint, (which we have laboured with great zeal) for the mechanical rules of composition; first reminding the young student, that the scale of eight notes ascending and descending, which represents the whole system in a major key, consists of 5 tones and 2 semitones, the 8th note being a recurrence of the same letter, and nearly the same sound, is included in the same harmony as the key note of principal base.

Keys are denominated major or minor, sharp or flat, from the situation of the semitones. Let C♯ represent all major keys, and A♭, the minor. In the major keys, the two semitones lie from the 3d to the 4th, and 7th to the 8th; and in minor keys, from the 2d to the 3d, and 5th to the 6th, ascending in the major, and to avoid accidental sharps, descending in the minor, thus:
A sharp or flat at the clef, or an accidental sharp or flat in the middle of a melody, changes the place of the first semitone; and two sharps or two flats change the place of both.

Of these eight notes, some are termed concords, and some discords. Of the concords, some are perfect, and cannot be changed by an accidental sharp or flat, without becoming discords. These are the 4th, 5th, and 8th, which furnish, when used in the lower part of the scale, a base to the regular ascent in the treble. See SCALE, FUNDAMENTAL BASE, and COMPOSER.

COMPOUND stops on an organ, are such wherein each finger-key acts upon two, three, four, or even five pipes of different pitches, and causes them all to sound together whenever a key in this stop is put down. The most common of these are the CORNET, the SESQUIALTER, and the MIXTURE, or furniture stops, (see these articles;) the use of these compound stops with others which are not tuned to the actual note which they represent, or that on the diapason stop, but to the XIIth or XVIIth thereof (see TWELTH, TIERCE, and LARIGOT, stops) is to introduce an inconceivable number of actual discords into the common chord, even during full performances, as any person may, at leisure, satisfy himself, by writing down the several notes produced by a chord formed of the stops above-mentioned, combined with the diapason and other unisonant stops, or by putting down all the keys on a pianoforte at the same time, to which a chord on these stops answers. No problem in the science of harmonics is more difficult of solution, than to account for the ear's receiving pleasure from such a confused and dissonant assemblage of sounds: and it can only perhaps be accounted for by supposing, that the concordant notes being so many more in number in these kinds of chords, overpower and drown the discords to such a degree, that the ear is able by a sort of mental exertion to pass over and not attend to the latter, any more than to the rattling of the keys of a badly constructed harpsichord, or the noise of carriages in the street adjoining a concert-room, &c.

CONCERT, an assembly of musicians, or a band of musical performers assembled for the entertainment of musical hearers.

CONCERT Spirituel, Fr. A concert of sacred music, originally established at Paris in 1725, by permission of the manager of the opera; which permission was purchased by the brother of the celebrated Philidor, to perform concerts in Lent, on the days the theatres were closed, at the price of 1000 livres a year, for three years, on condition that no French music or selections from the opera should be performed at these concerts. This first gave birth to the use of foreign music and foreign musicians in France. The licence was renewed from time to time, but always at an advanced price, till it amounted, in 1749, to 9000 livres a year. In 1734, the two celebrated Bezzoti's from Turin, performed at the concert spirituel, one on the hautbois and the other on the bassoon, with more applause than any foreign musicians had ever before received in France. The celebrated Mondonville had the direction of this concert for several years, and composed expressly for its use motets for a single voice, accompanied by a rapid and difficult harpsichord lesson. It was at the concert spirituel, which like our oratorios, takes place when no dramatic performances are allowed, that Giornovichi, La Motte, Viotti, the Agujari, Madame Mara, the Todi, Savoi, and David, were first heard in France; and afforded the inhabitants of Paris an opportunity of comparing the music and performance of foreign musicians with their own.

In 1749, during Lent, Geminiani had a concert of sacred music at Drury-lane theatre, the vocal pieces were all Italian to Latin words. Geminiani himself led the band on this occasion, and played one of his own solos. This performance, in imitation of the French, was called CONCERTO SPIRITUALE.

In Italy and Spain, academia, Ital, implies a concert. In France, Academie Royale de Musique, was the title given at Paris to the establishment of the opera under Lulli by Louis XIV, in 1672, which it retained till the revolution. Rousseau, the scourge of French music and French musicians, traduced both so much in his famous letter on French music, that he was burnt in effigy at the Opera house door. And
in the article ACADEMIE Royale de Musique, in the Encyclopédie, and Dict. de Musique, he has given great offence by a pun; but after barely mentioning this academy, he only adds—"I shall say nothing further concerning this celebrated establishment, except that all of the academies in the world, this is that which has made the most noise," (le plus de bruit).

CONCERT-Pitch.

A scientific article by John Farey Sr.

This term, among musicians, implies that particular elevation of tone, as to gravity or acuteness, which ought to obtain between different musical instruments intended to be used in concert, which, when thus adjusted, are said to be tuned, or in tune. In concerts entirely vocal, or those wherein adjustable or perfect instruments only are used, as violins, violincellos, &c. any precise pitch being fixed for the notes is immaterial, so that all the instruments derive their notes from some one sound, within moderate limits of the pitch in general use, and for which the instruments were by their dimensions calculated; singers therefore usually derive their pitch from a simple wind instrument called a PITCH-PIPE (see that article), because the same admits of taking their keynote a little higher or a little lower than the note marked on the stopper of the pipe, according to circumstances, and the nature of the piece of music to be performed. Violin performers, when no keyedinstruments are present, usually derive their pitch from a simple steel fork, tuned to the note A, called a TUNING-FORK (see that article.)

Instruments which either from their large and complicated construction, as organs, piano-fortes, &c. or the fixed nature of their notes, as bassoons, oboes, flutes, &c. cannot admit of the occasional variation in the pitch of all their notes which we have mentioned above, are regulated by the makers and tuners of them, to what is called by some the concert-pitch, and by others the opera-pitch; though others maintain that the latter, or that used by the Italian opera band, is higher than the usual concert-pitch of the country. It was much to wished, that one invariable pitch were adopted and used, but this cannot be hoped for, until the same is accurately expressed by the number of pulses or vibrations excited in the air in a given time by the given note; and the number of these vibrations is essential to be known, before the theory of beats, as laid down by Dr. Robert Smith in his “Harmonics,” the only general and accurate method of tuning instruments to a required temperament, can be applied. We shall therefore first explain the different methods, which have been invented for ascertaining the exact number of vibrations made by any given musical sound, and consequently of fixing its pitch, and then relate such experiments as have fallen within our knowledge for determining what is the present concert-pitch in this country.

The problem being of considerable importance, we shall enumerate eight different methods of solving it; in order that that experiments may be varied in different ways, both for obtaining greater accuracy, and that the coincidence of their results may inspire confidence in the minds of such as have not sufficient mathematical knowledge or patience to go through the investigations, on which the theory of the vibrations of a musical string, and the beats of an imperfect consonance are founded: and since the note C-sol-fa-ut, or that on which the tenor-cliff is placed, being also the ledger line above the base staff \( \begin{array}{c} \text{sol} \\ \text{fa} \\ \text{ut} \end{array} \) or the same below the treble staff of music \( \begin{array}{c} \text{sol} \\ \text{fa} \\ \text{ut} \end{array} \), is now generally made the -key-note, in stating the notes of the octave, whether diatonic or tempered, we shall adopt each of the formulas, to the finding of the pulses made by this note in ten seconds of time, to be determined by a stop-watch, a second pendulum clock, or a simple pendulum, used for the express purpose of determining periods of 10” each. (See PENDULUM.)

The first method was suggested by Père Mersenne. It consists in a wire or catgut string, of about 15 to 17 feet in length, over two fixed bridges at its extremities; and after this, dividing the distance between the bridges accurately into eight equal parts; then fixing another bridge at one of those divisions from the end; taking care that the new bridge, which should have a tolerably sharp edge or top, does not strain the string, or force it out of its straight line. The tuning-fork, pipe, or string C, upon the instrument whose pitch is to be determined, is now to be compared with the sound of the ⅛th part of the string; and if its double octave below
nearly agrees there with, the tension of the whole string is to be altered, as in tuning a stringed instrument, either tightening or slackening it, until the \( \frac{3}{8} \)th part is in exact unison with the double octave below the note C, without any beats or undulations: if the sound of the \( \frac{3}{8} \)th of the string should be found on trial to give a clear musical note, and yet differ very materially from the double octave below C, it may be necessary to assume a greater or lesser length between the extreme bridges, and to determine anew the place of the bridge for the \( \frac{3}{8} \)th part thereof: and after the \( \frac{3}{8} \)th part has been nicely adjusted to the double octave below the note C, as above, it will be proper again to compare the measure of the \( \frac{3}{8} \)th part of the string with its whole length, to see that the points of bearing on the bridges are accurately adjusted to these proportions. Now remove carefully the middle bridge, and cause the whole string to vibrate, which it will be found to do so slowly, as not to cause an audible sound, [if any sound is heard, it will be one of the HARMON-ICS of that note, see that article, and TRUMPET], but so that its number of vibrations in 10" can be seen and counted, especially if a quill be held so near to the middle part of the string, that it may touch it at each extremity of its vibration; 32 times the number of these vibrations will give the number of pulses or complete vibrations made by C in 10", and may be called its pitch.

The second method is that which Dr. Robison used, wherein a machine, consisting of a combination of wheelwork, could be so regulated by the motion of a fly, that any given number of the teeth of a wheel should pass and strike a quill projecting against them, during the space of 10". In using such a machine as this, the velocity of the last wheel should be so regulated, that the sound produced by the snaps of the quill against the teeth, should be in exact unison with the note C; when the known number of teeth which strike the quill in the given time, will determine the pitch.

The third method is by the same learned and ingenious gentleman, who contrived an apparatus, regulated in the manner last described, which opened and shut the passage to an even current of air, produced by a pair of bellows, such as are used in organs, any required number of times in 10"; this singular apparatus was found to give a clear musical sound, which regulated to an unison with C, gave the exact pitch thereof, by the number of alternate openings and shuttings of the cock in 10".

The fourth method is founded on the following proposition, by the author last-mentioned, viz. "An open organ pipe, when sounding its fundamental note, undulates with one node in its middle, and its undulations are analogous, in respect of their mechanism, with the vibrations of a wire of the same length, and the same weight, with the column of air in the pipe, and stretched by a weight equal to that of a column of the same air, reaching to the top of a homogeneous atmosphere, or equal to the weight of a column of mercury, as high as that in the barometer." (See PIPES, Theory of the Sound of, * TRUMPET, &c.)

*Editorial note, the article ‘PIPES, theory of the Sound of’, was not published in the Cyclopædia

Whence this simple practical rule, when the barometer stands at about 30 inches, and the thermometer at about 55°, viz. divide the number 226620 by the length in inches and tenths, of an open cylindrical pipe which sounds C, and the quotient will be the number of pulses or complete vibrations made thereby in 10".

The fifth method consists in suspending a known weight (equal to W grains) at one end of a wire, such as is used for the lowest notes of a piano-forte, the other end of which is lapped round a thumb-peg, such as is used for tuning a violin, screwed tightly into the wainscot, near to an instrument whose pitch is to be determined; then by turning the peg, lengthen or shorten the vibrating part of the wire, until when struck it sounds exactly a double octave below C; measure exactly the length of the vibrating part of the string, between its contact with the peg and the loop which sustains the weight; call this L inches. After this, cut off exactly L inches of the same wire and weigh it, call its weight W grains; then will the number of complete vibrations or pulses made by C in 10" by found by the following theorem: viz.

\[
\frac{226620}{(L \times W)}
\]

See our article CHORDS.

The sixth method is by Dr. Robison, and is as follows. Let a violin-guitar, or any such instrument, be fixed up against a wall with the finger-board downwards, and in such a manner that a violin-string, strained by a weight, may press on the bridge, but
hang free of the lower end of the finger-board. Let another string be strained by one of the tuning-pins, till it be in exact unison with C, then hang weights on the other string, till upon drawing the bow across both strings at a small distance below the bridge, they are found to be perfect unisons, taking care that the pressure of the bow on the strings is so moderate, as not to affect the tension of the string first tuned. Then, having noted carefully the weight appended to the first string, add one-fortieth part thereof to the same. Now draw the bow carefully again across the strings as before, and an audible beating will be heard between the sounds of the two strings; count the number of these beats during 10", and 80 times this will be the number of complete vibrations, or pulses, made by C in 10".

The seventh method, as well as the best, depends on tuning a major comma; for which several rules are given under the article COMMA. From the octave below C tune upwards three successive perfect fifths upon a single stop of an organ, C G, G D, and D A; and thence tune downwards the perfect major sixth, A C; which last C will be a major comma above the first C, and will beat considerably when sounded therewith; count these beats during 10", and 81 times this will be the number of complete vibrations, or pulses, made by C in 10". See Dr. Smith’s Harmonics, p. 195.

The eighth method (Harmonics, p. 197,) consists in tuning a major sixth, C A, above C, not perfect, but such that it may beat sharp B times in 10"; from thence tune downwards three successive perfect fifths, A D, D G, and G C; which last note will be an imperfect octave below C, the beats of which octave are to be counted during 10", carefully distinguishing whether it beats sharp or flat, and calling the number, if sharp, S, and if flat, F; then will 81 S + 16 B, or 16 B − 81 F, according as the case may be, express the number of complete vibrations, or pulses of C in 10".

It is not in our power to give so satisfactory an account of what is the present concert or opera-pitch in this country, as we could have wished; but we hope that experiments will hereafter be multiplied, for fixing it very exactly (at a mean state of the barometer and thermometer,) and after such determination, that the exact number of pulses or complete vibrations from one extreme of the vibrations of a string until its return to the same point, will be resorted to by instrument-makers and tuners, for regulating the pitch of their forks, pipes, and instruments.

The vibrations, mentioned in M. Euler’s experiment, (after our fifth method, under our article Chords) were semi-vibrations, or those made, while a point in a musical string, went from and returned to the axis, or line of rest, between the two points of suspension, and not complete vibrations, or those made while the string went from and returned to the place of its greatest deviation from the formula hereafter axis: therefore \( \frac{392}{2} \), or 196, was the number of complete vibrations per 1", made by the A, a minor third below our 6 C; whence this made \( \frac{6}{5} \times 196 \times 10 = 2351 \) complete vibrations in 10".

Dr. Robert Smith (Harmonics, p. 220 and 271), calculated about the middle of the last century, that the tenor clef C note, upon the organ in Trinity college Cambridge, made 232½ complete vibrations in 1", or 2322 in 10", which, he says, was above half a mean-tone lower than the London opera pitch at that time, and which therefore probably gave about 2460 or 2470 pulses in 10". The above experiment of Dr. Smith’s was made, after Trinity college organ had been depressed a whole tone in its pitch, by making the keys each to act on two pipes lower in the scale than they originally did, by which it was reduced (Harmonics, p. 208, and 218) to the Roman pitch, or that to which the pitch-pipes, made about the year 1720, were generally tuned. Dr. Thomas Young, in his lectures at the Royal Institution (Syllabus, p. 95,) states our C to make 256 vibrations in 1", apparently only, for the purpose of agreeing with an imaginary C eight octaves below, which is to make but 1 vibration in 1", but which imaginary C, according to the recent determinations of concert pitch, which we are about to mention, ought to make but the \( \frac{15}{16} \) part of a vibration in 1", the 8th octave above which will be moved at the rate of 2400 pulses in 10 seconds.

The late Dr. Robison applied our second, third, and sixth methods, for determining the complete vibrations made by C, and states them all to agree extremely near with 240 in 1", or 2400 in 10". Many other experiments are upon record, but generally some other note than C was selected for the experiment, the exact interval between which and C we are
ignorant of, owing to the temperament of the instrument; this is the case with Dr. Smith's determinations (by the fifth and others of the methods above. Harmonics, p. 192, &c.) of the vibrations made by D la-sol re, upon the organ above-mentioned.

We were lately present at an experiment by Mr. John Isaac Hawkins, at his house in Great Titchfield-street, where he manufactures the finger-keyed viols and double basses, mentioned under our article CLAVIOL, (see FINGER-KEYED VIOL) according to our first method above: two pieces of hard wood, about an inch thick, were screwed down to the floor in his room, at about 22 feet asunder, and were pierced for the two string-pegs of a harpsichord wire; several thin pieces of wood with a sharp edge at top, and rising a very small height more above the floor, than the fixed pieces of wood, were provided as moveable bridges. A brass wire, called N° 15, by the piano-forte makers, and the largest size which they use in grand piano-fortes, which was found to be .033 inch diameter, was lapped round the pins, and stretched by turning one of them. From a point marked ° on the floor, 8 or ten inches from one of the fixed pieces of wood, the several distances 73 inches, 15, 30, 60, 120, and 240 inches were carefully measured and marked under the string; a bridge was then placed under the string, at the point of another at 7½, and another at 240 inches, and one of the tuning pegs was turned until the short portion of the string, ° to 7½, was in perfect unison with Mr. H's small, or mouth tuning-fork, C; [which is a very considerable improvement upon the large tuning-forks which require to be struck upon a table, (see TUNING-FORK] the bridge at 74 inches was then successively moved to 15 and 30 inches, in order to compare the octave and double octave below with the fork, and which on trial appeared to be accurately in tune. This middle bridge was then removed, and the counting of the visible vibrations of the whole string, ° to 240, or five octaves below C, was conducted as follows: Mr. He kneeling down on one knee, placed a seconds watch before him, and held a quill with one hand slightly against the string, about two feet from the bridge, so as to be struck by the wire at each vibration; this was for assisting the sight, in counting the vibrations, by means of the audible strokes thus produced on the quill: for some time. Mr. H. continued attentively to notice the vibrations, and to beat down with his toe at every fourth vibration, as a performer on the violin, &c. does in playing in common time; this was pursued, until such a regular rate of beating was obtained by the toe that the experiment was not interrupted by a new twitch or impulse given to the vibrating string by an assistant; the counting then commenced, and was continued during 60 seconds, in the first of which all beats of the toe were made, and in a repetition of the experiment, after examining the time of the 1 32 part of the string, 113 beats were counted; the mean of these, or 112 per minute, gave 112 × 4 ÷ 6 = 74% vibrations for the whole string in 10 seconds, and consequently C, five octaves above, gave 47¾. × 32 = 2386 vibrations in 10", which agrees extremely near with Dr. Robison's experiments above mentioned, in shewing, that 240 may be taken as the present concert pitch.

We have only to add, that an experiment and calculation some years ago by the fifth method above, gave us 24.15 pulses in 10" for a tuning-fork then in our possession, marked C, but whether the same had been adjusted to the acknowledged concert-pitch, we are unable to say. The state of the barometer and thermometer should always be noted, at the time of making experiments of this kind, if it is intended accurately to determine the pitch; and it may be well, instead of trusting to the ear alone, in determining the unison or octave of the fork and string, to count and equalize their beats with a third sound, a little different from both of them, as recommended by Mr. Nicholson, Phil. Journ. 8vo. i., p. 320, for the making of correct tuning-forks.

CONCERT of Ancient Music. This excellent establishment was originally suggested by the late earl of Sandwich in 1776, in favour of such solid and valuable productions of old masters as an intemperate rage for novelty had too soon laid aside as superannuated, was supported with spirit and dignity, by the concurrent zeal and activity of other noblemen and gentlemen of the first rank, who united with his lordship in the undertaking, till 1785, when it was honoured with the presence of their majesties, whose constant attendance ever since has given to this institution an elevation and splendour, which perhaps no establishment of this kind has enjoyed before. Here the productions of venerable old masters, particularly those of Purcell and Handel,
are performed by a select and powerful band, with such correctness and energy as the authors themselves never had the happiness to hear.

CONCERTANTE, Ital. from concertare, to concert, order, arrange. In the musical technica, it used to be equivalent to harmonizing, adding instrumental parts to vocal. But at present, the term concertante is used substantively, for a symphony or full piece dialogued. In which there are solo parts for the display of great talents on particular instruments. At the concerts of Bach and Abel, solo parts were frequently allotted in these compositions to Cramer, Fischer, the younger Stamitz, Hindmarsh, Shields, Holmes, Tacit, and the elder Florio, Abel, on the viol di gamba, and Bach himself on the piano-forte. Bach’s concertante in C♯, and Pleyel’s in E♭, were always heard with rapture; not only from the merit of the composition, but exquisite manner in which they were performed, and the ingenuity of the written cadences, generally furnished by Fischer.

CONCERTATO, a term in Music, implying the addition of instrumental parts to a vocal composition; as motetto concertato, a motet or anthem, accompanied by instruments.

CONCERTO, synonymous with concerto, which long supplied its place. Concento and suono implied nearly the same things in the days of Boccaccio, as concerto and sonata since; but concertate and concertanti were at first applied to the union of instruments with voices, in motets and madrigals, by doubling the voice parts. It was not till late in the seventeenth century, that instrumental pieces of many parts, began to be called concertos, and of few parts sonatas.

The earliest compositions which we found in Italy, for three or more instruments of the same species, were Ricercari and Fantasie. But of these none seem to have been printed, when the elder Doni published the second edition of his “Libreria,” 1557, as all the instrumental music that appears in his catalogue of musical compositions, which had then been published in Italy, are “Intabolature da organi, et da leuto, d’Anton da Bologna, di Giulio da Modena, di Francesco di Milano, di Jaches Buas, piu di dieci volumi, e la continua.”

About the beginning of the seventeenth century, madrigals, which were almost the only compositions in parts for the chamber, then cultivated, seem to have been suddenly supplanted in the favour of lovers of music by a passion for fantasies of three, four, five, and six parts, wholly composed for viols, and other instruments, without vocal assistance. And this passion seems to have arisen, from the calling in these instruments to reinforce the voice parts, with which they played in unison, in the performance of motets and madrigals, hence termed concertati. At length the instrumental performers discovered that both the poetry and singing of the times might be spared without any great loss or injury to musical effects; as the words, if good, were rendered unintelligible by fugue, imitation, and multiplicity of parts; and the singing, being often coarse and out of tune, could be better supplied by their own performance. Thus vocal music not only lost its independence, but was almost totally driven out of society; as the ancient Britons calling in the Saxons to assist them in their conflicts with the Picts, were themselves subdued and forced from their possessions, by too powerful auxiliaries. See FANCIES and BASE-VIOLS.

Simpson in his “Compendium,” speaking of fancies, page 118, says: “In my opinion, no nation is equal to the English in this way, as well for their excellence, as for their various and numerous consorts of 3, 4, 5, and 6 parts, made properly for instruments, of which fancies are the chief.”

In the MS. “Memoirs of Music,” by the hon. Roger North, who speaking of Jenkins, an eminent English composer in the time of Charles I, says, that “of all his concerts, none flew about with his name to it, so universally, as the small piece called his “Five Bell Consorte.” And this is only in three parts, so that the import of the term concert or consorte was not then settled.

Montaigne, who travelled through Italy and Germany in 1580, says that the mass in great churches was accompanied by organs and violins. But though the word concerto occurs so early as the year 1587, in the “Trattenimenti” or “Divertimenti” of Scipion Bargagli, it was only applied to short Fantasie and Ricercari. Salmi concertati was often used when instruments were added to voices, in concerti ecclesiastici.

At the latter end of the 17th century most of Bassani’s, Corelli’s, and Torelli’s violin music was composed for the church. The first and third set of Co-
relli’s sonatas, and his first eight concertos, we are certain were thus appropriated. Somis, Veracini, and Tartini, composed their own solo concertos, and performed them likewise in the several churches of Italy. And Pugnani used to accompany the “Messa Bolla,” or Silent Mass, at the chapel royal in Turin, with his violin solo concertos.

Concertos merely instrumental, for secular use, seem to have had no existence before the time of Corelli. The honour of the invention has been assigned to Corelli, but from no good authority. Six concertos by Alessandro Scarlatti, manifestly, from the gravity of their style, composed for the church, were printed by Benjamin Cook, in New-street, Covent-garden, about the year 1730. But at the beginning of the last century, besides the concertos of Corelli, Geminiani, and Handel, concertos by Albinoni, Alberti, Tesserini, and Vivaldi, were dispersed all over the kingdom, and heard with great delight at our country concerts, music-meetings, and clubs. These were chiefly on the model of Torelli and Corelli, but with melody of a lighter kind. They were all in seven or eight parts for two choirs; that is, with solo parts for the concertini, or solo instruments, and ripieno parts for the concerto grosso, or chorus of the whole band. But these were soon superseded by great performers on the violin, such as Locatelli, Tartini, Somis, Veracini, Nerla, and Giardini, who, in order to display their superior powers of execution, rendered them too difficult for general use. But these being brought into public favour by the admirable performance of their several authors, were followed by the concertos of Barthelemon, Cramer, La Motte, Lolli, Salomon, Viotti, Giornovichi, &c. who, by some peculiar excellence in the knowledge of the finger-board, use of the bow, or accurate performance of double-stops, seem to have arrived at the acme of perfection in executing solo concertos.

**CONCERTO Grosso**, a grand concerto, or full piece.

**CONCERTS, public.** These were first established in London by Banister, master of king Charles II’s new band of 24 violins. The first notice we find of these assemblies is in the London Gazette, No 742, for Dec. 30th, 1672, in which there is the following advertisement: “These are to give notice, that at Mr. John Banister’s house, now called the music-school, over against the George Taverne, in White Fryers, this present Monday, will be music performed by excellent masters, beginning precisely at four of the clock in the afternoon, and every afternoon for the future, precisely at the same hour.” There are other advertisements from Banister of the same kind, in 1674, 1676, and 1678. In that for Dec. 11th, 1676, his musical performance is said to be “At the academy in little Lincoln’s-inn fields,” where it was to begin “with the parley of instruments, composed by Mr. Banister, and performed by eminent masters.”

In Mr. North’s manuscript “Memoirs of Music,” we have a more minute account of these performances. “Banister having procured a large room in White Fryars, near the Temple back-gate, and erected an elevated box or gallery for the musicians, whose modesty required curtains, the rest of the room was filled with seats and small tables, alehouse fashion. One shilling, which was the price of admission, entitled the audience to call for what they pleased. There was very good music, for Banister found means to procure the best hands in London, and some voices to assist him. And there wanted no variety, for Banister, besides playing on the violin, did wonders on the flageolet, to a thorough base, and several other masters likewise played solos.”

These were followed by other public concerts of a superior kind, at the Crown and Anchor, the Castle in Paternoster row, the Swan and King’s Arms, Cornhill, York Buildings, Hickford’s Room, &c. &c.

**CONCINNOUS Intervals, in Music,** are such as are apt and useful in harmony, as the V, 4th, III, 3d, VI, 6th, IV, and 5th, in contradistinction to such as are inconcinnous, as the intervals deficient or redundant by a comma. See COMMA-redundant, Fifth, Fourth, &c.

**CONCORD, in Music,** denotes the relation of two sounds which are always agreeable to the ear, whether heard in succession or consonance.

If two single sounds be in such a relation, or have such a difference of tone, as that, being sounded together, they make a mixture, or compound sound, which affects the ear with pleasure; that relation is called concord: and whatever two sounds make an agreeable compound in consonance, those same sounds will always be pleasing in succession, or will follow each other agreeably.
The reverse of concord is what we call discord; which is the general denomination of all the relations or differences of tone that have no pleasing effect.

Concord and harmony are, in effect the same thing; though custom has applied them differently. As concord expresses the agreeable effect of two sounds in consonance: so harmony expresses the same sort of agreement in a great number of sounds in consonance; add, that harmony always implies consonance; but concord is sometimes applied to succession, though never but when the tones will make an agreeable consonance; whence it is, that Dr. Holder, and some other writers, use the word consonance for what we call concord.

Unisonance, then, being the relation of equality between the tones of two sounds, all the unisons are concords, and in the first degree; but an interval being a difference of tone, or a relation of inequality between two sounds, becomes a concord or discord, according to the circumstances of the particular relation. Indeed some restrain concord to intervals, and make a difference of tone constitute the essential difference of concord and discord; but two unisons cannot form an interval.

It is not easy to affirm the reason or foundation of concordance: the difference of tone, we have elsewhere observed, takes its rise from the different velocity of the vibrations of the sonorous body, i.e. of the velocity of those vibrations in their recourses; the more frequent their recourses are, the more acute will be the tone, and vice versa.

But the essential difference between concord and discord lies deeper: there does not appear any natural aptitude in the two sounds of a concord, to determine it to give us a pleasing sensation, more than in the two sounds of a discord: these different effects are merely arbitrary, and must be resolved into the divine pleasure.

We know by experience what proportions and relations of tone afford pleasure, and what do not; and we know also how to express the difference of tone by the proportion of numbers: we know what it is pleases us, though we do not know why: we know, v. gr. that the ratio of 1 : 2 constitutes concord, and 6 : 7 discord: but on what original grounds agreeable or disagreeable ideas are connected with those relations, and the proper influence of the one on the other, are above our reach.

By experience we know, that the following ratios of the lengths of strings are all concord; viz. 2 : 1, 3 : 2, 4 : 3, 5 : 4, 6 : 5,5 : 3, 8 : 5; that is, take any string for a fundamental, which shall be represented by the number 1, and the following divisions thereof will be all concord with the whole; viz. \( \frac{12345}{23456} \).

So that the distinguishing character between concords and discords must be looked for in these numbers, expressing the intervals of sound; not abstractedly and in themselves, but as expressing the number of vibrations. Now, unisons are in the first degree of concord, or they have the most perfect likeness or agreement in tone; and therefore have something in them accessory to that agreement which is found, less or more, in every concord: the nearer two sounds come to an equality of tone, the slower are the beats, and the more agreement they have; therefore, it is not in the equality or inequality of the numbers that this agreement lies.

Further, if we consider the number of vibrations made in any given time by two strings of equal tone: on the principle laid down, they are equal: and therefore the vibrations of the two strings coincide, or commence together as frequently as possible, i.e. they coincide at every vibration; in the frequency of which coincidence, or united mixture of the motions of the two strings, and of the undulations of the air which they occasion, it is, that the difference of concord and discord must be sought. Now, the nearer the vibrations of two strings approach to a coincidence as frequent as possible, the nearer they should approach that condition, and consequently the agreement of unisons; which is confirmed by experience.

For if we take the natural series 1, 2, 3, 4, 5, 6, and compare each number to the next, as expressing the number of vibrations in the same time of two strings, whose lengths are reciprocally as those numbers; the rule will be found exact, for 1 : 2 is best, then 2 : 3; after 6 the union is insufferable; the coincidences being too rare: though there are other ratios that are agreeable besides those found in that continued order, viz. 3 : 5, and 5 : 8, which, with the preceding five, are all the concording intervals within, or less than an octave, or 1 : 2; that is, whose acutest term is greater than half the fundamental.
On this principle, $3 : 5$ will be preferable to $4 : 5$; because those being equal in the number of vibrations of the acuter term, there is an advantage on the side of the fundamental in the ratio $3 : 5$, where the coincidence is made at every third vibration of the fundamental, and every fifth of the acute term: so also the ratio $5 : 8$ is less perfect than $5 : 6$; because, though the vibrations of each fundamental that go to one coincidence are equal; yet in the ratio $5 : 6$, the coincidence is at every sixth of the acute term, and only at every eighth in the other case.

Thus, we have a rule for judging of the preference of concords, from the coincidence of their vibrations: agreeable to which rule, they are disposed into the order of the following table; to which the names of the concords in practice, the ratio of their vibrations, the lengths of the strings, and the number of coincidences in the same, are expressed.

<table>
<thead>
<tr>
<th>Ratios, or vibrations.</th>
<th>Grave Acute</th>
<th>Coincidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unison</td>
<td>1 : 1</td>
<td>60</td>
</tr>
<tr>
<td>Octave, 8ve</td>
<td>2 : 1</td>
<td>30</td>
</tr>
<tr>
<td>Fifth, 5th</td>
<td>3 : 2</td>
<td>20</td>
</tr>
<tr>
<td>Fourth, 4th</td>
<td>4 : 3</td>
<td>15</td>
</tr>
<tr>
<td>Sixth, gr.</td>
<td>5 : 3</td>
<td>12</td>
</tr>
<tr>
<td>Third, gr.</td>
<td>5 : 4</td>
<td></td>
</tr>
<tr>
<td>Third, lesser</td>
<td>6 : 5</td>
<td></td>
</tr>
<tr>
<td>Sixth, lesser</td>
<td>8 : 5</td>
<td></td>
</tr>
</tbody>
</table>

Though this order be settled by reason, yet it is confirmed by the ear. On this foundation, concords must still be the more perfect, as they have the greatest number of coincidences, with regard to the number of vibrations in both the strings; and where the coincidences are equal, the preference will, fall on that interval, whose acutest term has fewest vibrations to each coincidence: which rule, however, is in some cases contrary to experience; and yet it is the only rule hitherto discovered.

Indeed, Kircher, after father Mersenne, gives us another standard for settling the comparative perfection of intervals with regard to the agreement of their extremes in tone: and it is this.

The perception of concordance, say they, is nothing but the comparing two or more different motions which in the same time affect the auditory nerve: now we cannot make a certain judgment of any consonance, till the air is as often struck in the same time by two strings, as there are units in each member expressing the ratio of that concord; v. gr. we cannot perceive a fifth, till two vibrations of the one string, and three of the other, are accomplished together; which strings are in length as $3$ to $2$: the rule then is, that those concords are the most simple and agreeable, which are generated in the least time; and those, on the contrary, the most compound and harsh, which are generated in the longest time.

For instance, let $1, 2, 3$, be the lengths of 3 strings, $1 : 2$ is an octave; $2 : 3$ a fifth; and $1 : 3$ an octave and fifth compounded, or a twelfth. The vibrations of strings being reciprocally as their lengths, the string 2 will necessarily vibrate once, while the string 1 vibrates twice, and then exists an octave; but the twelfth does not yet exist, because the string 3 has not vibrated once, nor the string 1 thrice, which is necessary to form a twelfth.

Again, for generating a fifth, the string 2 must vibrate thrice, and the string 3 twice; in which time the string 1 will have vibrated 6 times; and thus the octave will be thrice produced, while the twelfth is only produced twice; the string 2 uniting its vibrations sooner with the string 1, than with the string 3; and they being sooner consonant than the string 1 or 2 with that 3. Whence, that author observes, many of the mysteries of harmony relating to the performance of harmonious intervals, and their succession, are easily deduced.

But this rule, upon examining it by other instances, Mr. Malcolm has shewn defective, as it does not answer in all positions of the intervals with respect to each other; but a certain order, in which they are to be taken, being required: and there being no rule, with respect to the order, that will make this standard answer to experience in every case: so that at last we are left to determine the degrees of concord by experience and the ear.

But not that the degrees of concord depend much on the more or less frequent uniting the vibrations, and the ear’s being more or less uniformly moved, as above; for that this mixture or union in motion is the true principle, or, at least, the chief ingredient in concord, is very evident: but because there seems to be something farther in the proportion of the two motions necessary to be known, in
order to fix a catholic rule for determining all the degrees of concord, agreeable to sense and experience.

The result of the whole doctrine is summed up in this definition.—Concord is the result of a frequent union, or coincidence of the vibrations of two sonorous bodies, and, by consequence, of the undulating motions of the air, which, being caused by these vibrations, are like and proportional to them; which coincidence, the more frequent it is, with regard to the number of vibrations of both bodies, performed in the same time, *carteris faribus*, the more perfect is that concord: till the rarity of the coincidence, in respect of one or both the motions, produces discord. See some of the remarkable phenomena of sounds accounted for from this theory, under the word UNISON; see also INTERVAL, &c.

Mr. Carre, in the Memoirs of the Royal Academy of Sciences, lays down a new general proposition, to determine the proportion which cylinders are to have, in order to form the concords or consonances of music. And it is this—that the solid cylinders, whose sounds yield those concords, are in a triplicate and inverse ratio of that of the numbers which express the same concords.

Suppose, e. g. r two cylinders, the diameters of whose bases and lengths are as 3 to 2: it is evident their solidities will be in the ratio of 27 to 8, which is the triplicate ratio of 3 to 2: we say then, that the sounds of those two cylinders will produce a fifth, which is expressed by those numbers; and that the biggest and longest will yield the grave sound, and the smallest the acute one.—And the like of others.

Concords are divided into simple, or original, and compound.

A simple, or original concord, is that whose extremes are at a distance less than the sum of any two other concords.

On the contrary, a compound concord is equal to two or more concords.

Other musical writers state the division thus: an octave 1:2, and all the inferior concords above expressed, are all simple and original concords: and all greater than an octave, are called compound concords; as being composed of, and equal to the sum of one or more octaves, and some single concord less than an octave; and are usually, in practice, denominated from that simple concord.

As to the composition and relations of the original concords, by applying to them the rules of the addition and subtraction of intervals, they will be divided into simple and compound, according to the first and more general notion; as in the following table.

<table>
<thead>
<tr>
<th>Simple Concords</th>
<th>Compound Concords</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:6 = 3d. 1.4th</td>
<td>3d. 2. 3d. 6th.</td>
</tr>
<tr>
<td>4:5 = 3d. gr. 3/4 1. 4th.</td>
<td>3d. 3. 3d. 6th. 3d.</td>
</tr>
<tr>
<td>3:4 = 3d. 4th. 3/4 5th. 4th.</td>
<td>3d. 5th. 4th. 3d.</td>
</tr>
</tbody>
</table>

The octave is not only the first concord in point of perfection, the agreement of whose extremes is greatest and the nearest to unison; inasmuch that, when sounded together, it is impossible to perceive two different sounds; but it is also the greatest interval of the seven original concords; and, as such, it contains all the lesser, which derive their sweetness from it, as they arise more or less directly out of it; and which decrease gradually, from the octave to the lesser sixth, which has but a small degree of concord.

A remarkable circumstance is the manner wherein these minor concords are found in the octave, which shews their mutual dependencies.

For, by taking both an harmonical and arithmetical mean between the extremes of the octave, and then both an harmonical and arithmetical mean betwixt each extreme, and the most distant of the two means last found; viz. betwixt the lesser extreme and the first arithmetical mean, and betwixt the greater extreme and the first harmonical mean; we have all the lesser concords.

Thus, if betwixt 360 and 180, the extremes of octave, we take an arithmetical mean, it is 270; and an harmonical mean is 240: then betwixt 360, the greatest extreme, and 240 the harmonical mean, take an arithmetical mean, it is 300; and an harmonical mean is 288. Again, betwixt 180 the lesser extreme of the octave, and 270 the first arithmetical mean, it is 225, and an harmonical one 216.

Thus, we have a series of all the concords, both ascending towards acuteness from a common fundamental 360; and descending towards gravity from a common acute term 180; which series has this property, that taking the two extremes, and any other two at equal distances, the four will be in geometrical proportion.
The octave, by immediate division, resolves itself into a fourth and fifth; the fifth, again, by immediate division, produces the two thirds; the two thirds are therefore found by division; though not by immediate division; and the same is true of the two sixths. Thus do all the original concords arise out of the division of the octave; the fifths and fourths immediately and directly, the thirds and sixths mediately.

From the perfection of the octave arises this remarkable property, that it may be doubled, tripled, &c. and yet still will preserve a concord, i.e. the sums of two or more octaves are concord; though the more compound will be gradually less agreeable: but it is not so with any other concord less than octave; the doubles, &c. of which are all discords.

Again, whatever sound is concord to one extreme of the octave, is concord to the other also; and if we add any other simple concord to an octave, it agrees to both its extremes; to the nearest extreme it is a simple concord, and to the farthest a compound one.

Another thing observable in this system of concords is, that the greatest number of vibrations of the fundamental cannot exceed five; or that there is no concord where the fundamental makes more than five vibrations, to one coincidence with the acute term. It may be added, that this progress of the concords may be carried on to greater degrees of composition, even in infinitum; but still the more compound, the less agreeable.

So a single octave is better than a double one, and that than a triple one; and so of fifths and other concords.

Three or four octaves form the extremes of all the intermediate sounds; what will afford all the variety of pleasure the harmony of sounds is capable of affording, or at least that we can receive; for we can hardly raise sounds beyond that compass, either by voice or instrument, that shall not offend the ear.

The phenomena attending simultaneous sounds have been considered by Euler, and treated of in so clear and perspicuous a manner, that we cannot do better than use his own words in this place.

"On hearing a simple musical sound, our ear is struck with a series of pulsations equally distant from each other, the frequency and number of which, in a given space of time, constitute the difference which subsists between low notes and high; so that, the smaller the number of vibrations or strokes produced in a given time, say a second, the lower we estimate that note; and the greater the number of such vibrations, the higher is the note. The perception of a simple musical sound may, therefore, be compared to a series of dots equidistant from each other, as . . . . . . . If the intervals between these dots be greater or smaller, the sound produced will be lower or higher. It cannot be doubted, that the perception of a simple sound is somewhat similar, or analogous, to the sight of such a series of dots equidistant from each other: we are enabled thus to represent to the eye, what the ear perceives on hearing sound. If the distances between the dots were not equal, or these dots were scattered about confusedly, they would be a representation of a confused noise, inconsistent with harmony. This being laid down let us consider what effect two sounds, emitted at once, must produce on the ear. First, it is evident, that if two sounds are equal, or if each performs the same number of vibrations in the same time, the ear will be affected in the very same manner as by a single note; and, in music, these two notes are said to be in unison, which is the simplest union or combination of two sounds: we mean by the term the blending of two or more sounds heard at once. But if two sounds differ in respect of low and high, we shall perceive a mixture of two series of pulsations, in each of which the intervals are equal among themselves, but greater in the one than in the other; the greater intervals corresponding to the lower note, and the smaller to the higher. This mixture, or this combination of two notes, may be represented to the eyes by two series of dots, arranged on two lines, A B, and CD;
being supposed equal, if the number of aliquot parts
single vibrations of the sounds; or, the whole lines
magnitude of those in the other, in the ratio of the
the combination of the two corresponding lines, will
when any two of these sounds are heard together,
ive pulses of air that beat on the ear, when the single
resent the series of equal times between the success
brations as the low note. This consonance, in the lan
the high note produces precisely twice as many vi
ance. The simplest consonance, then, is that in which
catch this relation, the combination is termed disson
notes, their combination is denominated conson
ily discovers the relation subsisting between two
not impossible, to discriminate. When the ear read
in the preceding case, it was extremely difficult, if
the pleasing relation of these two sounds; whereas,
tained in the other, and the ear will easily perceive
will be precisely the double of the vibrations con
dots: the number of vibrations contained in the one,
to the two notes represented by these two lines of
dots: the number of vibrations contained in the one,
so no multiple of one vibration can ever be
how large soever, can express the ratio of such vi
it being impossible for their pulses to coincide more
surable, ought to be the greatest discords in nature;
are more or less frequent; all the consonances in
more or less agreeable, according as the coincidences
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sensation of consonances, according to the received
is evident, from considering, that if the agreeable
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pulses, and sufficiently repeated, is the physical
cause that excites the sensation of a given conson-
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tinct from any other consonance whose single vibra-
tions having a different ratio from that of the former,
tinct from any other consonance whose single vibra-
tions, as in

give any two numbers, how large soever, can express the ratio of such vi-

Let the series of equal parts contained in the par-
parallel right lines 01, 02, 03, &c. fig. a, Music-Plate,* re-
represent the series of equal times between the success-
vive pulses of air that beat on the ear, when the single
ounds 01, 02, 03, &c. are heard respectively; then,
when any two of these sounds are heard together,
the combination of the two corresponding lines, will
rightly represent the two series of equal times, if the
magnitude of the equal parts in one line be to the
magnitude of those in the other, in the ratio of the
single vibrations of the sounds; or, the whole lines
being supposed equal, if the number of aliquot parts
in each be severally the same, as the least numbers
of the vibrations of each sound, made in the same
time. And the points which divide the separate lines,
will subdivide the combined lines into smaller por-
tions, as in fig. b, where 03 represents a third series,
or cycle of times, in which the pulses of the sounds
02 and 0.3 interchangeably succeed each other in
beating upon the ear; in like manner o; and of will
represent the cycles respectively produced, by the
union of the sounds 03 and 04, in the first case, and
03 and 05 in the second case. See CYCLE.

*Editorial note: The figures a and b referred to in the
previous paragraph do not appear anywhere in the plates
of the Cyclopædia. One possible explanation is that the
text might have been copied from an article Farey pub-
lished elsewhere previously, such as in the ‘Philosophical
Magazine’. CONCORD also appears in the articles on
music by Farey Sr in the ‘Edinburgh Encyclopædia’ and
published in 1813.

According to Dr. Smith (Harmonics, p. 15) such a
mixture of pulses, succeeding one another in a given
cycle of times, terminated at both ends by coincident
pulses, and sufficiently repeated, is the physical
cause that excites the sensation of a given conson-
ance or concord: especially when considered as dis-
tinct from any other consonance whose single vibra-
tions having a different ratio from that of the former,
will constitute a different cycle, and excite a different
sensation. And although the absolute times may be
different, yet if the ratio is the same, the consonances
are similar, and may be looked upon as the same in
this respect, that their cycles have the same form;
the times in both having the same order, and the
same proportions. And that this form of the cycles
serves to excite the sensation of a particular concord,
is evident, from considering, that if the agreeable
sensation of consonances, according to the received
principle in harmonics, be the result of the frequent
coincidences of their pulses, and consequently be
more or less agreeable, according as the coincidences
are more or less frequent; all the consonances in
tempered systems, whose vibrations are incommen-
surable, ought to be the greatest discords in nature;
being impossible for their pulses to coincide more
than once in an infinite time. For as no two numbers,
equal to any multiple of the other. And yet experience shews that such consonances are much more agreeable than perfect discords, whose pulses coincide very often.

We may, indeed, says Dr. Smith (p. 99.) approach as near as we please, and certainly much nearer than the sense can distinguish, towards the exact magnitude of an incommensurable ratio, by the ratios of whole numbers; but as these will grow larger and larger without bounds, so will the time between the successive coincidences, or the length of the approximating cycle of the pulses; by which is meant the time of either of the incommensurable vibrations, multiplied by the heterologous term of the approximating ratio. Let any man tell us then where we may stop, and which of those cycles it is, whose repetition excites the determinate sensation of the consonance. The like difficulty occurs in approaching gradually even to a commensurable ratio of the vibrations of any perfect consonance. For, if either of its vibrations be pretty much altered at once, and then be made to approach by degrees to its former length, the terms of the several approximating ratios will grow larger and larger without bounds, and in regular order, except when ratios occur whose terms are reducible; and the cycles of their pulses will accordingly be longer and longer, and their coincidences fewer without limit, those interruptions excepted; and yet the consonance will grow better and better by regular degrees, till it arrives at perfection, as is certain by experience. For instance, the ratios 30 to 21, 300 to 201, 3000 to 2001, &c. approach nearer and nearer to 3 to 2, and the Vths, whose vibrations are in those ratios, grow more and more harmonious, though the cycles of their pulses grow longer and longer to infinity.

It seems indisputable, that coincident pulses are not necessary to such harmony as the ear judges to be perfect for any long period of imperfect unisons, intercepted between two beats, be lengthened greatly and indeterminately, as in tuning an instrument, any given part of it, as long as any musical note, will approach indefinitely near to perfect unisons; certainly nearer than the ear can distinguish, as being often doubtful of their perfection. And yet throughout that part (supposed to be small in comparison to the whole period) the pulses of one sound divide the intervals of the pulses of the other very nearly in a given ratio, of any determinate magnitude, between infinitely great and infinitely small, in proportion to the distance of that part from the periodical point or point of coincidence. Nevertheless, the ear cannot distinguish any difference in the harmony of such different parts, as is evident by often repeating the same consonance, which can hardly begin constantly in the same place of the long period; and this argument applies to all other consonances besides unisons.

Dr. Robison supports this train of argument, by a reference to the well known fact, that if two musical instruments, as two organ pipes, tuned so exactly in unison that their pulses may be supposed to begin and end at the same instants, making the most perfect coincidence of pulses, be placed at a given distance from each other, and sounded, the consonance will be perfectly the same, in whatever part of the room or space round the sounding pipes the ear of an auditor may be placed; while, owing to the time taken up by sound in travelling through a given space, it is evident that the supposed coincidence of the pulses in the sounds cannot so affect or reach an ear unless it be placed exactly at equal distances from each of the sounds; whereas, by placing himself exactly in the middle of the right line joining two unison sounds, and gradually approaching one of the sounds, every possible dislocation or deviation of the pulses from coincidence will prevail, in their action upon one of the ears of an observer, while in most cases the other ear will be very differently acted upon, owing to its relative distances from the sounding bodies being different. And hence, as Dr. Robison concludes, “a musical sound is the sensation of a certain form of the aerial undulation which agitates the auditory organ. The perception of harmonious sound is the sensation produced by another definite form of the agitation. This is the composition of two other agitations; but it is the compound agitation only that affects the ear, and it is its form or kind which determines the sensation, making it pleasant or unpleasant,” or in other words, a concord or a discord.

On the supposition that nature has appointed no certain limits between concords and discords, Dr. Smith (Harmon. p. 15.) inquires into the order of simplicity of the consonances between different sounds, perfectly adjusted according to their ratios,
on the principle, that one consonance may be considered as more or less simple than another, according as the cycle of times belonging to it is more or less simple than the cycle belonging to the other, or, as the sum of the least terms expressing the ratio of the single vibrations is smaller than the like sum in the other consonance; and that, when several such sums are the same, these consonances are simpler in the same order as the lesser terms of their ratios are smaller; and he disposes the consonances in a table, differing little, except in arrangement of the columns, from the following:

<table>
<thead>
<tr>
<th>Order of the Simplicity</th>
<th>Ratio of the Unisons</th>
<th>Concord.</th>
<th>Order of the Simplicity</th>
<th>Ratio of the Unisons</th>
<th>Concord.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 : 1</td>
<td>VII</td>
<td>16</td>
<td>1 : 16</td>
<td>XXIX</td>
</tr>
<tr>
<td>2</td>
<td>1 : 2</td>
<td>VIII</td>
<td>16*</td>
<td>2 : 15</td>
<td>10th</td>
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<tr>
<td>3</td>
<td>1 : 3</td>
<td>II</td>
<td>16, 1 : 12</td>
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<tr>
<td>4</td>
<td>1 : 4</td>
<td>IX</td>
<td>17</td>
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<td>5</td>
<td>1 : 5</td>
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<td>6</td>
<td>1 : 6</td>
<td>XIX</td>
<td>18</td>
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<td>7</td>
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<td>8</td>
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<td>9</td>
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<td>XIX</td>
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<td>10</td>
<td>3 : 10</td>
<td>XIX</td>
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<td>12</td>
<td>4 : 12</td>
<td>X</td>
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<td>5 : 14</td>
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</tbody>
</table>

The first and second columns of this table can scarcely need any explanation; the third contains the concords, major and minor, expressed as in the second column of the general table of concords, which follows in this article: the blanks in this column denote the discords, such as are marked with a * being composed of primes larger than 5, as 7, 11, 13, &c. and have no existence in music, except in the false notes of the TRUMPET, HORN, &c.; see those articles: the others, or their octaves, will be found in the table of DISCORDS; see that article.

On the other hand, Dr. Robison and other writers have maintained, and we think justly, that nature has not left the concords without other distinctions than the capricious and uncertain preference given to them by musicians, but in addition to the almost universal delight which concords afford to every description of auditors, that the phenomena of slow and audible beats, accompanying each concord, when slightly tempered either in excess or defect, sufficiently distinguish such from all other musical intervals, comprised properly under the denomination of discords, or imperfect concords; and we cannot but agree with Dr. R. in thinking, that the study of the principles of harmonics would be greatly facilitated by considering the concords as the elements or fundamental intervals of melody fixed by nature, and that we should proceed to supply the other steps wanting in the scale, from their differences or combinations, rather than by assuming the tones and hemitones (which are discords that the most refined ear cannot accurately appreciate) to be the elements for composing the practical intervals of music; which it is not meant to contend, that they cannot accurately do in theory, but that concords of the truth or exact magnitude of which ordinary ears can at once judge with sufficient exactness (while, the curious can adjust such in practice, by help of the beats, to any desired degree of accuracy) are better adapted to the purposes of harmonical computations and reasonings, and will admit of more direct and perhaps also of some new applications in practice.

For illustrating this subject, we beg to be allowed to mention an experiment by Dr. Robison, made with a wheel monochord, perhaps improperly so named, because it had two strings, which, by means of a resined revolving wheel, could be made to yield clear and even sounds for any required space of time: one of the strings giving constantly the same sound, while the length of the other, after being accurately tuned in unison there with, admitted of being shortened in any required degree, without altering its tension.

Beginning with the unison (but which was not exactly the order in the Doctor's experiment), the moveable bridge, which determined the length of the variable string, was slowly and gradually moved forwards; at first a very slow, and by degrees a
quicker, beating of the imperfect unison was heard, which increased in rapidity until the beats could no longer be counted, and at length they became a violent rattling flutter, which degenerated into a disagreeable jar. Still advancing the bridge, vile discordant noises resulted from the sound of the two strings, until the variable string had been shortened nearly \(\frac{1}{10}\), or when a little more than \(\frac{5}{10}\) of the string continued to sound; when a very rapid angry flutter commenced, that became rather less rapid and offensive as the point \(\frac{7}{10}\) was approached, and again increased after that, until the discordant jar prevailed again; and this continued, until \(\frac{8}{5}\) of the string was approached, when a similar flutter commenced, decreased, and again increased as this point was passed by the bridge; the jar beginning again, and accompanying the motion of the bridge, until it almost arrived at \(\frac{5}{7}\) ths of the string’s length, when a flutter and rapid beat commenced, increasing in frequency, until at \(\frac{5}{6}\) or \(\frac{8}{7}\) of the minor third (3d) was sounded they cease entirely, and the result was a discord rather agreeable than otherwise, but strongly marked by a mournful melancholy in the expression; which, being sufficiently noticed, the bridge was again advanced, and produced the same beating, slow at first, then quicker, and at length fluttering, until the like grating dissonance succeeded as before. This continued, until near the point marked \(\frac{1}{2}\), when the beatings again commenced, having a peevish fretful expression as they decreased in quickness, owing to the advance of the bridge, to the point of the major third (III), when the beats ceased, and the peculiarly enlivening and gay character of this concord was experienced by the hearers, who noticed an angry and waspish expression to accompany the succeeding beats as the string shortened, but which gave place gradually to the same flutter and jar as before.

When little more than \(\frac{7}{8}\) ths of the string’s length continued to sound, the flutterings and rapid beats were again heard, and the latter decreased and ceased entirely, at the point marking the fourth (4th) which was noticed as a soft and agreeable concord. To this first slow, and then rapid, beats succeeded, and rapid flutterings, and a jarring noise. Near \(\frac{32}{48}\) ths of the string the fluttering commenced again, and decreased until about six of them could be counted in a second of time as the false IV was passed, after which they increased again in rapidity as the bridge advanced, and an indistinct and jarring noise succeeded, which soon again became a flutter that decreased until at \(\frac{45}{64}\) ths of the string about eight of these angry flutters could be counted in a second, corresponding to the false fifth, after which they increased in rapidity, and the jarring noise was again heard.

The bridge being progressively moved, the flutterings began, beats succeeded, and passed into a gentle and not unpleasant undulation which ceased entirely at \(\frac{7}{6}\) ths of the string, when the fifth (V) with the cheering sweetness which characterizes it, was heard in the accordance of the two sounds, neither of which could be separately distinguished: after which the slow and rapid beats, and fluttering, and jar succeeded as before. Some time before the bridge reached the mark for \(\frac{6}{7}\) ths of the string the flutter and beats began again, and at that point the minor sixth (6th) a consonance in a slight degree pleasant was heard of a mournful character, without any beatings, but which were heard to recommence and increase as the bridge advanced; and the jarring dissonance continued, until little more than \(\frac{7}{8}\) ths of the variable string was left sounding, when flutters and beats succeeded, and such ceased when the tune major sixth (VI) was heard, the character of which it was found difficult to express, otherwise than as being greatly inferior to the V in sweetness, and to the III in gaiety, but possessing in a lower degree both of these qualities: shifting the bridge forwards, beats, flutters, and discordant noises succeeded, attended with two perceptible changes to flutters, in its progress towards the \(\frac{7}{12}\) ths of the string; which was not reached without the violent flutters, rapid and slower beats, so often before described; but when the beatings ceased the true octave (VIII) was heard, the treble note being with difficulty distinguished from the bass or fundamental afforded by the other string, and not at all so if the notes were duly apportioned in loudness. After this, if the bridge was still further advanced, beats, flutters, &c. succeeded as before, answering to the octaves of the sounds already described, as the bridge advanced to make half of the lengths of the former strings, respectively.
The doctor concludes his account of this very interesting experiment by remarking, that he has perhaps been rash in affixing certain moral or sentimental characters to certain concords; because he had seen instances of persons who gave them different denominations; but these were never contradictory to his, but always expressed some sentiment allied to those above assigned. A person capable of a little discriminating reflection was never met with by the doctor, who did not acknowledge a manifest sentimental distinction among the different concords, which could not be confounded. Speaking in another place on this subject, the doctor remarks, that he had made numberless trials of the different concords with persons altogether ignorant of music; none of all thus examined had much pleasure from an octave; all without exception, were delighted with a fifth, and with a major third, and many of them preferred the latter. All of them agreed in calling the pleasure from the fifth a sweetness, and that from the major third a cheerfulness or smartness, or by names of similar import. The greater part preferred even the major sixth to the fourth, and some felt no pleasure at all from the fourth. Few had much pleasure from the minor third or minor sixth. Care was in the above instances taken, to sound these concords without any preparation, merely as sounds, not as making part of any musical passage, circumstances which have great effect on the mind. When the minor third and sixth were heard as making part of the minor mode, all were delighted with them, and called them sweet and mournful. In like manner the chord, never failed to give pleasure. Dr. Smith (Harmonics, p. 21,) seemed to think that the concords within the octave would be found to affect the ear with smoother and pleasanter sensations in the following order: viz. VIII, V, 4th, VI, III, 3rd, 6th, the last being the least harmonious; but this conclusion he seemed to have formed from the numerical simplicity of their ratios as expressed in his Table above, rather than from a series of experiments on their effects: but it is plain that this cannot express the order of harmoniousness, because four discords will be found to intervene among the seven concords above, two of which also include the primes 7 and 11, which excludes them from our scale of music.

It will appear from the above, that each of the seven concords has a natural foundation and place in the scale of melody, but perhaps they will not all be found equally fit to be considered as elements in composing the scale. Respecting which, it may be right here to observe, that no general and strictly accurate method of notation, for composing or shewing the relations of musical intervals, can have less than three terms (for logarithms are only an approximation to their ratios, depending on the number of places of figures used) whether these are the musical integers, 2, 3, and 5; the intervals, T, t, and H; Σ, f and m, or any other. (Phil. Mag. xxvii, 195, and xxviii, 140). The comparative perfection of the harmony of the VIII, V, and 4th, the facility with which they can be tuned by the ear, and the simplicity of their ratios ½, ⅔ and ¾, might seem to point them out as the most eligible, for concordant elements of the scale, but considerable experience in these kinds of calculations and inquiries has led us to prefer the three smallest concords, or 4th, III, and 3rd, for this purpose; (see Common CHORD) because subtraction of the ratios is thereby most avoided, at the same time that the larger concords can by inspection be formed, out of these, in most instances. The following Table has been calculated and arranged with considerable care and trouble, and it will, we hope, prove useful to our musical readers in saving much of their time when pursuing these curious and useful speculations.

A TABLE of the Relations which the several Concords beat to the Key-Note, within the Compass of Seven Octaves.

Editorial note: Full-size version of the following tables will be found in the PDF of full width text illustrations. The table was split on consecutive pages, and should be read from the bottom to top.
The titles of the columns are placed at the bottom of the foregoing Table, because it is intended to be read from the bottom upwards, agreeably to the practice of musicians, who read their notes upwards.

Column 1 contains the number of finger-key intervals or half-notes: it will be found of use, in rough calculations respecting musical intervals; thus, suppose a VI were to be added to a 6th, and it was required to know on what note the sum would fall, we have 9 + 8 = 17, which answers in the Table to the 11th, and which happens to be exactly their sum, as is evident by comparing column 7: suppose again, that it was required to know the interval answering to three IIIds, we have in this case 4 x 3 = 12; this in the Table answers to the VIII, but it is evident from column 7, that this is only an approximate value, because this is 4 + III + 3 instead of 3 III, the difference being an enharmonic diesis, or the Tierce wolf of earl Stanhope.

Column 2 contains the marks of the intervals, the major intervals being denominated by Roman, and the minor intervals by Arabic, characters, or numbers. Column 3 shews the notes of the gamut, distinguishing the seven different octaves, the first or lowest by Roman capitals, the next by Italic small letters, the third by these accented, the fourth by the same double accented, the fifth by three accents, and the sixth and seventh octaves by small figures or indices, to express the number of accents.

Column 4 contains the ratios of the several notes, in their lowest terms. Column 5 contains the common or Briggs's logarithms to eight places of figures, the last being separated by a comma, in order to agree with the common tables, which have only seven places; whenever this number only is wanted, the seventh figure must be increased an unit, in every case where the eighth figure in the table exceeds 5.

Column 6 shows the ratios, expressed in their component primes, for the convenience of decomposing the same into tuneable intervals, as explained in our article COMMA; thus the second fraction, or \(\frac{3}{2}, \frac{3}{2}, \frac{3}{2}, \frac{3}{2}, \frac{3}{2}, \frac{3}{2}, \frac{3}{2}\), may be divided or expressed by \(\frac{1}{2}, \frac{1}{2}, \frac{1}{2}, \frac{1}{2}, \frac{1}{2}, \frac{1}{2}\), which shews it to be equivalent to 6 VIII + VI, as in column 7. The fraction answering to the 6th, or \(\frac{5}{2}, \frac{5}{2}, \frac{5}{2}\), may be thus stated, viz. \(\frac{1}{2}, \frac{1}{2}\), or VIII–III, the last term being negative, because the ratio or fraction expressing it is found reversed.

Column seven contains several different values of each interval in col. two, all expressed in tuneable intervals, or concords; the first, in each case, is expressed in the concordant elements, or small.čst concords, 4, III and 3; the next expression in each line has one or more VIIIths in its composition we have next given those tuneable intervals, which are found to express each interval by two terms only; and have then added two others, (being all that our room would admit) of the various expressions in tuneable intervals, which can be had for any concord in col. 2, especially if negative signs are admitted, as we have done in the lowest octave of our table. Matter for curious reflection will present itself to the musical student, who attentively considers the last column of our table, such as; 1st. that the octave is the only concord which admits of being added to itself, without producing a discord; 2dly, that the complement of every concord to an octave (or to 2, 3, 4, &c. octaves,) is a concord; 3dly, that all the simple combinations by one, by two, or by three, of our concordant elements 4th, III and 3d, produce concords; 4thly after these simple combinations are made, no farther ones can be made, except the addition of an equal number of each of the concordant elements as 4th + III + 3, \(\frac{3}{2} + 2\) III + \(\frac{3}{2}\), &c.) without producing discords; &c.

If the difference between any two concords be wanted, as between the XVII and the X, such is readily obtained from column 7th thus; \(\frac{3}{2} + 3\) III + \(\frac{3}{2}\), or the octave. The sum also of any concords, as a VI and 6th, is thus obtained; 4 + III + 4 + 3, or \(\frac{3}{2} + 3\) III + 3, which answers to the...
It may be of use here to mention, that the differences between each adjoining concord, in each several octave in column seven, will be found to be $3^{3}_{1}$, $3^{1}_{1} - 3$ (or the minor semitone $4^{1}_{3}$), $4 - 1$ (or the major semitone $16^{1}_{16} II + 3$–$4$, or $V - 4$ (or the major semitone $8^{1}_{3}$), $4 - III$, III–$3$ and $3^{4}_{1}$; and this, whether we begin at the top or at the bottom of the octave, which shews that nature has distributed these six concords, in a surprisingly uniform manner, between the unison and the octave. The intervals which will, in addition to those above, be found by deducting every concord within the octave from each other, are $4 - 3$ (or the minor tone $t^{6}$ and $4 + III - 3$, or $VI - 3$ (or the comma-deficient tritone or sharp fourth $16^{1}_{16}$).

It has been remarked by Mr. Holder, that the number six combined with itself, or with every less integer, produces in every instance a concord, thus $6, 6, 6, 6, 6, 6$ and $6, 6, 6, 6, 6, 6$, express the unison, $3^{4}_{1}, V, VIII, XII$ and XIX.

CONCORDANT Elements, in Music, are the fourth ($4^{6}$) the major third (III) and the minor third ($3^{6}$); see CONCORD. Dr. Smith considers the major tone ($r$) the minor tone ($t$) and the hemitone ($e$) as elements; Harmonics, p. 13.

CONSECUTIVE CHORDS, in Music, are such as immediately succeed each other in composition or performance. See Music, Plate IV. Holder truly observes, when speaking of the rule in composition, which disallows a succession of octaves or fifths, except by contrary motion, that in strictness the same applies to all consecutive intervals whatever; but that the intermixture of major and minor thirds, and major and minor sixths in the scale, renders the occurrence of consecutive major thirds, major-sixths, minor-thirds or minor-sixths, very rare and inoffensive in their cloying effect upon the ear, compared with those of fourths, fifths, or octaves, if care is not taken by the composer to prevent the succession of the latter, except in contrary motions.

CONSEQUENTE, in the Italian Music, is used to signify concords, or those intervals which afford pleasure, be they either perfect, as the fifth and eighth, or imperfect, as the third, sixth, &c. See OCTAVE.
Consonances to which they belong, when not too much tempered; these are also further distinguished by the phenomena of BEATS, see that article; and IMPERFECT CONCORDS; and 3d. Discords, which are intervals that have a grating or disagreeable jarring effect upon the ear, or sometimes a fluttering roughness when nearly equal to an imperfect concord, or to certain intervals in the scale, as the tones major and minor, the tritone semidiapente, and others, as mentioned in relating Dr Robison’s experiments upon the concords. See DISCORD and FLUTTER

Consonance, considered as a sound arising from several others sounding together, whether agreeable or disagreeable may be divided into Concord and discord. On this principal, Dr Holder defines consonancy, “A passage of several tunable sounds through the medium, frequently mixing and uniting in their undulated motions, caused by the well-proportioned commensurate vibrations of the sonorous bodies, and consequently arriving smooth and sweet, and pleasant to the ear; as, on the contrary, dissonancy, he maintains to arise from disproportionate motions of sounds, not mixing but jarring and clashing as they pass, and arriving in the ear grating and offensive.”

This notion of a consonance exactly quadrates with that we have already laid down for a concord. Accordingly, most authors confound the two together; though some of the more accurate distinguish them; making consonance to be what the word implies, a mere sounding of two or more notes together, or in the same time; in contradistinction to the motion of those sounds in succession, or one after the other.

In effect, the two notions coincide; for two notes, thus played in consonance, constitute a concord; and two notes that please the ear in consonance, will likewise please it in succession. Notes in consonance constitute harmony, as notes in succession constitute melody.

In the popular sense, consonances are either simple or compound, &c. The most perfect consonance is unison; though many, both among the ancients and moderns, discard it from the number of consonances; as conceiving consonance an agreeable mixture of different sounds, grave and acute; not a repetition of the same sound.

The second consonance is the octave; then the fifth, the fourth, the thirds, and the sixths: the rest are multiples, or repetitions of these.

Consonance is sometimes used by writers in the same sense with concord, and thus, such are said to be variable, and the term imperfect is prefixed when applied to intervals which have a major and a minor of the same name, as thirds and sixth, and perfect when applied to concords which never change their name, as the fifth, fourth, and octave; the absurdity of this use of the words perfect and imperfect is so apparent that we wish to see them disused, and discountenanced in elementary books on music, in order that these terms may exclusively apply to intervals correctly tuned or perfect in respect of their accordance, or the reverse: there was an impropriety in originally assigning one name to the thirds and to the sixth, which naturally have no nearer relation to each other, than the fourth and fifth, or octave and unison, or even so much; but these being established in use, may safely remain, without our continuing to confound and reverse all ideas of perfection and imperfection, in consequence only of this defect in the musical nomenclature.

Consonances are said, by Dr. Smith (Harmonics, p. 19), to be pure, where none of the equal times between the pulses of the acuter sound are subdivided by any intermediate pulse of the graver; and interrupted when any of those equal times are interrupted by one or more pulses of the graver sound. See CYCLE.

CONSONANT, is a term in Music, which Dr. Callcott in his Musical Grammar applies to the concords, octave, fifth, fourth, thirds major and minor, and sixths major and minor. The consonant triads, or common chords, according to the same author are,

\[ \begin{array}{c}
\text{Consonant Triad in the Major Mode} \\
\text{and in the minor mode.}
\end{array} \]

See TRIAD

CONTINUATO, in the Italian Music, is used to direct a singer, or player, to continue or hold on a sound, in equal strength or manner; or to continue a movement in an equal degree of time all the way.

CONTINUO, in the Italian Music, is sometimes applied to basso, to signify the thorough-bass. That
basso continuo, is the continual, or thorough-bass. It is sometimes marked in music books by the letters B, C.

CONTINUO is also used for a species of harmony mentioned by Julius Pollux, and which, says Zarlino, answers to the perpetual burden of our bag-pipes, which now and then must be harmonious.

CONTRA, Lat. a preposition frequently used by the Italians in their Music: contrapuncto, counterpoint; contra basso, double base; contralto, counter tenor; contrapunto doppia, double counter-point; contrapunto semplia, simple counterpoint; contrapunto florito, florid counterpoint, &c. This Latin word, which the Italians have adopted, was originally applied to all the several parts destined to make harmony to a plain song or melody, as counterpoints or counterparts to the canto fermo. Thus, harmony in four and more parts was formed: as basso, base; medius, mean or middle part; alto tenore, high tenor, from the situation of the clef on the staff; the discantus, soprano, triplum, or treble. When the alto tenore sung the part opposite or against the treble, it was called contralto or counter tenor; and when a lower part was employed than the base, it was called contro basso; the title now given to a double base.

CONTRA battuta, in Music, against, or out of time.

CONTRAINT, Fr. restrained. This word is synonymous with streto, in Ital. (which see.) It is an adj. which, in Music, implies, whether in melody or harmony, the constraint of a theme or ground.

CONTRALTO, Ital. the Counter-tenor. The compass of this kind of voice is usually very limited; it seldom goes lower than G, in the 4th space of the base, or higher than C, in the 3d space of the treble. Senesino had no more than six or seven good notes in his voice; nor had Guadagni, in his younger days, when he was content with the force of his natural compass, which, like Senesino’s, were full, rich, and flexible. This species of voice is an octave above the base; and its clef, that of C. on the 3d line, the same as the alto viola, or tenor, among instruments.

CONTRAPPUNTO. See COUNTERPOINT.

CONTRARY motion, in Music, is when one part ascends while another descends, and vice versà, opposed to moto retto, and moto obliquo, which see.

Contrary motion of the parts, in composition and of the hands in thorough-base has a pleasing effect, and precludes the succession of 5ths and 8ths.

CONTRA-SOGGETTO, in Music, a second subject in a fugue or canon, or a new subject, in contrary motion to the first.

CONTRA-TONES, in the German Musical Writings, are such as lie below the great octave of their tablature or literal notation, for the notes of the gamut. All notes on an organ, or other instrument which lie, more than two octaves below the tenor cliff note, or are said to be contratones. See TABLATURE.

CONTRAST, in Music, is often productive of agreeable effects, when, in the same movement, we pass from loud to soft, and soft to loud; from quick to slow, and slow to quick; from a simple to an elaborate accompaniment, and from contra; from low to high, and high to low; and when the harmony is full and thin alternately.

CONTRE-dance, Fr. Country-dance, taken from the lively and familiar dance of our peasants and villagers in England. Some, however, imagine that, during the Normanline, we had this rural dance from the French contre-dance, in which the partners are placed opposite or against each other. Of this opinion was the late Mr. Donoyer, dancing-master to the royal family.

CONTRE-sens. The French make use of this expression, in Music, for an absurdity in composition or performance.

CONTRE-temps, Fr. is a breach of time, or false accentuation. Rousseau, But M. Framery (Encycl. Meth.) is not satisfied with this definition. According to him, an air is à contre-temps, or out of measure, when the closes are prepared on the accented part of a bar, and made on the unaccented part. The ear expects that the close or final part of an air or movement should be on an accented part of a bar; in common time of four crotchets, on the first and third; and in triple time, on the first note of a bar. To this
we accede, except in Polish airs, called Polonesi, or alla Polacca, where the close is made on the second note of a bar. See POLONESE.

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CORNET, in the Military History of the Ancients, a horn, or musical instrument, much in the form of a trumpet. Vegetius informs us, that the legions had trumpets, cornets, and buccinæ; that when the cornet only sounded, the ensigns, or standard-bearers, were to move forward without the soldiers; but, when the trumpets only sounded, the soldiers were to advance, or move forward, without the ensigns or standard-bearers; that the cornets and buccinæ sounded the charge and retreat, and the cornets and trumpets during the battle. A troop of horse was also so called.

CORNET, a coarse musical instrument, called in France le bouquin, or goat’s horn, used by the cow-keepers to call the cattle together at milking and foddering time. An instrument called a cornet, was formerly used in the orchestra in Italy, under the name of cornetto, and cornettino, and the performers on it are frequently mentioned with eloge during the 16th and 17th centuries. Artusi, an intelligent writer on music, in his treatise, „Deile Imperfettione della Moderna Musica,” gives a curious account of the state of instrumental music in his time; and in describing a grand concert that was made by the nuns of a convent of Ferrara in 1598, on occasion of a double wedding between Philip the III, king of Spain, with Margaret of Austria, and the archduke Albert, with the infanta Isabella, the king’s sister, he enumerates the several instruments that were employed, and points out their excellencies and defects. Among these, though the violin is just mentioned, yet nothing is said of its proper ties, while the cornet, trumpet, viol, double harp, lute, flute, and harpsichord, are honoured with particular remarks, both on their construction and use; but among these, the cornet, which has been supplanted in the favour of the public by the hautbois, seems to have stood the highest in the author’s estimation. The elder Doni, in his dialogue written about fifty years before, mentions the cornet more frequently than any other instrument: Il divino Antonio da cornetto, perfettissimo – &. M. Battista dal Fondaro con il suo cornetto ancora; che lo suona mi racolo-samente.”

There is a brilliant solo stop in the organ, called a cornet, consisting of five ranks of pipes; it is usually a half stop, going down no lower than the middle C; or, at most, to F on the 4th line in the base. It is composed of a diapason, principal, 12th, 15th, and tierce or major 17th; so that every note is a complete chord, such as nature gives in the harmonies to every sound; but of which we can only distinguish such as are produced by the lower part of the scale.

Jack James, Magnus, and Stanley, three celebrated organists, in the early part of the last century, used to play rapid movements on the cornet, as a solo stop in their voluntaries, accompanied by the two diapasons; and, as it has no base, it should not be drawn out in the chorus, or full organ, unless the sesquialtra is divided into two half stops, and the lowest half only is drawn out as a base to the cornet.

CORNET stop, on an organ, is a compound treble stop, in the use of which each finger-key acts upon and occasions five pipes to sound at the same time, viz. one in unison, with the note proper to that finger-key, (and also with the same note in the stop, called diapason,) another which is tuned a true major third above it, another a fifth, another an eighth, and the uppermost a true major seventeenth above the note.

Dr. Smith remarks, (Harmonics, p. 10.) that the best tuning of an organ cannot wholly prevent that disagreeable bathing of the ears with a constant rattling noise of beats, quite different from all musical sounds, and destructive of them, and chiefly caused by the compound stops called the cornet and sesquialter, and by all other loud stops of a high pitch, when mixed with the rest. The cornet stop is generally used in our churches, with the diapason, in the interludes, and giving out of the psalms.

CORNICEN, Lat. a horn-blower. Before the Romans were acquainted with the use of the trumpet, a cornicen brought sounds from the horn of a wild ox that was mount ed with silver. The sound was very strong and shrill, and conveyed an order to a great distance.

This instrument, which in the eyes of many does not appear to be an invention of much consequence, was not a contrivance of the Romans themselves, who borrowed it from the Phrygians, among whom
CROWN and PAUSE. The pause used to be *ad libitum*; but in full pieces this was found inconvenient, as the whole band never resumed the strain at the same instant. Emanuel Bach, and Haydn, we believe, were the first composers who ascertained its length by rests; making it consist of two or three bars, specified alike in all the several parts. The French term this kind of silence, *point d’orgue*. In rondeaux and songs in which *da capo* occurs, it is the final mark or signal of termination. It likewise indicates the final close in rounds and canons upon such notes in the several parts, as form a common chord to the key notes.

CORYBANTES, in *Antiquity*, priests of Cybele, who danced and capered to the sound of flutes and drums. See CROTALUM. (Horace, lib. i. ode 16. ver, 8.) They inhabited mount Ida in the island of Crete, where they are said to have nourished the infant Jupiter, drowning his cries by the tinkling of their cymbals, so that his father Saturn who had determined to devour all his male offspring, might not hear them. The account of them occurs under different names of Curetes, Galli, and Idæ Dactyli, as well as Corybantes.

Catullus, in his poem called Atys, gives a beautiful description of them; representing them as mad men. Accordingly Maximus Tyrius says, that those possessed with the spirit of Corybantes, as soon as they heard the sound of a flute, were seized with an enthusiasm, and lost the use of their reason. And hence the Greeks use the words *κορυβαντες* to *corybantize*, to signify a person’s being transported, or possessed with a devil. See ENTHUSIASM.

Some say that the Corybantes were all eunuchs; and that it is on this account Catullus, in his Atys, always uses feminine epithets and relatives in speaking of them. 

Diodorus Siculus remarks, that Corybas, son of Jason and Cybele, passing into Phrygia with his uncle Dardanus, there instituted the worship of the mother of the gods, and gave his own name to the priest. Strabo relates it as the opinion of some, that the Corybantes were children of Jupiter and Calliope, and the same with the Cabiri. Others say, the word had its origin from this, that the Corybantes always walked dancing (if the expression may be allowed) or tossing the head, *κορυβαντες* βαινοειν;
COUNTERTUNE, in Music, is when fugues proceed contrary to one another.

COUNTERPOINT, contrapunctum, Lat. Contrapunto, Ital. in Music, is nearly synonymous with composition; with this difference, according to Rousseau, that “the invention of melody, or a single part, may be called composition; but that counterpoint implies the harmony of two or more parts.” To this difference we cannot subscribe: as it extends the title of composer to the inventor or compiler of a high part; an honourable title, due only to the masters of harmony, whence almost all good melody is derived. There is as much difference between the arranging single sounds into a tune, and composing a piece of music in many parts, as between writing a ballad and an epic poem. The subject of a ballad, indeed, may be made the foundation of a poem of great length, and that of a naked melody may be the theme of composition in many parts; but if the author of the melody is incapable of clothing it with harmony, he is no composer.

Of the natural production of harmony, or chords, from the vibrations of a single string, or sounding body, we have given an account in the article BASSE fundamentale. This is the only natural harmony with which we are acquainted; the rest is metaphorical, and allusive to practical music; and even this fundamental chord cannot be called a work of nature, for the materials by the medium of which it arrives at our ears are artificial; nature neither casts a bell, nor twists a string. The Mercurian lyre, which he afterwards constructed in the form of a tortoise, and strung if with the dried sinews of dead animals.”

When persons unacquainted with the refinements of the art, talk of natural music, they only mean such strains as are common, and which, by frequent hearing, they think they understand; but, literally, there is no natural music; the whole is a work of art.

The title of counterpoint, given to composition, or music in parts, preceded not only the invention of clefs, but, of lines and spaces. In many missals we have seen the infancy of simultaneous sounds in points, or marks over particular words and syllables, like accents; and, after wards, as the monks and priests began to feel a pleasure in the consonance of a 4th, a 5th, or an 8th, a second point or dot was placed over the first. These were not in the beginning regulated by lines, but by their greater or less degree of elevation and distance from each other. After some time, we found a line drawn through such dots or points as were on its level; then two lines, one red and the other yellow, to denote the tenor and bass.

After this, two or three centuries elapsed before a third and fourth line were added, at which the Roman missals have remained ever since. This is the short history and origin of the term counterpoint.

We take it for granted that whoever thinks of composing knows how to perform with his voice, or some instrument, the productions of others —knows a common chord, and something of thorough base—and if the instrument on which he plays is the piano forte or harp, so much the better.

As a foundation for the whole art of musical composition, we shall give the common chord of C natural in all its stages: after this, the table of intervals should be studied, in order to know in half notes or semitones, the distance between sound and sound. See INTERVAL. Then the 8 notes in the diatonic scale, which form a key in simple melody, making C the representative of all major keys, and A of the minor. We at first give the e minor key descending, to avoid accidental sharps, of which we shall speak hereafter. See the terms MAJOR, MINOR, and KEY.
Concords are the unison 8th, 5th, 4th in a common chord, and with a 6th. The only intervals that can rise and fall together, gradually, are the 3ds, and 6ths, and of these the union and progress are unlimited. An entire movement may be composed in any notes of the timetable, put into measure, consisting of nothing but a series of 3ds, or 6ths. See Plate VI, No. 3.

For the fundamental base to every sound of the scales major and minor, ascending and descending. See Plate VI, No. 5.

See in Plate XII an ascending and descending scale with two fundamental bases to each note, and another with three fundamental bases.

Ascending and descending scales in the base, with a treble, or discant. See Plate VII.

A supposed base to the scale ascending and descending, major and minor. Plate VII, III.

The unison 8th, 5th, and 4th, are called perfect concords, as they admit of no change, without becoming discords. No two of these are allowed to rise or fall together, gradually, or by a leap.

For a base, or 3d part, to a series of 3ds and 6ths. See Plate VII, No. 2.

Supposed base to the scales. ib. 3.

The fundamental, or principal base, is that which carries a common chord, as a 3rd 5th or 8th, or two of the three. Or all three together.

The three fundamental bases to every key, are the key-notes, the 5th above and 5th below, or 4th and 5th of every key; in the common chords of which bases the student may pick out a regular series of sounds.

See THOROUGH-base, BASSO PRINCIPALE, and Plate II.

Out of the scale of each key, he should try to form melodies in various measures; at first, totally without accompaniment, and then from the fundamental and supposed bases to the scales, Plate VII, III, try to discover what base will suit the passages in his melodies.

Thus far no notice has been taken of discords, except sometimes adding the 7th to the common chord, which is the only addition to it, that would not rob the base of the title of fundamental.

Discords are the 2d sharp, 4th or tritonous, the 7th and the 9th. But every concord may be made a discord by the note above it: as the 3d by the 4th, the 4th by the 5th, the 5th by the 6th, the 6th by the 7th; and indeed the 8th by the 9th.

Every interval that exceeds the bounds of the octave, is termed a compound interval, or octave of some simple interval: as the 9th is a recurrence of the 2d, the 10th of the 3d, the 11th of the 4th, the 12th of the 5th, and the 15th of the octave.

The fifth is composed of two thirds, a major and a minor, or a minor and a major; the 3d of two seconds; the major 2d of two semitones.

Before we enter on the preparation and resolution of discords, it may be necessary to characterize all the natural intervals within the limits of the octave.

The succession of unisons (though they cannot be called intervals) is prohibited in counterpoint, unless when two treble parts sing or play throughout in unison, with design.

The second is a discord, and prepared and resolved in he base: it is accompanied by the \( 6_4 \).

The 3d, an imperfect concord, is wanted in the accompaniment of every other concord and discord, except the 2d and 6_4.

The 4th is a perfect concord, when used in the common chord between the 5th and 8th, as it is joined to the 6th and 8th; but with the 5th or the 2d it is a discord. The 4th is accompanied by the \( 8_5 \).

The 5th is a perfect concord, but made a discord when united with the 6th. The complete chord is \( 8_5 3 \).

The 6th is an imperfect concord, often doubled and accompanied by the 3d.

The 7th is a discord joined to the common chord, or \( 8_5 3 \).

The 8th is a perfect concord; and wanted in all chords, except those of the 2d or 9th.

The 9th is a discord, and octave of the 2d, but differently accompanied \( 3 \). See Plate V, an engraving of a thorough base. Card. [Editorial note: the word Card is in the original copy]
There are in melody three progressions, or ways of moving from sound to sound:

- **Moto retto**, when two parts rise or fall gradually together.
- **Moto obliquo**, oblique motion; one part moving, and the other remaining stationary.
- **Moto contrario**, contrary motion; one part rising and the other falling.

*Plain counterpoint* is note against note, in sounds of equal duration, and without discords.

*Figurative, or florid counterpoint* requires measure, in notes of different lengths.

*Relative sounds* are such as belong to two or more chords; as C is related to F and A, as G is to C and E, being essential sounds to the chords of each. See Plate XII.

The succession of two 5ths rising or falling together, is prohibited from the want of relation; as there is no sound in common with the chords of G and A, or G and F. In the construction of a grammatical sentence every word has its relative, and the breach of the rule against 5ths in succession, is equally offensive to a cultivated ear as a false concord to the mind in grammar. Two unisons, or two octaves in succession, in full harmony, are prohibited from their want of variety; but these can not only be borne, but, when admitted with design, have a good effect. The ancients seem to have had no other simultaneous harmony or music in parts, than what was produced by a succession of multiplied unisons and octaves; nor, except in Europe, is counterpoint cultivated, or does it afford pleasure to the natives of three parts of the globe.

It is become necessary, in modern compositions, that the melody should be *phrased*; that is, divided into periods of an equal number of bars; as 2, 4, 8, 12, or 16. As verse is regulated by feet and syllables, melody is lame and ungraceful if its periods consist of an unequal number of bars, as of 5, 7, 9, 15, or 17. A verse with a syllable too much or too little, does not hobble more than such imperfect measures in music. A period of this kind in melody, is called by the French *phrase manquée*. Neither Fouché, nor any of the theorists of the last century, gave their examples in an equal number of bars, upon *principle*. But all masters and writers of elementary treatises on *counterpoint*, should now enforce it as a precept, that melody should be regularly phrased by all young students in composition, who aspire at grace. Every movement which derives its name from a dance, such as the minuet, rigadon, gavot, saraband, &c. has its strains regulated in this manner. In serious dramatic airs, in sudden gusts of passion or surprise, or in comic scenes, to produce some grotesque or humorous effect, the phrases are frequently broken with success; but never, where either grace or energy is required, should a young contrapuntist be inattentive to the phraseology of his melodies. See RHYTHM.

And not only the number of bars in every strain or period should be regular, but the accents regularly placed in each bar. This precept concerns the performers as well as composers. See ACCENT.

The preparation and resolution of discords require much study, experience, and reflection. Dr. Pepusch has given in 2, 3, and 4 parts, the shortest and most clear rules and examples for this important article in counterpoint, that are to be found in any elementary work.

We have not room on our plates for the notation of his examples, but shall give here a short specimen of each discord, and refer to his excellent little work, entitled "A Treatise on Harmony," for the rest.

Concerning discords, three circumstances are to be considered: as on what part of a bar they are to be *prepared*; when *struck*; and when *resolved*.

In common time of two notes in a bar, the 1st is accented and the 2d unaccented. And, in common time of four notes in a bar, the 1st and 3d are accented, the 2d and 4th notes unaccented. In triple time...
of three minims, three crotchets, or three quavers in a bar, the first note only is accented, and the other two are unaccented. Of the three circumstances, therefore, relative to discords, it is to be remembered, that the preparation is on the unaccented part of a bar; the discord is struck on the accented part of the bar; the discord is struck on the accented part, and resolved on the unaccented part of a bar. See examples of all discords in notation of 1, 2, 3, and 4 parts, Plate XIV, XV, XVI.

There are still other discords that are unnoticed in the figuring, called passing notes. See ACCENT. This subject has been well treated by Dr. Pepusch, and the other able theorists on whom we lean. But as an article in a dictionary is not a treatise, we must compress our examples into as short a compass as necessity requires. See Plate XVI. See PASSING-notes, and DISSONANZA aila efugita.

Not only the succession of 5ths and 8ths is prohibited in counterpoint, but the suspensions of them. As Caesar's wife was not only to be chaste, but unsuspected. See examples of this harmonical vice, and of the prohibitions. Plate IV.

P. Martini has given a general rule for avoiding the suspicion of 5ths and 8ths, by not moving from any consonance to a perfect concord by similar motion: as from a 3d to the 5th--from the 8th to a 5th, or from a 5th to a 3d or 8th, or from a 6th to an 8th, &c.

The air, song, sonata, or whatever the movement may be, which a student in counterpoint attempts to compose, should begin and end by some sound or sounds of the common chord of the key-note. In a major key, an accidental sharp becomes the 7th of a new key. So that if the piece begin in C, the first additional sharp that occurs is usually F♯, which leads to G, the half-note above such sharp; so C♯ leads to the key of D minor; G♯ to A, and D♯ to E minor. In minor keys the 7th is so constantly sharp, as hardly to be called accidental; as in the key of 5A, G the 7th requires an accidental sharp whenever it is used ascending.

An accidental flat in any of the parts of a major key be comes the 4th of a new key. As in F, which has only one flat at the clef, and a flat at E implies the key of B♭, which has two flats at the clef, and in the key of D minor, which has but one flat at the clef, a flat occurring at E, implies the key of G minor, which has two flats, &c. See MODULATION and THOROUGH-base, or ACCOMPANIMENT without figures. See thorough-base chords, and rules for playing without figures, Music, Plate V.

A regular discord, essential to the harmony, is the suspension or anticipation of some sound of the preceding chord by which it is prepared. Its resolution is the descending one degree on a concord to the base, supposing it to be stationary. The 2d makes the unison a discord. It is prepared and resolved in the base, which descending one degree, renders it a 3d. See examples of the preparation and resolution of all the regular discords; Music, Plate XIV.

As the 3ds and 6ths of any key are the only concords that can move up and down in regular succession, the student in exercising his ear in different measures in the two keys of C and A natural, must remember that a close cannot be made in A minor, without an accidental G♯, expressed or understood. See successions of 3ds and 6ths in Music, Plate VI.

Till about the middle of the last century, F the 5th, as well as G, the 7th of A minor, used to be made sharp in ascending. But Tartini found that F♯ in that key destroyed its minor effect; he rather preferred the leap of an extreme sharp 2d from F natural to G♯, than destroy the natural pathos of the minor key. But as some writers on music, and composers, still adhere to the old scale of A minor, ascending to the octave through the sharp 6th as well as 7th, we shall make F both natural and sharp, in the ascending scale of A minor, to give the young composer his choice between them.

The fundamental or principal base of these scales being impressed in the memory, and a treble drawn from the chords given to the scales in the base, the young harmonist should try to find a base to the scales in three parts; the treble moving by 3ds. See Plate VII. Two fundamental bases to each note; three fundamental bases to each note; and the continued or supposed bases to the scales.

Having given the several treble rules with their accompaniments; described the several intervals; the preparation and resolution of discords; it is time to recommend to the young student in counterpoint, the rule which has been formed for accompanying the scale ascending and descending, in the base, major and minor, which seems to have been invented and first brought into use in France, under the title of REGLE DE L'OCTAVE; (which see :) but by whom
is not settled. Rousseau, in the article, says, “this harmonic formula was first published in 1700 by the Sieur Delaire.” But in treating of accompaniment, he assigns it to Campion. If it could be ascertained that either of these musicians was author of the rule, we should have no doubt of its being the latter. In 1700, no such harmony as that of the REGLE DE L'OCTAVE was given to the scale; nor, till about the middle of the last century, was it so accompanied. But of late years, almost all harmony seems built on the chords given to the scale in this rule; which is not only useful in accompanying a base without figures, but in harmonizing the scale in four parts by young composers, and in extracting melody from its chords. A specific harmony being given to each note of the scale, ascending and descending in every key; if the young composer, or performer, is certain what key he is in, the knowing this rule alike in all keys, will remove every doubt as to the harmony of each base which he wishes to use or accompany. We shall therefore, in the plates, give this rule in a figured base, and write the chords in notation with their full complement, which may be drawn out into a score, making the upper part the first treble, the middle note of the chord the second treble, and the lowest note the tenor.

For fundamental base, and supposed base, to the treble scale, see Music, Plate VI, and VII. And for a division base to the treble scale major and minor, ascending and descending, see Music, Plate VIII.

The young musician must remember, that this rule is only to be rigidly followed, when the base rises or falls gradually. In wider intervals, as in leaps from the key note to the 3d, 4th, 5th, or 6th, common chords will do, in writing or playing, unless some discord is prepared for the second sound of such intervals, such as a 4th, 7th, or 9th, which never occur from the key note to the 3d, 4th, 5th, or 6th, common chords will do, in writing or playing, unless some discord is prepared for the second sound of such intervals, such as a 4th, 7th, or 9th, which never occur in the regle de l'octave. See Music, Plate V.

As florid, or figurative countepoint, includes every species of composition, such as imitations, fugues, canons, double counterpoint, &c. though these will be found fully described and discussed, severally, in their places, yet they must be spoken to here, in order; as constituent and important parts of the present article.

Imitation is an irregular fugue. When a passage led off by any one of the several parts of a composition is repeated by another in the same kind of notes in any part of the scale, it is called imitation, to distinguish it from a regular answer to a subject of fugue.

Fugue requires an answer in the unison, octave, 5th, or 4th of the key, in which the subject is led off, to be accounted regular: as in those keys alone, the intervals will be the same. This rule will be illustrated with examples in notes, in the music plates.

Canon, is a perpetual fugue; as the part which leads off the subject gives law to the rest, from the beginning to the end of the movement: thence canon, from μακος, Gr. regula, norma, a rule or law. In Bird's well known canon of Non nobis Domine, the first treble sings in the key of G major, the second in D, the fourth below, and the third, or base, in the double octave, or 15th below the first treble; but always in the same intervals.

The contrivances and difficulties of this species of composition, with which ingenious men have loaded it in pure pedantry, and ambition to be thought more cunning artists than their neighbours, have lost that reverence which used to be paid them, nor do we remember its being mentioned in the public. Yet, as canons are still respected by masters, who know the difficulty of their construction, the young contrapunctist, at his leisure hours, as an intellectual employment, should try his strength in exercises of this kind. Though out of the infinite number of canons known in our own country, and composed by natives, the only two that continue in favour, and general use, may be said to be Non nobis Domine, of Bird, and “Let's drink and let's sing together,” by Dr. William Hayes of Oxford; but the favour of these, in private society, is nearly equal to that of the two national songs, “God save Great George our king!” and “Rule Britannia,” in public.

Examples of fugue and canon are given in notation in the music, Plates IX, X, and XI.

Double counterpoint is not so easy to describe as fugue and canon. There is no chapter on the subject in Pepusch, nor do we remember its being mentioned in his treatise. Grassineau is silent on the subject, and Brossard just mentions, Fugu di contrappunto doppio, without explanation. In later writers, however, it makes a long article, of no very easy comprehension. The shortest and most intelligible explanation which we can give of this artful contrivance is: “a composition written in such a manner, as
that the several parts can be inverted, and reciprocally serve as accompaniments to each other, and the harmony still be good."

Rousseau does not mention this species of counterpoint; but in the Supplement to the first edition of the Encyclopédie, there is a long, though an obscure article, on double counterpoint, but illustrated with no good examples. It is mentioned in Walther, from a work of Mattheson, but unnoticed in the plates. The invention, however, is not new, for Pedro Cerone, della Musica, published in Spanish at Naples, 1613, in folio, contains a long chapter on the subject, lib. xiii, p. 734, which he thus introduces: "To the end that nothing in counterpoint may remain unexplained, we shall shew in what an artificial and wonderful manner, and with what good effect, the Italians can treat a simple melody (canto llano), in contrapunto doppio (contrapunto doblados), which is nothing more than changing the parts, making the highest the lowest, and lowest the highest, in various ways; by which a new me lody and a new harmony are pro duced, and effects totally different from those of the first performance. And this may be effected in three different ways; in the 8th, the 10th, and 11th."

This is a very clear and accurate definition, written more than 100 years before Mattheson’s book was published. For the full title of Cerone’s work, which is extremely scarce, see his biographical article.

Pedro Cerone de Bergamo has calculated the mutations of intervals by inversion, and his explanation is so ample and satisfactory, that there seems little occasion to have recourse to more modern authors for further information on the subject of double counterpoint. Yet, lest the student should still be perplexed with doubts and difficulties, and perhaps, not perfectly convinced of the utility of this con trivance, we shall give him the good Padre Martini’s opinion and precepts on the subject, who was always the zealous friend and patron of studious youth.

Padre Martini tells us, that among all the most profound and useful contrivances in the musical art, is that of double counterpoint, concerning which Padre Camillo Angleria, in his “Regole di Contrappunto,” cap. xxv. p. 94, writes thus:

"After the student is able to write with facility in good harmony for four voices, arranging the several parts agree able to the subject which he has chosen, and wishes to proceed to the most sublime inventions of so noble a profession, he must begin to study double counterpoint, and all its subtilities; changing the grave to the acute, and the acute to the grave, with elegance, grace, and good harmony."

The reader will see on our music plates his first examples of double counterpoint to the scale in the octave, which he pursues in 2, 3, 4, and 5 parts, with great abilities. These examples in notation are followed by instructions for the different species of this kind of composition, with lists of the concords and discords to be avoided; informing the student that by double counterpoint is meant an ingenious and artful composition in various kinds of concords and discords, regularly prepared and resolved, particularly in the octave, which has been long practised by masters of the highest class, inverting the parts an 8th above or below its first situation, at which pitch the in version is most clear and obvious, avoiding the use of the 5th, which by inversion becomes a 4th. In this most simple species of double counterpoint the movement or pe riod should begin and end in the octave; as the following intervals or numbers will shew.

1. 2. 3. 4. 5. 6. 7. 8.
8. 7. 6. 5. 4. 3. 2. 1.

Double counterpoint in the 10th has not been so fre quently used by renowned old masters as in the octave, whether from being more difficult and less pleasing, we will not determine; it is however praticable under the following restrictions: two-thirds or two-tenths cannot succeed, each other ascending or descending diatonically, as they involve the composer in two 8ths, or two unisons. In like manner two 6ths are prohibited, which by inversion would become two 5ths; no more can two 4ths or two 7ths be used in ligatures or binding notes, as the fol lowing numbers will manifest:

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.
10. 9. 8. 7. 6. 5. 4. 3. 2. 1.

Rules for double counterpoint in the 12th. Counterpoint in the 12th, is a composition in which one, two, or more parts may be transposed a 12th above or be low, in which the composer may use all the concords and discords, except the 7th re-
solved on the 6th, which has not a good effect. If the 7th is used it ought to be re solved on the 5th, the base rising one note. See Disappointed CADENCE.) It is to be remembered that the part or parts transposed a 12th should begin and end in the 5th, the rest remain in their first situation. This kind of double counterpoint is seldom used on account of its difficulty but it not only produces pleasing harmony, but allows of modulation. In this species of counterpoint, the following is the inversion of the intervals:

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This excellent theorist (Padre Martini,) has traced double counterpoint up to the time of Zarlino, who says (Instit. Harmon. p. 3, cap. 56.) “Ill contrapunto doppio non è altro che una composizione fatta ingeniosamente, che si può cantare a più modi, mutando, le sue parti; di maniera, che replicata si oda diverso concerto da quello, che nelle stesse premieramente si udìa.” And this passage P. Martini introduces by saying, “of all the most erudite and useful contrivances in music, there can be no doubt but that double counterpoint is of the first importance.” Many are the modes in which masters have reversed the parts upon this principle; but for more clearness and certainty, we shall reduce them to five species. The first will be that of writing or composing a part upon a fragment, real or imaginary, of canto fermo, which may be transposed in various ways above or below the text; as in the octaves, 5th, 3d, or 6th. The second species is that in which the upper part, as well as the lower, may be transposed in various ways. The third species is when the parts may be transposed in contrary motion (moto contrario). In the fourth species the parts are invertible, as in the second and third species; but require a free base to complete the harmony. The fifth species resembles imitation in fugues, by some irregularities of characters or intervals. How useful and necessary double counterpoint is to composers, seems most apparent in writing fugues of all kinds, canons, madrigals, and other compositions, which cannot be rendered complete, with out a perfect knowledge of double counterpoint. And if, at present, the art of composition is consigned to genius alone, without science, it is owing to the ignorance or neglect of this most useful contrivance. Indeed a fugue is little more than a series of passages in double counterpoint; and Haydn and Mozart seldom, in their symphonies, lose an opportunity of availing themselves of their knowledge in the art of inversion.

The examples of double counterpoint in notation, we shall give from the Regole di Contrappunto, Rules of Counterpoint, by Sala, the last writer and the best on the subject, in Italy, of whom we shall have frequent occasion to speak hereafter.

Modulation, another very important part of counter point, will be amply treated, generally, in its proper place. But here we shall only point out the natural and usual modulation in any given key, in the course of a movement of considerable length: For example; if the key is C natural, the first modulation or change of key, is made by an F♯, which leads to G major, the 5th of C. The second modulation is usually into D minor, by an accidental C♯ or B flat. Then into A minor, by a G♯; and if the movement is long, into E minor, by a D♯. After this, the subject is generally resumed in the original key. Then a modulation into F major, by an accidental B♭; which when annulled by a ♩, restores the key of C, and leads to a conclusion in the same kind of close, as at the end of the first strain in G ♩.

In A natural, the representative of all minor keys, the most agreeable modulation is first into C major, the minor 3d above. Then into D minor, or F major by a C♯ or B♭. From D or F to C by a ♩ as a 6th to D or 3d to G, is a pleasing modulation into C. Then by a ♩ in one of the parts, the original key of A minor is restored. In old music, the first modulation from A natural, was into its 5th of E natural by a D♯; but this so seldom happens in modern music, that the modulation into E. seems unpleasant and old fashioned.

The fundamental and supposed bases to chromatic scales, are given in the plate referred to in the article MODERN CHROMATIC; which see, Plate XVI. The term STRAIN, in Music, is used for a whole movement, and for a part of a movement, as a pleasing strain; or speaking of a movement divided into distinct parts, or portions, by double bars, each portion is numerically distinguished; as the first strain, the second strain, &c.

Variation, which, for a long time, was only multiplying the notes of an air, without embellishing it,
or improving the composition, and with which the musical world was tired; the fertility, taste, and resources of Haydn and Mozart have rendered interesting and delightful.

Time, musical measures, accents, and phraseology, upon which grace and energy solely depend, must be studied by a young composer, or contrapuntist, as sedulously as melody and harmony. See their distinction and rules under their several heads.

Some knowledge of the ecclesiastical modes of the Romish church seems necessary to an English composer, to enable him to ascertain the answer to subjects of regular fugue. All the Roman catholic writers on music, recommend this method. See ECCLESISTICAL MDES, AUTHENTIC, and PLGAL. Dr. Pepusch, a Lutheran, prefers SOLMIZATION. Both methods are doubtless good; but the being careful that the answer is made precisely in the same intervals as the subject, seems to in clude a more extensive modulation and general use of keys. Pepusch confined all fugues, and almost all melody to the three hexachords: DURUM, NATURAL, and MOLLE; which see: and the ecclesiastical modes exclude all trans posed keys, as the writers on canto fermo call all keys with more than one sharp or one flat, admitting only such as belong to the 8 or 12 modes. See MODES of the Ancient Greek Music, and ECCLESISTICAL MDES.

Thus far we have ventured to advance in the rules of counterpoint from our own studies and experience; but the authors of highest authority, whom we can recommend to musical students to supply our deficiencies, either from want of knowledge or want of room, are Fouchs, Dr. Pepusch, Padre Martini, and Sala; whose works we shall severally characterize in the biographical articles, which we shall assign to these able and safe counsellors. We shall here only give the titles of their several works, and specify the peculiar manner adopted by each, in treating the subject.

The Treatise on Composition by Fouchs, first maestro di capella to the emperor Charles VI, was originally written in Latin, and published at Vienna in 1725, under the following title, “Gradus ad Pernassum, sive Manuductio ad Composit. Musicæ Regularem.” The author begins with harmonies and the ratio of sounds. The practical instructions are given in dialogue, between a master and scholar. All the examples are written on canto fermo.

This work was translated into German, in 1742, by Lorenz Mizlern and published at Leipsig, 4to. In 1761, an Italian translation in folio, appeared at Carpi, by the ecclesiastic Manfredi, recommended in strong terms to lovers of music by the celebrated Niccola Piccini, in a letter to the translator. And, in 1767, a translation into English of the practical part of the work, without the harmonics, by Hoeck, was published by Welcker, in folio: all these several editions are now become scarce.

Dr. Pepusch’s excellent little Treatise on Harmony, containing the chief rules for composing in two, three, and four parts, was published in London, 1731. In this work the precepts are short, clear, and well arranged. The author goes through the concords and discords, shewing the use of each, separately. His rules for fugue and canon are admirable.

In the introduction, his definitions are short and clear, except modulation, which, at present, is confined to change of key; but he talks of modulating in one key. In our old authors, indeed, to modulate was simply to sing, p. iv, for motions, read progressions from one part of the scale to another.

He rightly confines plain counterpoint to music with out discords, and moving note for note, but p. 8, where, he says, that the skip in melody to a tritonus, or 5♭, is absolutely forbidden, he must not be rigidly followed, as some of the most beautiful effects are produced by those intervals.

We do not quite understand his going from the unison to the 3d minor, preferably to the third major. His recommendation of doubling the 3d or the 6th in accompanying the 6th preferably to the 8th, is good in slow movements; but in quick, a small hand would be embarrassed by frequent octaves: And in quick movements, a 3d is under the hand. Ex. 37. The avoiding 5ths, in a succession of common chords to fundamental bases, Ex. 39. by contrary motion deserves retention. Ex. 41. G. 44. Fundamental and supposed bases, by turns, is always pleasing.

P. 25. The venerable doctor is, however, a little mistaken in his definition of canto fermo, making it synonimous with plain counterpoint. Canto fermo is a chant or single part, and has no reference to counter-
point or chords in the Romish church, where it is never sung, as with us, in four parts.

Neither our ears nor our eyes have been quite reconciled to "the 7th prepared and resolved in the base." p. 37. Nor the jumping up to the 7th, which we were before told should be prepared and resolved in the treble. This harmony seems never to have been much in use, and the examples from No. 84 to 91, are little better than jargon. About the middle of the last century, the frequent use of the \( \frac{7}{4} \), sometimes for 2 or 3 bars together, made us stare; but we were soon to it by the German symphonists of the Manheim school. A new combination has since been introduced, we believe, for the first time, by Krumpoltz: \( \frac{7}{6} \) in a concerto composed for the harp of that exquisite performer his scholar and wife Mad. Krumpoltz; it was soon sanctioned by Haydn and Mozart, who have given it currency; and now, though it surprized at first, the public ear is reconciled to it, and minor contrapuntists will not let it be forgotten. But the unprepared minor 7th resolved in the 8th has not met with favour from the servum pecus.

Dr. Pepusch's chapter on passing notes, is very clear and useful, and will remove many fears of young harmonists. His discords by supposition are only appoggiaturas, and need no notice in figuring a base. Rameau's chords by supposition are different things. The comparing the several kinds of cadences to breathing places as it were in music, to punctuation or stops in literature, is just and happy. Pret. p. iv.

Modulation is so much extended, and indeed now be come so unlimited, that Dr. Pepusch's sober, relative, and ecclesiastical modulation, which by having so long studied the compositions of celebrated and curious old contrapuntists, narrowed his ideas so much, that he regarded even Handel as an innovator. So that his chap. vii, p. 38, will carry a student but a little way on the mystic and difficult road of modulation.

Padre Martini's instructions are excellent, as far as they go; but the compositions which he gives in illustration being all rigidly formed on the ecclesiastical modes and canto fermo, few of them are applicable to secular music of the present times. We shall, however, give his authority for some of the rules laid down in this article (counterpoint,) and occasionally quote him.

"Regole del Contrappunto pratico di Nicola Sala Napolitano, Primo Maestro nel reale Conservatorio della Pietà de Torchini, Napoli," 1794. This is the last capital work published in Italy, on the subject of composition. the author, who died in 1795, had been 40 years principal master of the conservatorio of la Pietà, and was the scholar and successor of Durante. During the long series of years in which he had been instructing the musical students in that celebrated seminary, he formed this regular system of counterpoint, which is printed at the royal press in two huge folio volumes, as large as De Lisle's maps; admirably engraved, and containing a regular series of well digested examples of composition of the most clear, neat, and correct kind, that have ever yet been published in any elementary musical work since the invention of counterpoint.

These four theorists are all excellent harmonists: and if the student has any genius or spirit of invention, he can have no safer guides in the flights he may take.

Counterpoint forms a long and elaborate article in the Encyclopédie Méthodique. The subject has been taken up ab ovo, and its history and progress traced from the principal writers of the last century, adding, however, little new information from their own researches. Extracts are given from friends and foes to the art. Imitations, fugues, canons, and learned modulation, are called gothic and barbarous inventions by some, and sublime productions by others. We have the sarcasms of Rousseau, and abuse of Eximeno, against all learning and contrivance in musical compositions; and Padre Martini and German and English writers in their favour. Rameau, the French Coryphæus of the last century, is not even allowed a repiego part in this. The usual rules and exceptions are, however, at length given.

In speaking of Alessandro Scarlatti, and Durante, and their scholars, M. Ginguené has done justice to the Neapolitan school of counterpoint, though he afterwards invalidates his praise, by quoting the censures of the superficial Erimeno, who has nothing but belle parole with which to defend his prejudices and erroneous opinions. He is a far better master of the Italian language, than the art of music. How men
who have read, and meditated on the subject, as much as Messrs. Ginguené and Framerie have done, could become
the dupes of his eloquence and false dramatic style is all grace, elegance, and passion, have produced music for the church, of the most grave, solemn, learned and sublime kind, which signor Eximeno qualifies with the epithets of gothic and barbarous! M. Ginguené has detected him in his chronology, and proved that during the reign of the Goths in Italy, so far from fugues, canons, and pedantic complication having their rise, no attempts at even plain counterpoint had been made. The work of Eximeno was unnoticed in Italy, except by foreigners who had subscribed to it, as they are called upon by artists and projectors to do to every thing, was, we believe, never read by three masters among the natives, and has long been as much forgotten as if it had never been written. However, among evocations, and the phantasmagoria of the Illuminati, signor Eximeno has had a momentary resuscitation in France.

Among the general rules for counterpoint in the New Encyclopédie, a useful precept is given to the young harmonist, to avoid, in vocal compositions, every thing that offends a cultivated ear, or that is too difficult to be performed unless purposely intended to display a peculiar talent, capable of executing difficulties out of the reach of common abilities.

No musical article is more amply treated in that immense work than counterpoint. After a sketch of its history, taken chiefly from one of our English musical historians, eleven rules are given for counterpoint in general: 1st. To avoid the tritonus or sharp 4th in melody, unless as a sharp 7th it mounts to the octave.

2. The leap of a major 6th is prohibited in the treble, we know not why, as we could give several agreeable in stances of its use in the melody of Italy, as well as that of our own country.

3. The major or sharp 7th, and all intervals in general, that are difficult of intonation.

4 major 3ds, which, however, to a binding note in the base, frequently happens, as in the following passage.

5. False relation, as C♯ against C♮ or B♭ against B♮, But Eman. Bach, in appoggiaturas, has violated that rule.

6. No composition should begin on the 3d in the treble. A rule which has been abandoned more than a hundred years, as “Sweet Bird,” by Handel, Voi Aonanti, by Giardini, and “Would you Taste the Noontide Air,” by Arne, would shew.

7. It is necessary always to pass from a perfect to an im perfect concord, in contrary or oblique motion.

8. Neither the 8th nor the 5th should be used in two parts, in the middle of a movement, much less the unison, as they afford no variety in the harmony.

9. All discords should be prepared and resolved, except the 7th, which is used in melody, as well as harmony, without restriction; as well as its derivatives, the 2d and 4th.

10. In counterpoint of many parts, if any of the intervals are doubled, the 8th should be preferred to the 5th, the 5th to the 3d; which last, at a close, would occasion two reasoning, we know not particularly after seeing the kind octaves. But we think that the 3d, whether major or minor, has the most pleasing effect, when doubled, of any of the intervals. Even at a close, in many parts, one of the sharp 3ds may fall on the 5th of the base.

11. The distance between the first treble and tenor, in four parts, should never be more than a 10th.

Many of these rules are become obsolete, such as the four first, the 6th, 7th, 8th, and 10th.

But of Padre Martini’s ten rules of counterpoint, eight remain, even in secular music.

Though almost all these rules have been already given in the course of this article, we shall insert them here in regular order.

I. The first rule in counterpoint is to begin and end in perfect harmony with the sounds that compose the common chord of the keynote, and their compounds or octaves.

II. Prohibits the succession of two unisons, two octaves, or two fifths, in similar motion.

III. Contains prohibitions in music, a capella, which have been long abolished in secular music, such as the avoiding the leap of a sharp 4th, or flat 5th, in melody; the major 6th, minor 7th, a dimin-
ished or false octave, must always be difficult to execute with the voice, and destestable to the ear.

IV. To remember that major intervals naturally ascend, and minor descend; of the first kind are the 3d, 6th, and 7th major; and of the latter, the flat 5th and flat 7th.

V. False relations prohibited.

VI. Mi against Fa, or the tritonus \( B \). This prohibition, already given in the IIId rule, has been taken off long since, in secular music; where the most expressive and impassioned passages have been produced by this interdicted interval.

VII. That the several parts should be as compact and near each other as possible.

VIII. The passage from any consonance to a perfect concord by regular motion, is prohibited. See in Pl. IV. Martini’s examples, in which suspicions of 5ths and 8ths appear.

IX. That simple counterpoint, or note against note, ought to be composed of concords only, and of notes of equal length.

X. In florid or figurative counterpoint, in which notes of different duration are used, there are two kinds of dis cords, the one by gradation, or passing notes; (which see,) the other by such discords as are regularly prepared and resolved (which terms see in their places).

A short and intelligible rule for transient modulation from note to note in any given key, would be to say, that an accidental\( \sharp \) or \( \flat \) in any of the parts, changes the modulation to a new key; the sharp, in sharp keys, and the natural in keys with flats, lead to the half note above such sharp or natural. The accidental\( \flat \) in a major key with flats, and a natural in keys with sharps, lead to the 4th below in major keys; and in minor keys to the minor 6th below; as in C\( \flat \) a flat to B implies the key of F major or minor.

Of Padre Martini’s ten rules of counterpoint the third and sixth rules may be spared. His collection of passages that involve a suspicion of 5ths and 8ths contains useful beacons.

Dr. Pepusch seems best to have explained what is meant by passing-notes, which imply such sounds in the melody of any part, as are not in the chord to the base.

Double counterpoint has been more laboured in the new 4to edition of the Encyclopédie, and has had more pages bestowed upon it than any musical article in that voluminous work. Calculations are made of the inversion of all the intervals in this artful and ingenious species of counterpoint, the most useful and pleasing perhaps in figurative harmony. But of this, Sala has given such numerous and excellent examples in his Regole del Contrappunto, that nothing more seems necessary on the subject. See an account of this admirable work in the biographical article concerning the author. However, after M. de Castillon has bestowed ten pages in the New Encyclopédie upon the theory of double counterpoint, M. Ginguene takes it up practically, and gives ten or twelve excellent examples of it in notation, from Padre Martini’s Saggio di Contrappunto, who chiefly selected them from the works of Palestrina. For the history of counterpoint, See COMPOSITION.

COUNTER-Tenor, is one of the mean or middle parts of music: so called, as being opposite to the tenor. It is likewise applied to a voice which is of a higher pitch than the tenor, but lower than the treble. See CONTRALTO.

COUNTER-Time, in Music, See CONTRE-TEMPS.

COUNTRY DANCE is of English origin, though transplanted into almost all the countries and courts of Europe. There is no established rule for the composition of tunes to this dance, because there is in music no kind of time whatever which may not be measured by the motions common in dancing; and there are few song tunes in any favour within the last century, that have not been applied to country dances. See ONTRE-dance.

Coup, Fr. a touch or stroke. In Music, coupe de langue, with flute players, is the accent given to notes by the tip of the tongue, instead of slurring them in an inarticulate manner.

Coup d’Arчет, on the violin, is a stroke of the bow.

Coup de Grace, in the French Music, the same as what the Italians call ronco per grazia.

Couper, Fr. to cut, is a term in instrumental Music, equal to sciocto and staccato, Italian, which see. It implies cutting the notes short, in opposition to tenuto and legato, Ital. and slurring, swelling, and sustaining in English. In rapid passages on the violin couper sometimes implies the letting the bow of the violin vibrate on the strings without pressure, which the Italians express by spiccato.
CRITICISM, Musical. As music may be defined the art of pleasing by the succession and combination of agreeable sounds, every hearer has a right to give way to his feeling, and be pleased or dissatisfied without knowledge, experience, or the fiat of critics; but when he has certainly no right to insist on others being pleased or dissatisfied in the same degree. We can very readily give the man who admires a different music from that with which we are pleased, provided he does not extend his hatred or contempt of our favourite music to ourselves, and imagine that on the exclusive admiration of any one style of music, and a close adherence to it, all wisdom, taste, and virtue depend.

Criticism in this art would be better taught by specimens of good composition and performance than by reasoning and speculation. But there is a certain portion of enthusiasm connected with a love of the fine arts, which bids defiance to every curb of criticism; and the poetry, painting, or music, that leaves us on the ground, and does not transport us into the regions of imagination beyond the reach of cold criticism, may be correct, but is devoid of genius and passion. There is, however, a tranquil pleasure, short of rapture, to be acquired from music, in which intellect and sensation are equally concerned; the analysis of this pleasure is, therefore, the subject of the present short essay; which, it is hoped, will explain and apologize for the critical remarks which have been made in the course of this history, on the works of great masters, and prevent their being construed into pedantry and arrogance.

Indeed, musical criticism has been so little cultivated in our country, that its first elements are hardly known. In justice to the late Mr. Avison, it must be owned, that he was the first, and almost the only writer, who attempt edit. But his judgment was warped by many prejudices. He exalted Rameau and Geminiani at the expense of Handel, and was a declared foe to modern German symphonies. There have been many treatises published on the art of musical composition and performance, but none to instruct ignorant lovers of music how to listen, or to judge or themselves. So various are musical styles, that it requires not only extensive knowledge, and long experience, but a liberal, enlarged, and candid mind, to discriminate and allow to each its due praise:

“Nullius addictus jurare in verba magistri.”

A critic should have none of the contractions and narrow partialities of such as can see but a small angle of the art; of whom there are some so bewildered in fugues and complicated contrivances, that they can receive pleasure from nothing but canonical answers, imitations, inversions, and counter-subjects; while others are equally partial to light, simple, frivolous melody, regarding every species of artificial composition as mere pedantry and jargon. A chorus of Handel and a graceful opera song should not preclude each other: each has its peculiar merit; and no one musical production can comprise the beauties of every species of composition. It is not unusual for disputants, in all the arts, to reason without principles; but this, we believe, happens more frequently in musical debates than any other. By principles, we mean the having a clear and precise idea of the constituent parts of a good composition, and of the principal excellencies of perfect execution. And it seems, as if the merit of musical productions, both as to composition and performance, might be estimated according to De Piles’ steelyard, or test of merit among painters. If a complete musical composition of different movements were analysed, it would perhaps be found to consist of some of the following ingredients: melody, harmony, modulation, invention, grandeur, fire, pathos, taste, grace, and expression; while the executive part would require neatness, accent, energy, spirit, and feeling; and, in a vocal per former, or instrumental, where the tone depends on the player, power, clearness, sweetness; brilliancy of execution in quick movements, and touching expression in slow.

But as all these qualities are seldom united in one composer or player, the piece or performer that comprises the greatest number of these excellencies, and in the most perfect degree, is entitled to pre-eminence: though the production or performer that can boast of any of these constituent qualities cannot be pronounced totally devoid of merit. In this manner, a composition, by a kind of chemical process, may be de-compounded as well as any other production of art or nature.

Prudent critics, without science, seldom venture to pronounce their opinion of a composition, decisively, till they have heard the name of the master, or
discovered the sentiments of a professor; but here the poor author is often at the mercy of prejudice, or envy. For the opinion of professors of the greatest integrity is not equally infallible concerning every species of musical merit. To judge minutely of singing, for instance, requires study and experience in that particular art. Indeed, we have long suspected some very great instrumental performers of not sufficiently feeling or respecting real good singing. Rapid passages neatly executed seem to please them in infinitely more than the finest messa di voce, or tender expression of slow notes, which the sweetest voice, the greatest art, and most exquisite sensibility, can produce. They frequently refer all excellence so much to their own performance and perfections, that the adventurous qualities of singers who imitate a hautbois, a flute, or violin, are rated higher than the colouring and refinements that are peculiar to vocal expression; which instrumental performers ought to feel, respect, and try to imitate, how ever impossible it may be to equal them: approximation would be something, when more cannot be obtained. Of composition, and the genius of particular instruments, whose opinion, but that of composers and performers, who are likewise possessed of probity and candour, can be trusted? There are, alas! but too many professors who approve of nothing which they themselves have not produced or performed. Old musicians complain of the extravagance of the young; and these again of the dryness and ineleg ance of the old.

And yet, among the various styles of composition and performance, the partial and capricious tastes of lovers of music, and the different sects into which they are divided, it seems as if the following criteria would admit of little dispute.

In church music, whether jubilation, humility, sorrow, or contrition are to be expressed, the words will enable the critic to judge; but of the degree of dignity, gravity, force, and origin li ty of the composition, few but professors can judge in detail, though all of the general effect.

In hearing dramatic music, little attention is pointed by the audience to any thing but the airs and powers of the principal singers; and yet, if the character, passion, and importance of each personage in the piece are not distinctly marked and supported; if the airs are not contrasted with each other, and the part of every singer in the same scene specifically different in measure, compass, time, and style, the composer is not a complete master of his profession.

Good singing requires a clear, sweet, even, and flexible voice, equally free from nasal and guttural defects. It is but by the tone of voice and articulation of words that a vocal performer is superior to an instrumental. If in swelling a note the voice trembles or varies its pitch, or the intonations are false, ignorance and science are equally offended; and if a perfect shake, good taste in embellishment, and a touching expression be wanting, the singer’s reputation will make no great progress among true judges. If in rapid divisions the passages are not executed with neatness and articulation; or in adagios, if light and shade, pathos, and variety of colouring and expression are wanting, the singer may have merit of certain kinds, but is still distant from perfection.

Of perfect performance on an instrument, who can judge accurately but those who know its genius and powers, defects and difficulties? What is natural and easy on one instrument, is often not only difficult but impracticable on another. Arpeggios, for instance, which are so easy on the violin and harpsichord, are almost impossible on the hautbois and flute. And the rapid iteration of notes which give the violin player such little trouble, are impracticable on the harpsichord with the same finger. Those instruments of which the tone and intonation depend on the player, as the violin, flute, hautbois, &c. are more difficult than harps and keyed instruments, where the player is neither answerable for the goodness of the tone nor truth of intonation. How ever, there are difficulties on the harpsichord of another kind, to balance the account, such as the two hands playing two different parts in dissimilar motion at once, and often three or four parts with each hand. Of a good shake, a sweet tone, and neat execution, almost every hearer can judge; but whether the music is good or bad, the passages hard or easy, too much or too little embellished by the player, science and experience can only determine.

In chamber music, such as cantatas, single songs, solos, trios, quartets, concertos, and symphonies of few parts, the composer has less exercise for reflection and intellect, and the power of pleasing in detached pieces by melody, harmony, natural modulation, and ingenuity of contrivance, with fewer re-
strains, and fewer occasions for grand and striking effects, and expression of the passions, than in a connected composition for the church or the stage. Many an agreeable lesson, solo, sonata, and concerto, has been produced by musicians who would be unable to compose a Te Deum for voices and instruments, or to interest and satisfy an audience during a single act of an opera. We never have heard of Corelli, Geminiani, or Tartini attempting vocal melody, and the music merely instrumental of the greatest vocal composers is often meagre, common, and insipid. There are limits set to the powers of every artist, and however universal his genius, life is too short for universal application.

It was formerly more easy to compose than play an adagio, which generally consisted of a few notes that were left to the taste and abilities of the performer: but as the composer seldom found his ideas fulfilled by the player, adagios are now made more chantant and interesting in themselves, and the performer is less put to the torture for embellishments.

In 1752, Quantz classed quartettos at the head of instrumental music, calling them the touchstone of an able composer; adding, that they had not yet been much in fashion. The divine Haydn, however, has since that time removed all kind of complaint on that account, having produced such quartets for number and excellence, as have never been equalled in any species of composition at any other period of time.

In composing and playing a solo, the least complicated of all music in parts, much knowledge, selection, invention, and refinement are necessary. Besides consulting the genius of the instrument and power of the performer, new, interesting, and shining passages must be invented, which will at once please and surprise the hearer, and do honour to the composer and performer. And who can judge of the originality of the composition, its fitness for the instrument, or degree of praise due to the performer, but those who have either studied composition, practised the same instrument, or heard an infinite variety of music and great performers of the same kind?

The famous question, therefore, of Fontenelle: “sonate, que veux tu?” to which all such recur as have not ears capable of vibrating to the sweetness of well modulated sounds, would never have been asked by a real lover or judge of music. But men of wit of all countries being accustomed to admiration and reverence in speaking upon subjects within their competence, forget, or hope the world forgets, that a good poet, painter, physician, or philosopher, is no more likely to be a good musician without study, practice, and good ears, than another man. But if a lover and judge of music had asked the same question as Fontenelle; the Sonata should answer: “I would have you listen with attention and delight to the ingenuity of the composition, the neatness of the execution, sweetness of the melody, and the richness of the harmony, as well as to the charms of refined tones, lengthened and polished into passion.”

There is a degree of refinement, delicacy, and invention which lovers of simple and common music can no more comprehend than the Asiatics harmony. It is only understood and felt by such as can quit the plains of simplicity, penetrate the mazes of art and contrivance, climb mountains, dive into dells, or cross the seas in search of extraneous and exotic beauties with which the monotonous melody of popular music has not yet been embellished. What judgment and good taste admire at first hearing, makes no impression on the public in general, but by dint of repetition and habit. A syllogism that is very plain to a logician, is in-comprehensible to a mind unexercised in associating and combining abstract ideas. The extra-neous, and seemingly forced and affected modulations of the German composers of the present age, is only too much for us, because we have heard too little. Novelty has been acquired, and attention excited, more by learned modulation in Germany, than by new and difficult melody in Italy. We dislike both, perhaps, only because we have heard too little. Novelty has been acquired, and attention excited, more by learned modulation in Italy, than by new and difficult melody in Italy and Germany. It is only understood and felt by such as can quit the plains of simplicity, penetrate the mazes of art and contrivance, climb mountains, dive into dells, or cross the seas in search of extraneous and exotic beauties with which the monotonous melody of popular music has not yet been embellished. What judgment and good taste admire at first hearing, makes no impression on the public in general, but by dint of repetition and habit. A syllogism that is very plain to a logician, is in-comprehensible to a mind unexercised in associating and combining abstract ideas. The extra-neous, and seemingly forced and affected modulations of the German composers of the present age, is only too much for us, because we have heard too little. Novelty has been acquired, and attention excited, more by learned modulation in Germany, than by new and difficult melody in Italy. We dislike both, perhaps, only because we have not ears capable of vibrating to the sweetness of well modulated sounds, would never have been
has a single tie; thus, see CROTCHET, and TIME-TABLE.

CROMATIC French Horns, in Music, were instruments manufactured by Charles Clagget, of Greek street, Soho, which, we are told, were capable of producing the full cromatic scale of the organ, without the aid of crooks, or the instrument undergoing any sort of change. On the 15th of April 1791, a trial of two of these instruments was made in a concert in the New Rooms at Bath, in the presence of a full company, when the performers are said to have performed their parts in several airs of Haydn’s, Giardini’s, &c. and to have modulated as far as seven flats, in perfect harmony with the violins, violoncellos, &c. every intonation being pointed, clear, quick, and in the natural tone of the instrument.

CROMORNE, Fr. in Music, a reed-stop in most of our old organs, built by father Smith, and other Germans. And we believe that the word is of German origin: as KRUMON is crooked, and the name of this stop should be written KRUMHORN. Whether it was at first intended that the tone of this stop should imitate a cornet, a shawn, or a bassoon, is not settled. Menage, in his Dict. Etym. thinks the latter; and the tone certainly resembles a bass soon more than any other instrument.

CROOKS, are short tubes of brass of different lengths, adapted to fit into the upper end of the tubes of French horns, trumpets, and trombones, and into their mouth pieces, by which the instrument is lengthened or shortened at pleasure, in order to tune it to the pitch of the organ, or other instrument, with which it is to be used in concert, or for adapting it to perform in different keys.

CROTALO, an instrument of military music. (See CROTALUM.) The Turks are the first, among the moderns, who introduced the use of it for their troops. It is now common in Flanders and Florence, and other territories on the continent. It has only one tone; but its effect in marking time may be distinctly heard through the noise of forty drums. This is the same instrument with the ancient cymbalum.

CROTALUM, an ancient kind of castagnetta, or musical instrument, found on medals, in the hands of the priests of Cybele.

The crotalum differed from the sistrum; though authors frequently confound the two. It consisted of two little brass plates, or rods, which were shaken in the hand, and in striking against each other made a noise.

It was sometimes also made of a reed split lengthwise halfway down; one part whereof they struck against the other; and as this made a noise something like that of a crane’s bill, they called that bird crotalistria, a player on the crotale; and Aristophanes calls a great talker a crotalum.

Clemens Alexandrinus attributes the invention to the Sicilians; and forbids the use thereof to the Christians, because of the indecent motions and gestures that accompany it.

Pausanias relates, that Hercules did not kill the Stymphalides with his arrows, but that he frightened and drove them away with the noise of the crotala, which shews, admitting the truth of the relation, that the crotalum must have been a very ancient instrument. Ovid joins the crotalum with the cymbals.

“Cymbala cum crotalis prurientiaque arma Priapo Ponit, et adducit tympana pulso manu.

CROTCHET, in Music, one of the notes, or characters of time, marked thus equal to half a minim, and double a quaver.

It is not easy to conceive how this character comes by the name crotchet: the word is apparently borrowed from the French crochet, of croc, a crook or hook, used by them for what we call the quaver, or half crotchet; by reason of the additional stroke at bottom, which gives it an appearance of a crook.

A dot added to the crotchet, thus increases its time by half; that is, makes it equal to a crotchet and a half, or to three quavers.

CROWN, in Music, a rest marked by a reversed C, with a point in the middle of it, thus.

CROWTH, or CRÛTH, an instrument of music (see Plate, Music.) resembling a violin, formerly in common use in the principality of Wales, as a tenor accompaniment to the harp; but now become extremely rare in that country.

Editorial Note: Below, Fig 2 from plate XXV, MISC-ELLANY of vol III of the plates.
The length is 20½ inches, the breadth at bottom 9½ tapering towards the top to 8 inches; its thickness is $1\frac{1}{10}$, and the finger board measures 10 inches in length. It has six strings, supported by a flat bridge, placed obliquely to the sides, and is played on with a bow. A, A, represent the apertures for the hand; B, B, the strings conducted under the end board; C, C, the pegs, and d, d, the sound holes. The fifth and sixth strings are the unison and octave of G, the fourth and third the same of C, and the second and first the same of D; so that the second pair of strings are a fourth, and the third a fifth to the first.

Some have supposed this instrument to have been the parent of the violin; but it is much more extensive in its compass. Two or three of the lower strings are often struck with the thumb, and serve as a base accompaniment to the notes sounded with the bow.

This instrument was not peculiar to Wales; since a figure of it has been lately discovered among the outside ornaments of the abbey church of Melros, in Scotland, built about the time of Edward II.

From the name crowth is derived crowther, a crowder, as a common fidler is now called. The use of this instrument is almost lost.

The Welsh had also a three-stringed crowth, which was the ancient base viol.

CYCINNIS, a Grecian dance, so called from the name of its inventor, one of the satyrs belonging to Bacchus. It consisted of a combination of grave and gay movements.

CYCLES, in Harmonics, are certain determinate periods or series of pulsces or vibrations, excited in the air by the consonance of two musical sounds.

Editorial note: A scientific article by John Farey, Sr.

Dr. Smith (Harmonics, p. 56.) distinguishes these, 1st, into simple cycles, when the least terms of the ratio expressing a small interval differ but by 1; 2d. complex cycles, when the least terms of such a consonance differ by more than unity; 3d. short cycles, formed by the pulses of perfect consonances, or such whose ratios are express ed in small numbers; and, 4th, long cycles, of the pulses of imperfect unisons, or other consonances, which are not expressible but by high or surd numbers.

In his seventh proposition, Dr. Smith demonstrates, “that in going from either end to the middle of any simple cycle, or period of the pulses of imperfect unisons, the alternate lesser intervals between the successive pulses increase uniformly, and are proportional to their distances from that end; and at any distances from it less than half the simple cycle or period, are less than half the lesser of the two vibrations of the imperfect unisons:” from whence he deduces as corollaries. 1. “That any simple cycle or period of the pulses of imperfect unisons contains one more of the quicker than of the slower vibrations.” 2. “The lesser intervals that lie nearest to the periodical points, and the points of coincidence, are less than any of the rest.” 3. “Some of the alternate lesser intervals of the pulses of imperfect unisons are the differences of equal numbers of their vibrations, counted from the near est coincident pulses; and others are the differences of equal numbers of the same part or parts of their single vibrations, counted from the nearest periodical point.” 4. “If the vibrations of two couples of imperfect unisons, or of any two consonances, be proportional, the periods and cycles of their pulses, whether simple or complex, will be in the ratio of the homologous vibrations.” 5. “The length of the period of the least imperfections, in any consonance of imperfect unisons, is the same as that of the period of its pulses.” At page 69, the following is deduced as one of the corollaries to his eighth proposition; viz. “The imperfect short cycle of any imperfect consonance contains equal numbers of the slower and quicker vibrations of the imperfect unisons, from whence it is derived.”

If R and r be the least integers in the ratio of the interval between any two sounds, and V and $\nu$ represent the times of their single vibrations, respectively; then will the length of the cycle of times between the successive coincidences of the pulses of V and $\nu$ be $rV$ or $R\nu$: be cause these multiples of V
and $v$ are the least of any which can be equal: $R$ and $r$ being prime to each other.

Also, if $S$ and $s$ be the least integers of another consonance, whose vibrations are $V$ and $x$; then the length of its cycle is $sV$ or $Sx$.

Hence the length of the cycle of $V$ and $v$, is to that of $V$ and $x$ as $r$ to $s$; that is consonances which have a common sound or vibration, $V$, have the lengths of their cycles proportional to the numerators of the fractions $\frac{p}{q}V = v, \frac{q}{p}V = x$, expressing the times of the single vibrations of the other sounds. Harm. p. 22.

Supposing the vibrations, $V$ and $v$ of imperfect unisons to be incommensurable, or $V : v :: \sqrt{\frac{p}{q}} : \sqrt{\frac{q}{p}}$ and $x$ to be an indeterminate vibration, and $V : x : m : n$. Then if the ratios of the indeterminate numbers $m, n$, be supposed to approach gradually to the given ratio of $\sqrt{\frac{p}{q}}$ to $\sqrt{\frac{q}{p}}$; though the length $nV$ or $m$ $x$, of the indeterminate cycle of the pulses of $V$ and $x$ increase without limit, nevertheless the length $\frac{n}{m}V = \frac{n}{m}x$, of the indeterminate period of their pulses tends gradually to a determinate limit, $\frac{\sqrt{\frac{q}{p}}}{\sqrt{\frac{p}{q}}}V = \frac{\sqrt{\frac{p}{q}}}{\sqrt{\frac{q}{p}}}x$. And this is the period of the pulses of the incommensurable vibrations, $V, v$, which excites the determinate sensation of this imperfect unison, be the complex cycle of the pulses ever so long, infinite, or impossible. The doctor adds, at page 102, “I say, determinate sensation; for though the alternate lesser intervals of the pulses in the several successive periods of $V$ and $v$, even when commensurate, are not precisely equal, yet it is highly probable that the ear could not distinguish a repetition of any one period from the succession of them all, and seems agreeable to experience, in observing the identity of the tone of imperfect unisons held out upon an organ.”

CYMBAL, a musical instrument, used among the ancients; called by the Greeks κυμβαλοῦ, and by the Latins cymbalum.

Syliburgius derives the word from three several roots, viz. κυψός from κυπ, crooked; from κυτελλοῦ, cup and from φονη, voice. Isidore derives it from cum, and ballametica, an immodest dance used to accompany this instrument. The real etymology appears to be from κυμβος, cavity.

The cymbal was of brass, like our kettledrums; and as some think, resembling them in their form, but smaller, and applied to a different use.

Cassiodorus and Isidore call it acetabulum, the name of a cup or cavity of a bone wherein another is articulated; and Xenophon compares it to a horse’s hoof; whence it must have been hollow; which appears, too, from the figure of several other things denominated from it: as a basin, cauldron, goblet, casque; and even a shoe, such as those of Empedocles, which were of brass.

In reality, the ancient cymbals appear to have been very different from our kettledrums, and their use of another kind: to their exterior cavity was fastened a handle; whence Pliny compares them to the upper part of the thigh coxendicibus; and Rabanus to phials.

They were struck against one another, in cadence, and made a very acute sound. Their invention was attributed to Cybele; whence their use in feasts and sacrifices; setting aside this occasion, they were seldom used but by dissolute and effeminate people. M. Lampe, who has written expressly on the subject, attributes the invention to the Curetes or inhabitants of mount Ida, in Crete; it is certain these, as well as the Corybantes, or guards of the kings of Crete, and those of Rhodes and Samothracia, were reputed to excel in the music of the cymbal. See CORYBANTES.

The cymbals of Bacchus were two small brass vessels, somewhat in the form of a shield, which being struck together by the hands, gave a sound. The well-known statue of the dancing faun has one of these in each hand. An instrument of this kind is frequently to be seen in the Bacchanalian sacrifices or processions represented in ancient sculpture. It is still in general use in eastern countries, and has lately been introduced among the troops of almost all the princes of Europe, on account of its utility in marking the steps of the soldiers, with force and precision during their march. Crotalo is the modern Italian name for this instrument; but κροίδου in Greek, and crotalum in Latin, implies one that was different from the cymbalum; a kind of castanet.

The Jews, too, had their cymbals, which they called צץץץץ, or, at least, instruments which the Greek, Latin, and English translators...
render cymbals; for as to their matter, form, &c. the critics are wholly in the dark.

Le Clerc has taken some pains to prove, that the "tzalzalam", which our version, after the septuagint, renders. cymbals, were only a couple of hollow semiglobes of brass, or some other tinking metal, about six inches in diameter, which they used to shake one against another like a pair of castanets, because we find some such instruments to have been in use among the ancients, and because the root "tzalzal" often signifies to tinkle.

The modern cymbal is a mean instrument, chiefly in use among vagrants, gypsies, &c. It consists of steel wire, in a triangular form, whereon are passed five rings, which are touched and shifted along the triangle with an iron rod held in the left hand, while it is supported in the right by a ring, to give it the freer motion. Durandus says that the monks used the word cymbal for the cloister-bell, used to call them to the refectory. See BELL.

Vol 11 D-Dissimilitude

D, in English Music, is the initial of D-sol-re, the 5th above gamut, in the scale of Guido. It occupies the 3d line in the base, and the 4th in the treble. In all tenor clefs it is in the space immediately above the line on which the clef is placed. In French music, D has the same signification as P in the Italian; that is to say, dour, soft. The Italians sometimes use it for dolce, which is not only opposed to forte, loud, but to rough and coarse, and in Italian and Spanish music for keyed-instruments, it is used for destra, the right-hand. D, in German music, implies discant, or treble, in thorough base. In French music, it likewise stands for dessus, or the treble part; d. m. dextra manu, with the right-hand, is implied in lesson-playing; and D. C. implies Da Capo which see.

DA, is an Italian preposition, which implies for: as da cappella, for the chapel; sonata da camera, chamber sonatas; sonata da chiesa, sonatas for the church. Da capo, repeat the first part from the beginning; da suonare, to be played in a song where the initial and incidental symphonies, or ritornelli, are inserted in the same line as the voice part.

DA CAPO, Ital, musical terms, implying, after an air or movement seems finished, a return to the first part or strain, which is to be repeated from the beginning, to the corona, or final mark; in the early periods of the opera, and of cantatas, when recitatives for the dialogue and narrative parts of a poem began to be terminated by short airs, which often served for several different stanzas, like those of modern ballads. Before the terms da capo were in use, the air was written over again, as often as it was wanted, sometimes in exactly the same notes, but more frequently, with little changes and embellishments, to the same base, and to different stanzas.

In the opera of Orontea, by Cesti, performed at Venice, 1666, there are frequent returns to particular portions of the airs, more, indeed, in the manner of a refrain, or burden, than da capo, or rondo; but in the opera of Enea, performed at Genoa, 1676; in that of Aurora, set by Zanetti, and performed in the same city, 1678, there is a constant da capo, or return to the first part of each song. The practice seems to have begun about the year 1660. And in 1661, we find it sometimes used in the opera of Clearco, set by Tenaglia, and performed at Rome. In the motets, à voce sola, di Montferrato, printed 1673, da capos occur; about which time they became frequent; and before 1680, they appear to have been in constant use.

Among new musical technica in the Ariose Cantate of Sebastian Enno, published at Venice, 1655, we find da capo se piace, if you please. But the first interesting air in a serious opera, that was performed in England, without a da capo, we believe, was, Se cerca se dice, in 1742, as set with such dramatic propriety and effect by Pergolesi, and sung by Monticelli. The next was Rendemi il figlio mio, sung by the Mattei in Cocchi’s Ciro riconosciuto, 1759. But it was in the operas of J. Chr. Bach, that da capos first totally disappeared, and which, about this time, began to be generally discontinued: the second part being incorporated with the first, to which, after modulating into the 5th of the key, the finger generally returns.

DACTYL Editorial note: the first part of this article deals with the dactyl in poetry, so has been omitted.

... This term, in versification, as much belongs to music as poetry, words frequently occurring in our language (chiefly adverbs), consisting of one and two short syllables; so that in musical movements in common time, when bars composed of one long and two short notes frequently occur, it may be called...
Dactylic music, such as Shenstone’s pastorals generally require,

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Mý bänks they were furnisshed with hëss,
Whole múrmūrs invité më tō śleep.```

Arne has set these words admirably to a Sicilian time. See the second stanza of the pastoral ballad.

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`Nót à pìne in thē grēve ìs thēre sēn’,” &c.
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Shenstone, vol i.

DACTYLIC, something that has a relation to dactyls. Anciently, there were dactylic as well as spondaic flutes, *tybiæ dactylicæ*. The dactylic flutes consisted of unequal intervals; as the dactylic foot does of unequal measures. ...

DAFNE, in *Music*, the first melodrama, after the invention of recitative, that was performed to this new kind of narrative music. It was written by Rinuccini, author of the first great opera, Euridice, and set by Jacopo Peri and Giulio Caccini, and privately performed at Florence in 1600 previous to the public performance of Euridice, the first regular opera that was exhibited on a public stage in Italy, on the nuptials of Henry IV, of France with Mary of Medicis.

DANCE, an agreeable motion of the body, adjusted by art, to the measures of a piece of music, either sung or played. -

The word is French, *dance*, formed of the German *danz*, or *tanz*, which signifies the same thing, Bochart derives it from the Arabic *tanza*, and Guichart from the Hebrew דָּוִצ douts, which have all the same signification. Salmasius derives the French, dancer, to dance, from the Latin densare, to thicken; as holding it a practice among the ancient fullers to leap and dance as they thinned their cloths.

Some distinguish the high dance, consisting of capers, gambades, &c. from the low dance, which is terra à terra or close to the ground.

In the carousal of king Louis XIII, there were dances of horses. The invention of such dances is attributed to the Sybarites.

Dancing has always been in use among all nations, both civilized and barbarous; though held in esteem among some, and in contempt among others.

Of itself, no doubt, dancing is harmless. There is a time, says the preacher, to dance; and sometimes it is even made an act of religion. Thus David danced before the ark to honour God, and express his excess of joy for its return into the city of Sion. The daughters of Shiloh are likewise said to have danced in a yearly feast of the Lord. Judges, chap. xxi. And we find many references to this practice in the religious solemnities of the Jews From them it passed to the Egyptians, and afterwards to the Greeks and Romans, with whom it was a principal part of the worship of their false gods. It afterwards was adopted in many Pagan nations; and Christians in popish countries celebrated certain festivals, particularly those of the sacrament and passion of our Lord, with dancing. Socrates learnt to dance of Aspasia. And the people of Crete and Sparta went to the attack dancing. On the other hand, Cicero reproaches Galbinius, a consular man, with having danced. Tiberius expelled the dancers out of Rome; and Domitian excluded several members from the senate, for having danced. Castor and Pollux are said to be the first who taught the art of dancing; and that to the Lacedaemonians: though others attribute the invention to Minerva, who, they say, danced for joy after the defeat of the giants.

The ancients had three kinds of dances, called bacchic; the first grave, called emmelia, answering to our low dances and pavanes. The second gay, called cordax, answering to our courants, galliards, gavots, and vaults. The third, called siccins, was a mixture of gravity and gaiety. Neoptolemus, son of Achilles, taught the Cretans a new sort of dance, called Pyrrhica, or the armed dance; to be used in going to war: though, according to mythologists, the Curetes first invented this dance, to amuse and divert the infant Jupiter, and to drown his cries with the noise and clash of their swords, beating against their bucklers.

Diodorus Siculus, in the fourth book of his Bibliotheca, assures us, that Cybele, daughter of Meneus, king of Phrygia, and Dindymenis his wife, invented divers things, and, among others, the flageolet of several pipes, dancing, the tabor, and the cymbal. Numa, it is certain, instituted a sort of dance for the salii, priests of Mars, who made use of weapons therein. From these dances were composed another sort, called saltatio mimicorum, or the buffoon’s
dance; wherein the dancers were dressed in little corslets, with gilt morions, and had bells on their legs, and swords and bucklers in their hands. Lucian has an express treatise, and Julian Pollux a chapter, on this head; Athenæus, Cælius Rhodiginus, and Scaliger, also make mention of this dance.

It is not many years ago since Thoinot Arbeau, a dancing-master of Paris, gave an orchesography, wherein all the steps and motions of a dance are written, or noted down; as the sounds of a song are scored in music. Though the famous Beauchamp has some pretensions to be the inventor of this secret, and accordingly procured an arret in his favour.

Dancing is usually an effect and indication of joy among most nations; though M. Palleprat assures us, that there are people in South America, who dance to shew their sorrow; and it likewise made a part of the funeral solemnities of the ancients.

Dancing is so necessarily connected with music, that in treating one art we cannot avoid allusions to the other. What is it that excites dancing: Music. What is it that regulates the steps of the dance Music. What is it that exhilarates and keeps off fatigue, but music? One of the most ancient proverbs in our language says; “No longer pipe, no longer dance,” a truism which Ray has recorded among our national apophthegms.

From the social and rustic dance of our peasants and domestics to the sublime ballet heroique, music is called in to animate and enliven the one, and to give grace and dignity to the other. No music can boast a superior longevity to our country dances. No music is more accented, more impressive, and more varied in its measures, than that of the grand ballets, which of late years have been performed at the opera.

Music and dancing are frequent rivals; but as they cannot subsist without each other, their little jealousies never come to an open quarrel.

Much has been written concerning the antiquity of this art, particularly in France, the residence of all the divinities who preside over it. But Pere Menestrier, M. Cahusac, and the celebrated ballet-master, Noverre, have nearly exhausted the subject. Mademoiselle Heynel, and the family of Vestris, have left impressions of their superior talents that will never be obliterated by the natives, nor will foreigners or posterity be suffered to remain ignorant of their superior worth, by historians and men of letters; any more than the readers of the reign of Augustus will be allowed to remain ignorant of the pantomimical powers of a Pylades or a Bathylus.

Music, Lucian says, is attendant on the art of dancing, and subservient to it. They are more reciprocally useful to each other, perhaps, than music and poetry; but music has its peculiar charms totally independent of both. Modern poetry of various kinds can delight without music, but melody is the soul of songs, without which few would find readers; and dancing, without music, would be heavy work, and to a spectator excite no other idea than the freaks of insanity.

Dancing was probably at first no more than gesticulation, and moving gracefully in a procession: a natural pantomime; and it has often been styled by philosophers, the art of gesticulation; and though at first natural and spontaneous, these gestures were at length polished and refined into rule; but it seems as if the first dances were religious, and hymns the first songs. These were the germs of the two arts.

With the ancient Hebrews, as the sacred writings inform us, dancing made a part of the celebration of all great events. David danced before the ark. In Egypt dancing was a principal part of the religious rites of the priesthood; and it was in imitation of them that the children of Israel danced round the golden calf in the desert. As the Greeks had their mythology from Egypt, Orpheus who travelled thither for knowledge, is supposed to have introduced into his country festal ceremonies similar to those of Egypt, in all which dance and song prevailed. The ingenuity and elegant taste of the Greeks soon improved, refined, and polished these sacred ceremonies, which were adopted by the greatest part of the civilized world; particularly by the Romans, who were original and superior in nothing but the art of war, and in plundering, slaughtering, and enslaving mankind.

These were the religious dances of Paganism: but as a new religion is generally a reform of one more ancient, as the Grecian of the Egyptian; the Roman of the Grecian; the Christians of the Jewish, &c., many forms and ceremonies to which the people have been long accustomed are necessarily retained; and among these the solemn dances of the Hebrews and Romans, on great festivals and celebrations,
were admitted by the primitive Christians; in which even the bishops and dignified clergy, according to Scaliger and Pere Menestrier, were performers; and dispositions were made in the first temples that were erected after Christianity was firmly established by Constantine, for these sacred dances. Scaliger says, that the first bishops were called Præsules in the Latin tongue, for no other reason than that they led off the solemn dance in great festivals: and Menestrier (Traité des Ballets, 1682) says, that he had seen the canons and choristers, on Whitsunday, take each other by the hand and dance while they sung hymns of jubilation. (And he has pointed out several ancient churches, still subsisting, in which the choir was constructed in a theatrical form.) After speaking of the religious dances of the Hebrews and Pagans, this writer observes, that the name of choir is still retained in our churches for that part of a cathedral where the canons and priests sing and perform the ceremonies of religion. The word comes from χορος; a dance, or a company of dancers. The derivation is remarkable, and not one of those that can be suspected of proceeding from fancy, and accidental similitude of sound. One of the acceptations of the term χορος, given by Suidas, is το συζήμα των ἐν ταις ἐκκλησίαις ἄδουτων—a company of singers in a church; that is, a choir. It seems likewise to have been sometimes used, like our word choir, in the local sense: χορος; says Suidas, και οἱ χορευται ο οτός, &c. that is, dancers, and the place in which they danced. It is so used by Homer, Od. viii. 260. Δείηυα δὲ χορος—They made smooth, or level, the place appointed for dancing. The choir was formerly separated from the altar, and elevated in the form of a theatre, enclosed on all sides with a balustrade. It had a pulpit on each side, in which the epistle and gospel were sung, as may still be seen at Rome in the churches of St. Clement and St. Pancratius, the only two that remain in this antique form. Spain, continues he, has preserved in the church, and in solemn processions, the use of dancing to this day; and has theatric representations made expressly for great festivals, which are called Autes Sacramentales. France seems to have had the same custom till the twelfth century, when Odo, bishop of Paris, in his synodical constitutions, expressly orders the priests of his diocese to abolish it in the church, cemeteries, and public processions. .

Constitut. 36.

The descendants of the original inhabitants of our island, the Cambro-Britons, in our own memory, on Sundays, used to be played out of church by a fiddle, and to form a dance in the church-yard at the conclusion of the sermon. These could hardly be called religious dances, though in some measure connected with the service of the church, where the people are assembled; but however harmless the practice may originally have been, it has, we believe, been totally discredited and abolished by the dissenters and methodists. In France, says M. Cahusac, this simple and rustic amusement, which seemed to imply gentle and cheerful manners, is now changed for a little wit and much corruption. (Traité Historique de la danse.)

On the stage, heroic and historical ballets seem very early to have been introduced at Athens, either as intermezzi or in the texture of the drama. The labyrinth of Crete, the battle of Theseus and the Minotaur, and other well known and popular subjects, were represented in pantomime, without oral utterance. Proteus, of whom such marvellous changes of figure are related, was only one of their dancers. -

In this art, like all others, the Greeks were copied by the Romans.

Pylades, a native of Cilicia, and Bathyllus of Alexandria, carried the pantomimical art at Rome to such perfection in the time of Augustus, that all other spectacles were neglected by the public. These actors opened a theatre at first in partnership; Pylades represented grave, tender, and pathetic subjects; Bathyllus, such as were cheerful, gay, and jocose. But each reciprocally mortified by the applause acquired by the other, of which each thought himself severally robbed, they separated in a fit of jealousy, and each setting up for himself, improved the art by opening different theatres, forming scholars, and exhibiting to spectators partial to the peculiar talents of each. The public took sides, discussed and disputed their several merits, and forgot the loss of the republic and of liberty, to the great increase of political tranquillity, and ease of Augustus and his imperial government. Rome was divided into two factions, the Pyladians and Bathylians, as France some years ago into Gluckists and Piccinists. In the time of Nero, a
dancer represented the labours of Hercules, traced, in a manner so true, all the different situations of this hero, that a king of Pontus who saw this exhibition for the first time, followed the gestures of the actor so closely as to comprehend with facility every circumstance, and was so delighted that he entertained the emperor, as a great favour, to let him take the dancer home with him; informing Nero, that he had barbarous neighbours, whose language no one understood, and who . had never been able to learn his own, but he thought the gesticulations of this man would explain his wishes to them.

P. Menestrier, not a philosopher, but a regular ecclesiastic, who lived under, and wrote for a religious prince (Louis XIV.) says, that dancing is in itself one of those indifferent things of which the good or bad use may incline us to approve or condemn.

The sages of antiquity regarded dancing as a useful bodily exercise, an inoffensive relaxation, and as an efficacious preservative against the disorders of the mind. When the body is in motion, the mind reposes itself. The figure, the steps, the movements of the dance, are equally amusing to the dancer and the spectator. See BALLET and PANTOMIME.

The intimate connexion between music and dancing is such as to require a ballet-master, not only to be a practical musician, but a judge of composition; if not a composer himself he should be able to suggest such subjects to the maestro di cappella, as will express his ideas, suit his principal subject, and paint the situations in which the several characters are thrown. Noverre thought that a ballet well composed wanted no recit, no words to explain its meaning. Singing and dancing together mutually weaken each other; and even St. Augustine, in speaking of ballets, in the third century, complained of their monotony, and said that they were obliged to place a crier at the side of the scene, to proclaim to the spectators what the dancers were about to represent. The recits, dialogues, and monologues in the splendid dances of Lulli’s operas in the time of Louis XIV, Noverre censures. He puts great contempt upon mere dancing, and wants to reduce the whole art to pantomime, despising agility and feats of activity. “Les belles pirouettes, les beaux entrechats,” and the remaining steadily for a considerable time, “sur le petit point du pied, seem hors d’oeuvres,” in his system.

As man had sensations before articulation and language; and tones of voice expressive of joy, sorrow, pleasure, and pain; so his features must have changed, and gestures varied in these various situations. At all times, and in all countries dancing has advanced towards perfection with the drama. The feast of Flora at the beginning of May, was more particularly celebrated by dancing than any other Pagan festival; and among Christians the May-poles erected in our villages adorned with garlands of real flowers, as well as artificial, around which our peasants and domestics dance, are remains of the Pagan celebration of spring.

Domestic festivity on occasion of the marriage of a child, the anniversary of a parent’s birth, the arrival of beloved and respected strangers, chequered the monotony of ancient simplicity of manners.

Socrates himself learned late in life to dance of the beautiful and accomplished Aspasia; and Cato, with all his rigour and severity of manners, disdained not, at upwards of 60, occasionally to practise what he had learned in his youth.

As there are few amusements, however innocent in the beginning, while in the hands of the judicious, moral, and decorous members of society, that do not degenerate into licentiousness when imitated by the vulgar; so dancing among the Romans, when made a trade, and females were hired occasionally to enliven domestic festivity and riotous joy by their talents, gave birth to dissolute manners, and depravity.

But on solemn occasions, as music had its mania, dancing was not confined to occasions of mirth and joy; there were funeral dances at the interment of great personages. And the Spartans advanced to the enemy in a military step, that was called the Phrygian dance.

After dancing had been incorporated in the drama of Athens, it became necessary for the ballet-master, according to Lucian, to be possessed of universal knowledge. Poetry was necessary to ornament, music to animate, geometry to regulate, and philosophy to guide his compositions. Rhetoric was likewise required to enable him to express and move the fashions, painting to delineate attitudes, and sculpture to form his figures. He ought to be equal to Apelles, and not inferior to Phidias. All times
should be present to his mind, but he ought most profoundly to study the emotions of the soul, in order to paint its operations by the movements of the body. His conceptions should be easy and natural, his mind lively, his ear nice, judgment sound, imagination fertile, taste certain in selecting whatever is proper and necessary to his design. These are rare but indispensable qualities with which ancient history, or rather fable, will furnish him materials for the most magnificent compositions. He must, therefore, inform himself of every important event that has happened in the world, from its rising out of chaos to the present time.

Lucian was born under Trajan, and survived Marcus Aurelius. “Lucian,” adds M. Cahusac, “did not require too much of the ballet-masters of his time; as at Rome all great subjects of tragedy and comedy were included in the circle of pantomime. The composers of ballets were there, at once poets, musicians and actors; whereas in our time, the poet is seldom a musician, the musician never a poet, and the actor neither one nor the other.”

In the time of Augustus, the two great actors and masters of declamation, Roscius and Æsop, were forgotten, and their talents replaced by those of the two great masters of pantomime, Pylades and Bathyllus. But this was not effected by mere dancing; steps, movements, attitudes and positions were no longer in question: there resulted from their performance an expression so natural, images so resembling a pathos so touching, or a pleasantry so agreeable, that the spectators thought they heard what they saw. Gestures alone supplied the sweetness of voice, the energy of discourse, and the charms of poetry. Hanc partem, &c. Cassiodorus Var. i. 20.

As literature and all the arts partook of the declension of the Roman empire, dancing and pantomime could not escape decay. Rome, subdued by barbarians, plunged into ignorance; and darkness covered the rest of the civilized world. Warriors were left, but the culture of the human mind was so totally neglected, as to convert into a desert and a wilderness its most polished and fertile provinces.

Few attempts were made to revive the arts in Italy till the 15th century; and those connected with the drama were clumsy and awkward. Poetry and painting, indeed, had made great strides towards perfection before dramatic music and dancing had awakened any public interest. Dancing made no part of the first Italian operas; but in the second species of melo-drama in Italy, authors tried to unite all the charms of music and poetry with the wonders of machinery; and soon after the opera was embellished with ballets historiques, fabuleux, and poetiques.

There were ballets poetiques, allegoriques, bouffones, at the court of Turin, to celebrate the nuptials of illustrious personages.

In France, balls, masquerades, and ballets, after the accident which happened to Henry II, in 1559, supplied the place of carousals, tilts, and tournaments.

M. Cahusac, in his “Traité Historique de la Danse,” is mistaken in speaking of the first opera, when he says, (tome ii, p. 82.) “Ce spectacle etoit sans danse;” for it appears in the score, printed in 1600, that the choruses were sung and danced at the same time, like those on the French stage in the operas of Lulli. But in the first operas it was certainly the intention of their legislators, to favour poetry, and constitute her mistress of the feast; and it was a long time ere music absolutely took the lead. Dancing step into importance only during the last century; but rarely in that preceding it.

There were analogous dances in the first oratorio at Rome: Dell’ anima e corpo, performed in the church of La Vallicella. In the instructions for performing this oratorio, it is said, “The performance may be finished with or without a dance. If without, the last chorus is to be doubled in all its parts, vocal and instrumental; but, if a dance is preferred, a verse beginning thus: Chiostrì altissimi, e stellati, is to be sung, accompanied sedately and reverentially by the dance. These shall succeed other grave steps and figures of the solemn kind. During the ritornels the four principal dancers are to perform a ballet, saltato con capriole, “enlivened with capers or entrechats, without singing. And thus, after each stanza, always varying the steps of the dance; and the four principal dancers may sometimes use the galiard, sometimes the canary, and sometimes the courant step, which will do very well in the ritornels.”

Dr. D’Avenant’s dramatic operas, in 1671, were all set off with the most expensive decorations of scenes and habits, and with the best voices and dances.
Dryden's definition of an opera, is, “a fiction, represented by vocal and instrumental music, adorned with scenes, machines, and dances.”

In July 1697, Italian intermezzi, or interludes and mimical entertainments of singing and dancing, were performed at York Buildings.

Little mention is made of dancing in the first Italian operas performed in England. At the end of Handel's amadigé there was a dance to the melody of the coro finale, 1715. No ballet-master, dance, or dancers, are mentioned after the dramatis personæ of any one opera set by Handel; poetry, composition and singing, and a complete orchestra, seem to have satisfied the public, without doubling the expense of the performance in support of an additional art.

It was during the regency of lord Middlesex, that a regular ballet-master, principal dancers, and figuranti of both sexes, were taken into salary. Before that period we have heard of individual dancers of great abilities and attractions: such as miss Saintlow, a Camargo, a Barberini, a Sallé, the two Faussans, the Aurettis, &c. &c.; but ballets heroiques, ballets historiques, ballets allegoriques, &c. seem to have had no existence in this country till about the middle of the last century.

The French seem to have been the first in modern times to introduce ballets analogues in their musical dramas. Those in all operas written by Lulli and set by Lulli, are of that kind. The Italians, not insensible of their superiority to all other countries in whatever concerns the fine arts in general, and who are jealous of French pretensions to rivalry, as the French are envious of their claims to pre-eminence, frankly allow them the palm in dancing. All the Italian writers on the drama, particularly the musical, recommend the doctrines of Cahusac and Noverre to the consideration and practice of their ballet-masters.

Aigarotti, in his Essay on the Opera, addressed to the first Mr. Pitt, 1762, says, that though his countrymen have composed and executed some comic dances, of which the pantomime would have done honour to Pylades and Bathyllus; in serious and heroic subjects the Italians, and all nations, must strike to the French, who seem by nature and cultivation as much formed for excelling in this art as the Italians in music. Dances, analogous, and incorporated in the drama in which they are performed, at present, seem preferred in France to all others; but where they are distinct, and only performed between the acts, a grotesque and comic dance should not, in a serious drama, counteract the labours of the poet and performer, in exciting that pity and terror, which Aristotle makes the constituent parts of a tragedy. But even comic dances in a theatre should have some meaning, something to interest, besides capering and feats of activity. Such should have a plot, its intricacies and dénouement; and in these dances, as well as the heroic, the French incline much more to pantomime, in intelligent and eloquent gestures performed by the hands and features, than by the feet. In Ricoboni’s History of the Stage, dancing is never mentioned; and Algarotti says, “it never was a constituent part of the drama, but is always foreign to the business, and very often repugnant to it. If the scene of action be in Rome, the dance is often in Holland or China; and if the opera is serious, the dance is sure to be comic.”

DANCE, Country. See COUNTRY-Dance.

DANCER, Rape, Schemobates. Groddeck, professor of philosophy at Dantzic, has published a dissertation on rope-dancers, “De Funambulis,” full of learning, and an uncommon knowledge of antiquity. He defines a rope-dancer, a person who walks on a thick rope fastened to two opposite posts; which is precisely what is expressed by the Latin word Funambulus. But our rope-dancers do more; for they not only walk, but dance and leap upon the rope.

The ancients, it is certain, had their rope-dancers as well as we: witness the Greek words, neurobates, and schœnobates; as well as the Latin funambulus, which everywhere occur. They had likewise the cremnobates and oribates, that is, people who walked on the brinks of precipices. Nay more, Suetonius, in Galba, cap. 6. Seneca in his eighty-first epistle, and Pliny, lib. viii, cap. 2. make mention of elephants that were taught to walk on the rope. This they did both backwards and forwards, as well as up and down; and this feat Galba first caused to be exhibited to the Roman people. After this, such was the confidence reposed in the dexterity of the animal, that a person sat upon an elephant’s back while he walked across the theatre upon a rope, extended from the one side to the other. Lipsius, who has collected the testimonies, thinks they are so strong, that they cannot be doubted. “Epistolarum selectarum
Seneca Epist. 26. Dio Cassius. In the 13th century
some ventured to ride a horse upon a rope.

Mr. Groddeck, coming from the historical to the
moral consideration, maintains that the profession of
a rope dancer is not lawful; that the professors are
infamous, and their art of no use to society; that they
expose their bodies to very great dangers; and that
they ought not to be tolerated in a well-regulated
state. But coming afterwards to temper the severity
of his morals, he allows that there are sometimes
reasons for admitting them; that the people must
have shews; that one of the secrets of government is
to furnish them there with, &c.

The ancient rope-dancers had four several ways
of exercising their art; the first vaulted, or turned
round the rope, like a wheel round its axis, and there
hung by the heels or the neck. The second flew, or
slid, from above, downwards, resting on their stom-
achs, with the arms and legs extended. The third run
along a rope stretched in a right line, or up and
down. Lastly, the fourth not only walked on a rope,
but made surprising leaps and turns thereon. But it
is needless to recount the various feats of this kind
that are exhibited in our places of public amuse-
ment.

DANCERIES, an old French term for country-
dance tunes. Jean d’Etrées, a performer on the haut
bois in the service of Charles IX, published at Paris,
in 1564, four books of Danceries, first writing down
the common lively tunes, which, till then, had been
probably learned by the ear, and played by memory,
about the several countries specified in the title. The
editor of these books tells us, that they contained Les
chant des branles communs, gais de champagne, de
Bourgogne, de Poitou, d’Ecosse, de Malte, des
Sabots, de la Guerre, & autres gaillardes, ballets,
voltes, basses dances, hauberrois, allemandes. Printed
at Paris, 1564.

DECAMERIS, a term signifying a tenth part ;
used by Mr. Sauveur, and some other authors, to
mark and measure the intervals of sounds.
The word is formed of δεϰα, ten, and μεζις, part.
In Mr. Sauveur’s system, the decameris is the
tenth part of the heptameris, which he makes the
seventh part of the meris; and this is the forty-third
part of the octave; so that the decameris is $\frac{1}{3010}$
of an octave. See Mem. Acad. Scienc. 1701, and 1707.

DEGREES, in Music.

Editorial note: A scientific article of John Farey Sr.

This term has long been superseded by that of in-
terval. The small intervals, degrees, or intermediate
steps from a given note to its 4th above, are three in
number, the tone major, tone minor, and major
semi-tone; as c, d, e, f,

Degrees or intervals less than concords are neces-
sary in melody, as by these the concords are gradu-
ated, and their distance ascertained. Des Cartes, who
has been copied by our musical lexicographer Grass-
ineau, has rendered his definition of the term degree
perplexing, and obscure to students, by using, math-
ematically, his letters of reference, supposing A and
B the distance of a major 3d ; whereas, in musical
language, from A to B is but a major 2d. Then he
talks of another sound C put between A and B,
which renders the passage wholly unintelligible.
The following period from Des Cartes is clear and
accurate. “It appears,” says that author, “that de-
grees (in practical music) are the small intervals, of
which the concords or harmonical intervals are com-
posed.” See INTERVAL and CONCORD. “Musical
degrees are three : the major or greater tone, the less
or minor tone, and the semitone.”

The primary cause of the invention of small de-
grees or intervals less than concords, and by which
concord is divided, and as it were, graduated, he
judges to have been this, that there would be too
great a disproportion or inequality in their intense-
ness, which would weary both the singer and the
hearer.

Supposing A and C the distance of a third, if the
voice were to proceed immediately, ascending from
A to C, then as C is the acuter sound it strikes the ear
with more force than A; lest the leap or proportion
should prove uneasy to the performer, another
sound, B, is placed between them, by which, as by a
step or degree, we may move upwards or down-
wards more easily, and with less exertion of voice.

“Hence it appears,” continues Descartes, “that the
degrees are only certain media contrived to be
placed between the extremes of concords, for mod-
erating the inequality, and are only of use with re-
spect to concords, so that when the voice has moved one degree, the ear is not satisfied till we come to the other, which therefore must be concord to the first sound.” The substance of what is here alleged amounts to this; that by a proper division of the concording intervals in such as are less remote, the voice will move smoothly and gracefully from one sound to another, and the hearer be prepared for a more exquisite delight in arriving at the completion of the concord, whose extremes are the proper sounds in which the ear finds its expected rest and pleasure.

DEGREES, for the Use of, in the construction of the scale of music. See SCALE.

DEGREES conferred on musical students in our universities. The title of doctor in music, peculiar to the universities of our own country, according to Anthony Wood, was first conferred in the reign of king Henry II; but this is fixing it at an earlier period than that in which such a title can be proved to have subsisted at Oxford or Cambridge, or to have been conferred on the professors of other sciences. Spelman, a more nice and accurate sifter of facts, believes that the appellation of doctor was not among the degrees granted to graduates in England, till the reign of king John, about 1207.

It is known that this title was created on the continent about the middle of the twelfth century, as more honourable than that of magister, or master, which was become too common. Its original signification implied not only learning and skill, but abilities to teach, according to the opinion of Aristotle, who says, that the most certain proof of knowledge in any science is the being able to instruct others. John de Muris begins the second part of his Treatise on Music with the following passage: “Princeps philosophorum Aristoteles ait in principio mathematicae suae, omno scientis signum est posse docere.” Musices Tract. MS. Bodl. 300.

The first degree of this kind which was conferred in a public school or academy, was at Bologna, about the year 1130, where, according to Bayle, it was an honour instituted in favour of Irnerius, chancellor to the emperor Lotharius, who was created doctor of civil law. This ceremony soon after was adopted in other universities, and passed from the law to theology.

Peter Lombard is the first doctor in sacred theology upon record in the university of Paris; and John Hambois has been imagined by some to be the first musician who was honoured with the title of doctor in England.

The precise time when this creation extended to the faculties of medicine and music does not appear; nor can the names be found of those professors in either to whom the title was first granted.

It has, however, been frequently remarked (Burney’s Hist. Mus. vol. ii.) that during the middle ages music was always ranked among the seven liberal arts, that it was included in the trivium and quadrivium, and that it was studied by all those who aspired at reputation for learning throughout Europe. The trivium comprised the three sciences of grammar, rhetoric, and logic, which teach us how to reason with accuracy and precision; and the quadrivium comprehended arithmetic, music, geometry, and astronomy, as the four branches of the mathematics which silently contemplate whatever is capable of being numbered or measured. Now it is remarkable, that, in our universities, music is the only one of these seven sciences that confers degrees on its students; and, in other countries, though theology, law, and medicine bestow this honour, which are not of the seven, yet music, which is, can aspire at no such distinction.

However, it evidently appears that the music which was regarded as a science by our forefathers, was merely speculative, and such as concerned harmonics, the ratio of musical intervals, and philosophy of sound; and in this sense musical degrees are perhaps but seldom conferred in our universities according to the original spirit of the institution. But the present statutes, not wholly neglecting the gratification of the ear, are more favourable to practical music, and allow candidates for degrees to perform exercises, in which specimens may be furnished of their skill in melody, harmony and composition, where those sounds are arranged and combined which science measures and fixes by calculation.

By the statutes of the university of Oxford, it is required of every proceeder to the degree of bachelor in music, that he employ seven years in the study or practice of that faculty, and at the end of that term, produce a testimonial of his having so done, under the hands of credible witnesses; and
that previous to the supposition of his grace towards this degree, he compose a song of five parts, and perform the same publicly in the music-school, with vocal and instrumental music, first causing to be affixed on each of the doors of the great gates of the schools a programme, giving three days notice of the day and hour of each performance. Of a bachelor proceeding to the degree of doctor, it is required that he shall study five years after the taking his bachelor’s degree, and produce the like proof of his having so done as is requisite in the case of a bachelor; and farther, shall compose a song in six or eight parts, and publicly perform the same “tum vocibus quam instrumentis etiam musicis,” on some day to be appointed for that purpose, previously notifying the day and hour of performance in the manner before prescribed. Such exercise to be performed in the presence of Dr. Heyther’s professor of music. This being done, the candidate shall supplicate his grace in the convocation house, which being granted by both the Savilian professors, or by some master of arts deputed by them for that purpose, he shall be presented to his degree.

It is observed by the authors of the “Histoire littérale de la France,” tom vii, p. 142, and tom. ix, p. 200, that in the semi-barbarous ages, music was in such high estimation, that no one could omit the study of it who cultivated letters. The learned Gerbert, who arrived at the pontificate by the title of Sylvester II, and many other illustrious personages, regarded it as the second branch of mathematics. But if music does no honour to the sciences at present, it is little indebted to them for the distinction of being admitted into their company during so many ages, as ignorant artists of talents and sensibility have perhaps contributed more to her perfection, than all the sublime reveries and profound calculations of men of science.

The first qualification for the degree either of bachelor or doctor in music, was formerly the reading and expounding of certain books in Boethius, as the only writings whence knowledge in the principles of the science could be acquired. (See the statutes of the university.) But the candidate for academical degrees is no longer put to this test; he is now to compose an exercise for voices and instruments in six or eight parts, which he is to submit to the inspection of the music professor, and to have publicly performed in the music school of the university.

Wood, in his Fasti, has been able to produce no names of musicians that have been enrolled among the graduates of the university of Oxford before the sixteenth century, though we are told of several at Cambridge of an earlier period. Whether Hamboys was a member of this university or of Oxford, does not appear, nor indeed is it precisely known at what time he received his diploma. In Hollinshed’s chronicle, vol. ii, p. 1355, there is an enumeration of the most eminent men of learning in the reign of Edward IV, among whom the author includes John Hamboys, “an excellent musician,” adding, that “for his notable cunning therein, he was made a doctor of music.” But academical honours in the faculty of music may be traced up to the year 1463, when Henry Habengton was admitted to the degree of bachelor of music at Cambridge, and Thomas Saintwix, doctor in music, was made master of king’s college in the same university.

DEMI, in French Music, is equal to semi in the English, and in composition of the same import as semi, Let, implying half any quantity or substance. Demi-god, half-mortal, half-divine. Semi-quaver, half a quaver, in music Demi-semi quaver, half a semiquaver, a note in music with a black head, and three hooks, or three ties to the tails.

DEMI-DITONE, in Music, is used by some for a third minor.

DESCANT, from de and cantus, song, in Music, originally signified an extemporaneous song, which was no sooner uttered than lost; but it was afterwards applied to the art of composing in several parts.

Descant is threefold; viz. plain, figurative, and double.

DESCANT, plain, is the ground-work, or foundation, of musical composition, and consists altogether in the orderly placing of many concords; answering to simple counterpoint.

DESCANT, figurative, or florid, is that wherein dis- cords are concerned as well, though not so much, as concords. This may be well termed the ornamental, or rhetorical part of music; because, that in this are introduced all the varieties of points, fig-
ures, syncopes, diversities of measures, and whatsoever else is capable of adorning the composition.

DESCANT, double, is when the parts are so contrived, that the treble may be made the bass; and on the contrary, the bass the treble. See DISCANT.

DESIGN, in Music, is the plan, subject, prima intentione, of a composition. It is not enough to produce good passages in the melody, and to accompany them with good harmony; the whole must arise out of, and have some connexion with, the subject. In all Haydn’s best productions, where his invention seems inexhaustible, the hearer is never allowed to forget the text; which, amidst all the variety and contrast of pathos, grace, spirit, and playfulness of the principal melody, is heard by means of double counterpoint, in one part or other throughout the composition. Variety is perhaps more necessary in music than in poetry or painting; but that variety should never amount to wildness, or incoherence, nor should the regularity degenerate into monotony and dullness. To steer between these two extremes is the criterion by which we may estimate the judgment, genius, and experience of the master. The difficulty is to associate with the melody, movement, character, harmony, modulation, and an elegant variety; without which, the whole becomes uninteresting and tiresome. The composer, as well as the poet and painter, may, doubtless, dare every thing in favour of this captivating variety; provided, under the pretence of contrast, he gives us not for a well designed work, a Cento of unconnected passages of different character, which, as a whole, render the piece a monster.

It is, therefore, in the intelligent distribution and arrangement of the several parts, that a perfect design consists. In the latter productions of Mozart it is, that perfection of design appears. The early cultivation of his talents rendered him a profound critic, at an age when others are usually beginning their studies. In his first composition he was trying experiments, and vanquishing difficulties; but in his maturer years he gave way to his feeling, particularly in his vocal music, which was little known, except at Vienna, till after his death. But in his operas, both serious and comic, his designs are supported with so much simplicity, grace, and elegance, and fed with such a constant flow of ideas, as if he had trusted to chance for arrangement.

DIACOMMATIC, in Music, Editorial note: a scientific article by Farey, Sr. [This] has sometimes been used to express the frequent temperaments of a whole comma major in the melody, which are necessary for enabling the different parts of a piece of music always make perfect harmony with each other. See Dr. Calcott’s Musical Gramm, 136

DIAGRAM, in the Ancient Greek Music, presented to the eye the whole extent of a system; which the moderns express by Gamut, Scale, Compass; which see.

DIALOGUE, in Music, is a composition for at least two voices, or two instruments, which answer each other; and which frequently uniting at the close, make a trio with the thorough-bass.

Such are many of the scenes in the Italian and French operas.

Editorial note, the following DIAPASON articles, being scientific, are all by John Farey, Sr

DIAPASON, in the Ancient Music, implied the interval or concord of an octave, so called, because it contains all the diversities of sound. It is $\frac{1}{2} = 612 \Sigma + 12 f + 53 m$. Instrument-makers, by diapason, understand the state of the measures, and the proportions of the several parts of their instruments. See ORGAN.

Guido, in his Chap. de Diapason & Tinctor, in his Diffinitorium, or Primitive Musical Dictionary, gives seven definitions of the term diapason.

1. Diapason has three distinct significations: as a concord, an interval, and a proportion.

2. Diapason arises from the mixture of two perfect concords, a 4th and a 5th, or from two discords, a false 5th and a tritonus.

3. Diapason is the conjunction and interval of a perfect 4th and 5th.

4. Diapason is expressed in numbers by $\frac{1}{2}$ or $\frac{3}{4}$. It has, like other intervals, three qualities; it is perfect, imperfect, and superfluous.

5. Diapason perfect, consists of five tones and two semitones, of which five are concords, and two discords.

6. Diapason imperfect, is that which consists of four tones, and three semi-tones.

7. Is only a diapason in appearance: as from $\flat m i$, to the $\flat f$ a above. These are what we now term false octaves, and the most offensive of all discords.
DIAPASON Stop, in an organ, is the foundation upon which the chorus, or full organ is constructed; and by the length of the longest pipe in that stop, the magnitude of the whole instrument is known: as an 8 feet, a 16 feet, a 32 feet, or a 64 feet organ, to which several organs in Holland and Germany amount. The proper compass of a voice, or instrument, is called its diapason. The word is derived from δια, through, and πασωυ, the whole; because the octave includes the whole compass of the whole system.

DIAPASON diatessaron. The Pythagoreans did not admit this interval as a consonance or concord; for this reason, that its ratio 8 : 3 was neither multiple nor super-particular. But Ptolemy contends for its being a good concord, for this reason, that the diapason added to any concord produces a concord. Aristoxenus herein agrees with him. Wide Wallis’s Append. ad Ptolem. Harm. p. 155.

DIAPASON, among Musical Instrument-Makers, is a kind of rule, or scale, whereby they adjust the pipes of their organs, and cut the holes of their flutes, hautboys, &c. in due proportion, for performing the tones, semitones, and concords, justly.

A square being divided into eight equal parallelograms: the points wherein a diagonal intersects all these parallelograms, express all the usual intervals in music; and on this principle it is that the diapason is founded.

There is a particular kind of diapason for trumpets, serving as a standard, or measure, for the different magnitudes they must have to perform the four parts of music. There is another for sackbuts, and serpents, shewing how far they are to be lengthened, or shortened, to rise or fall from one tone or interval to another.

The bell-founders have likewise a diapason, or scale, serving to regulate the size, thickness, weight, &c. of their bells. *

DIAPASON-diax, a kind of compound concord; whereof there are two sorts: the greater, or the interval of a major thirteenth, whose ratio is \( \frac{1}{10} \) ths, or VIII + VI = 1063 \( \Sigma \) + 21 \( f \) + 92 \( m \); and the less, or the interval of a minor thirteenth, whose ratio is \( \frac{5}{16} \) ths, or VIII + 6th = 1027 \( \Sigma \) + 20 \( f \) + 89 \( m \). See CONCORD.

DIAPASON-diapente, a compound consonance, in a triple ratio of 9 to 3.

The diapason-diapente is a symphony made when the voice proceeds from the first to the twelfth tone. The word is properly a term in the Greek music: we should now call it a twelfth. It is the interval of a major twelfth, \( \frac{1}{2} \) ths, or VIII + V = 970 \( \Sigma \) + 19 \( f \) - 84 \( m \). (See CONCORD.) Martainus Capella thought this interval to be equal to 9 major tones and a minor semi-tone, but which exceeds it by 2 schismas (2 \( \Sigma \)).

DIAPASON-diatessaron, a compound concord.

The diapason-diatessaron is a symphony wherein the voice proceeds from the first tone to the eleventh. This the moderns would rather call an eleventh. It is the interval of a minor eleventh, \( \frac{3}{5} \) ths, or VIII + 4th = 866 \( \Sigma \) -17 \( f \) -75 \( m \). (See CONCORD.) M. Capella states this interval to be equal to 8 major tones and a minor semi-tone, but which exceeds it by \( 2 \Sigma \).

DIAPASON-ditone, expresses the interval of a major tenth, \( \frac{2}{5} \) ths, or VIII + III = 809 \( \Sigma \) + 16 \( f \) -70 \( m \). See CONCORD.

DIAPASON-semi-ditone, is the interval of a minor tenth, \( \frac{5}{12} \) ths, or VIII + 3d = 773 \( \Sigma \) + 15 \( f \) -67 \( m \). See CONCORD.

DIAPENTE, in Music,

Editorial note, the following scientific article are by John Farey, Sr

[This is] the name given by the Greeks to the interval which we call the 5th, or 2d concord, in point of perfection. (See FIFTH.) The word is formed of \( \delta \nu \alpha \), through, and \( \pi \alpha \nu\tau\epsilon\alpha \), five, as, in forming this interval diatonically, it consists of five degrees.

DIAPHONIA, in Ancient Music, a name given by the ancient Greeks to discord, as sounding twice, and by Guido to discant, singing in two parts.

In the music of the middle ages, during the first rude attempts at counter-point, diaphonia was synonymous with organum, and implied a part superadded to the canto fermo of the church.

DIASCHISMA, in Ancient Music, an interval consisting of half a semitone minor. It is an interval so called by Pythagoras, Overend, &c., its ratio is \( \frac{524}{531} \) and is the comma maximum or comma of Boetius, the ancient comma, and the quint-wolf of earl Stanhope; it is the difference between the apotome and limma, its common logarithm being .9941.
148,6097, and in the logs. of Euler. 0195500, being that decimal part of an octave: it is equal to 12 schismas and a minute, or 12 Σ + m. This interval may also be composed by the following additions of intervals, viz. schisma and a major comma: or two schismas and a minor comma. The following differences of intervals also produce the diaschisma, viz two minor commas from a semitone minimum; a minor comma from two major commas; a tone major from two apotomes; two limmas from a tone major; a medius residual from an hyperoche; three minor commas from two enharmonic dieses; four harmonic dieses from three semitones minimum; a semitone minimum from four major commas; an octave ‘from six tones major; seven octaves from 12 major fifths; five octaves from 12 minor fourths; and 5 major fifths from seven minor fourths. The three last give us practicable methods of tuning a diaschisma upon an organ, 8tc., which interval is the least sum that the temperaments of all the ‘minor fourths, and all the temperaments of the major fifths, can amount to, in any douzeave or system of 12 notes in the octave.

Diaschisma of Euler, is the minor comma, \( \frac{2025}{2648} = 10 \Sigma + m \). See Comma minor: this is also the major diesis of Maxwell.

Diaschisma of Dr. Busby (Mus. Dict.) is an interval, the half of the minor semitone, = 18 Σ + ½ m + 1½ m, which exceeds 1½ times the true diaschisma by ½ f.

Diaschisma of Bœthius, is an interval equal to half a limma =23 Σ + ½ f + 2 m; this interval has also been called by the same author the half diesis, or semitone minor.

DiasTEM, DIASEMA, in Music, a name the ancients gave to a simple interval in contradistinction to a compound interval to a compound interval, which they called a system.

Aristoxenus enumerates many different intervals; such as greater or less; consonant or dissonant; compounded or uncompounded; related to one genus or to another; lastly, rational or irrational. Aristox. Ap, Wallis. Append. Ad Ptolem. Harmon. p. 154.

Musicians divide intervals into two kinds: one of them called system, which is to contain at least two intervals in any kind of music whatever; but may contain more. The other, called diastem, is a mere, or single interval; the proper signification of the Greek διασημα is being interval.

Diatesaron, in the Greek Music is the interval or concord of the 4th, which is 3d consonance in perfection. (See Fourth.) The Greek word is composed of δια τεσσαρωυ, as the interval consists of 4 diatonic degrees.

Diatesarondare, a barbarous Latin word used by all musicians, and other old writers on music, for dissonant in the 4ths.

Diatonic, Adj. The diatonic genus is the most natural and simple in music; it consists of tones and major semitones, and in the scale of which genus the smallest interval is a conjoint degree, which changes its name and place. The word comes from δια, through, and τονος, tone, that is, passing from one tone to another: “God save great George our King,” and “Let ambition fire thy Mind,” are almost the only two English airs that are strictly diatonic: i.e. totally without modulation by an accidental ♭ or ♯.

Diatonico-generare, one of the three genera in the ancient Greek music, and which in modern music implies a scale of sounds, consisting of a mixture of tones and semitones.

The Greek diatonic genus, or tetrachord, preceded by a semitone, and two tones, as BCD, and it was from the succession of two tones, that this genus acquired the name of diatonic. As the term is derived from δια, by, and τονος, tone; that is, passing from one tone to another; which in the Greek music was never done but in the diatonic genus.

Diatonum, Diatonum, is used for the diatonic genus. See DIATONIC.

Diatonum, is a term used by M. Henfling for the semitone major \( \frac{15}{16} = 57 \Sigma + f + 5 m \).

Diazeutic tone, in Music, signifies the interval of the major tone \( \frac{8}{7} = 104 \Sigma + 2 f + 9 m \).

Diazeuxis, a Greek musical term, which implies division, separation, disjunction.

The note which separates two tetrachords was thus called in the ancient music, and which, added to either, formed a diapente. It is the tone major of the moderns in the ratio of eight to nine, and which is in effect the difference between the 4th and 5th of a key.
The diazeuxis, in the Greek music, was between the mese, and paramese: that is to say, between the highest note of the second tetrachord, and the lowest of the third; or between the note synnemenon, and the paramese hyperbolæan; or between the 3d and 4th tetrachord, according to the place where the disjunction happens; for it is impracticable at the same time in both. The homologous strings of the two tetrachords, between which the diazeuxis lies, form a 5th: whereas, they form a 4th when conjoined.

DIALECTIC

Editorial Note: Paragraphs by Burney on music dictionaries concluding the article

The first Musical Expositor, or dictionary, containing definitions of musical terms that we have been able to find, is that of John Tinctor, entitled Terminorum Musice Definitorium, printed at Naples, 1474. This was doubtless not only the first musical dictionary that was ever compiled, but the first book that was printed on the subject of music in general. The work is so scarce, that we have never been able to find it, except in his majesty’s inestimable library, abounding with the most scarce, valuable, and beautiful copies of the most precious productions of the press: all written music of the 15th century, in counterpoint, being composed for voices; at least we have seen no other, and being intended for the church, it was set to Latin words, so that the first terms in the art were likewise in that language, and these were so numerous in 1474, that the author collected them into a book, and with his definitions dedicated them to the princess Beatrice of Arragon, daughter of Ferdinand, king of Sicily, Jerusalem, and Hungary. It is a curious circumstance, that the word temperament does not occur in this primitive lexicon, though major and minor tones, and semitones are defined, which are the offspring of temperament.

The triple progression of Pythagoras, by which the scale is formed by a series of perfect fifths, has no distinctions of major and minor tones, and semitones. See DIDYMUS, PTOLEMY, TINCTOR, and DIATONIC.

DIEMERIS, in the Ancient Music, a word used sometimes alone, and sometimes joined with the word phorbeia. It expressed a sort of bandage, used by the ancients, to tie up the lower lip in playing on the pipe. The other kind of phorbeia consisted only of one perpendicular piece, which went down the cheek, and one transverse one, which covered the whole mouth, but had a hole cut into it to admit the mouth-piece of the pipe. See PHORBEAA.

Editorial note: All the following scientific articles on DIESIS are by John Farey Sr.

DIESIS, in the Ancient Music, was the enharmonic sharp, x; in the modern Italian music it implies a common or minor semitone. See SHARP and ENHARMONIC. The order in which the sharps are placed at the clef is by fifths, in the following manner; F C G D A, &c. The use of a ♭ and ♯ in the middle of a movement extends no further than a single bar, unless the last note of a bar is sharp, and is repeated or continued by the first note of the next bar; then the sharp of the first bar need not be repeated, but is understood, unless contradicted by a ♭; Flats and sharps at the clef are to regulate the semitones of transposed keys. In major keys, ascending, the semitones are from the third to the fourth and from the seventh to the eighth, and in minor keys, descending, without accidental sharps, or flats, they lie from the sixth to the fifth and third to the second.

The French and Italians have no other word to express a ♭, or minor semitone, than dieze and diesis.

The enharmonic sharp, or quarter-tone, in the Greek music marked with a single cross x, is used in modern music for a double sharp; as in a key with many sharps at the clef, if it is necessary to elevate one of the sounds already sharp a nominal half note, it is (or should be) expressed by an enharmonic diesis, thus: as in Corelli’s XIth solo.

The diesis or common sharp, is inadmissible in canto fermo. P. Mattini.

DIESIS Enharmónica, in Music, is an interval so named by Rameau, Overend, &c. whose ratio is $\frac{125}{128}$, and its common logarithm .9897.000,4356. It is also
the dieze major of Rameau; the harmonia of Henfling; the apotone major of Salomon de Caus, Bœtius, &c.; the minor enharmonic quarter tone of some; the quarter note or quarter tone of Dr. Boyce and others: the tierce wolf of earl Stanhope, and the comma greater of some. It is equal to 21 \Sigma + 2 m = 1.909170 times the major comma. In Euler’s logarithms, or decimals of an octave, it is = .0342 157. It results from the addition of the following intervals, viz. a major comma and a minor comma; a schisma and two minor commas; and a major residual and an hyperoche. This interval will also be found as the difference of the following intervals; viz. a major comma and a minor comma; a schisma from a minor fourth and no minor third; two minor commas from a limma; two minor semitones; a major residual from a semitone from a medius semitone; a minor comma from a difference of the following intervals, &c.

DIESIS of Dr. Smith. This author, in his Harmonics, has considered various tempered systems, whose several octaves he makes to consist of five equal tones, and two equal limmas; in each of which he calls the difference between the tone and limma the minor limma of that system; and he also designates the difference between the major and minor limma the diesis of each system; for example, (page 223) he calculates the diesis, in his system of equal harmony, to be in common logarithms = .987.9016,993.

DIESIS quadrantis of Euclid, is the 1/10th part of the minor fourth, or 25 ½ Σ + ½ f + 2 ½ m.

DIESIS trivalentis of Euclid, is the \( \frac{2}{15} \) th part of the minor fourth, 33 \( \frac{12}{15} \) Σ + \( \frac{1}{2} \) f + 2 \( \frac{1}{2} \) m.  

DIESIS of Beithius, is half of the limma, or 23 Σ + \( \frac{1}{2} \) f - 2 m.

DIESIS of Mercator, is stated to be \( \frac{2}{15} \) d part of an octave, or 23 \( \frac{5}{17} \) Σ + \( \frac{24}{35} \) f + m.

DIESIS quadrantal of Aristoxenus, is the \( \frac{1}{4} \) th part of a major tone, or 26 Σ + \( \frac{1}{2} \) f + 2 \( \frac{1}{4} \) m.

DIESIS trivalent of Aristoxenus, is the \( \frac{1}{5} \) d part of the major tone, or 34 \( \frac{5}{7} \) Σ + \( \frac{3}{7} \) f + 3 m.

DIESIS of Martianus Capella, is an interval very nearly 7 \( \frac{1}{2} \) Σ + \( \frac{1}{2} \) m; of which he states, that 38 of them, and is semitones minor, make up a major twelfth; and also, that 34 of them, and 17 semitones minor, make up the minor eleventh.

Editorial note: All the following scientific articles on DIEZE are by John Farey Sr.

DIEZE MAXIME of Rameau, in Music, is an interval whose ratio is \( \frac{243}{250} \) or 25 Σ + f + 2 m, which is the SEMITONE subminimus, which see.

DIEZE Major of Rameau, is an interval whose ratio is \( \frac{125}{128} \), or 21 Σ + f + 2 m, which is the enharmonic DIESIS, which see.

DIEZE Minor of Rameau, is an interval whose ratio is \( \frac{3072}{3125} \) or 15 Σ + f + m, which is the HYPEROche, which see.

DIEZE Minime of Rameau, is an interval whose ratio is \( \frac{19683}{20000} \), or 14 Σ + f + m; its common logarithm is .9930612.9682. It results from the addition of the following intervals, viz. a diachisma and a minor residual: a major comma and a medius residual: also as the difference of the following intervals,
viz. a schisma from an hyperoche; a major comma from a semitone subminimis; and a semitone minimum from a limma; also a major third and five minor thirds from four minor fourths, which last gives a practical method of tuning the dieze minime on an organ, &c.

DIFF, is the name of an instrument of music among the Arabs, serving chiefly to beat time to the voice: it is a hoop, sometimes with pieces of brass fixed to it to make a jingling, over which a piece of parchment is distended. It is beat with the fingers, and is the true tympanum of the ancients. Russell's Hist. of Aleppo, p. 94

Editorial note: All the following scientific articles on DIMINISHED are by John Farey Sr.

DIMINISHED INTERVAL, in Music. See INTERVAL.

DIMINISHED second is a semitone major, lessened by a semitone minor. See INTERVAL and SECOND.

DIMINISHED third, by some called defective third, is properly a third minor lessened by a semitone minor. But among practical musicians it commonly signifies an interval equal to two semitones major. And this they confound with the former; but there is a difference between them, equal to the difference between a tone-major and minor, that is, a comma. The first mentioned of these diminished thirds will be expressed by \[ \frac{144}{125} = \frac{4}{5} \times \frac{25}{24}, \] and is equal to the tone-major and enharmonic diesis; for. The second diminished third will be expressed by \[ \frac{25}{22} \times \frac{16}{15}, \] which is a comma less than the former. See the table in the article interval.

DIMINISHED fourth. See the table in the article INTERVAL.

The diminished fourth often occurs in practice, as from C to G♭ descending; and sometimes, though more rarely, from G♭ to C ascending.

DIMINISHED fifth, is less than the true fifth by a semitone minor, and is therefore equal to two lesser thirds. Practitioners often confound the diminished fifth with the semi-diapente, or false fifth, which is a comma less. See INTERVAL.

DIMINISHED sixth. This interval, according to Ozanam, contains two tones and three semitones major; or a fourth and diminished third; or a diminished fourth and third minor. Thus from C♮ to A♭ is a diminished sixth.

But as there are two diminished thirds, so there may be as many diminished sixths; these being the complements of the former to the octave. One of these diminished sixths will be expressed by \[ \frac{391}{375} = \frac{4}{5} \times \frac{25}{24}, \] and this is a semitone major more than the semi diapente; the other diminished sixth will be \[ \frac{675}{676} = \frac{4}{5} \times \frac{25}{24}, \] which is a semitone minor less than the flat sixth. Practitioners confound these two; and, in effect, in temperate scales they coincide, as do all other intervals differing only by a comma. See TEMPERAMENT.

DIMINISHED seventh, is of two kinds, differing by a comma. See the table in the article INTERVAL.

That diminished seventh, which is the complement of the superfluous second to the octave, is the only one in use. It is a semitone major more than the sixth minor, as from C♮ to B♭.

DIMINISHED octave, is a semi-tone minor, less than the octave, as from C to C♭. It occurs sometimes in the basses of instrumental pieces of music. See INTERVAL.

DIMINUÈ, Fr. is a term used in music for an extreme flat 7th, produced by a sharp to the lowest note, or a flat to the highest; as.

DIMINUITO, Ital, an interval in music not accurate in its extent, that is, from being too flat, or too sharp, out of tune.

DIMINUTION, in the Old Music, is changing, in a canon, semibreves to minimis. It likewise meant variations, divisions, breaking crotchets into quavers, quavers into semiquavers, &c.

DIMINUTIONE, Ital, in Music, is one of the names given to figurative counterpoint, to distinguish music in parts of note against note, or plain counterpoint from florid. See DIMINUTO.

DIRECT, in Music, is a mark set at the end of a staff, especially at the foot of a page upon that line or space where the first note of the next staff is set.

DIRITTA, in the Italian Music, a term intimating that the piece is be played or sung in conjoint degrees. Thus, contrapunto alla diritta, according to Angelo Berardi, is when one is obliged to raise or fall the voice by the same degrees, i.e. by an equal number ascending or descending, without making a
leap, even of the interval of a third. Bross. Dict. Mus. in voc.

DISCANT, in Music, from discantus, Lat, sounding twice. The English verb, to descant, is derived from the Fr. déchant, which means the same thing. About the time that the organ was received in churches and convents, the Gregorian chant, or plain-song, began to be organized by voices, in the manner which was afterwards called discant, and the simultaneous correspondence of that harmonical series which constitutes concert, or music in different parts, has been variously expressed by writers on the subject, since it was first suggested. The most ancient names given to it by Hubald, Odo, and Guido, are diaphonia, and organum; and discantus, triplum, quadruplum, diatessaromare, quintoier, motetus, mediou, and tenore, are all words that preceded the term counterpoint. As those implied singing upon a plain song, extempore; and contrapunctum, written harmony.

The most ancient authority which Du Cange gives for the use of the word discantus, discantare, is from Hugotio of Vercelli, bishop of Ferrara, and the first definer of decretales, who died 1212. This author says, “decantare est valide cantare, discantare et excantare, id est, discantare.” It is called by Guido, in his Micrologus, organum, and organizare, according to Du Cange, is canere in modum organi; and among his authorities, he gives the following definition from the catholicon, or lexicon, of John de Janua, written in 1286; “Organizare organo cantare; jouer ou chanter en orgres, organisor, to play or sing like the organ.”

The subject of the fifth chapter of Franco’s tract in the Bodleian library, Oxon, in discant, and the agreement of different voices. Discant, in the infancy of what was afterwards called counterpoint, and, in old English, faburden, implied a double chant or melody.

There are several curious particulars concerning discant in the writings of the celebrated Gerson, chancellor of the church and university of Paris at the beginning of the 15th century. According to him, the ground-work of all discant was the plain chant; and, in his treatise of the education of children for the choir of Notre Dame, he enjoins a particular attention to chanting, counterpoint, and discant, as the three most essential branches of their study.

Discant, by the Italians, is called contrappunto alla mente, or extemporaneous harmony. Padre Martini, “saggio di contrappunto,” heard this kind of harmony, a quattro voci, in four parts, produced in great perfection in the church of St. John Lateran, in Rome, 1747. It is called by the French “Chant sur le livre.” To compose a part upon seeing only the chant upon which it is to be built is very difficult, and requires, says Rousseau, great knowledge, habit, and quickness of ear in those who practise it; and the more so, as the key is not always so easily found as in modern music. However, there are musicians in the church so well versed in this kind of singing, that they lead off, and even carry on, fugues extempore, when the subject will allow it, without confounding or encroaching upon the other parts, or committing a single fault in the harmony.

DISCORD, in Music, is a sound which, when struck with another in counterpoint is disagreeable to the ear. SEE COUNTERPOINT.

What renders discords disagreeable to the ear, is their always jarring, and we may say warring with each other, and arriving at the sensorium like two distinct sounds, though struck or sounded at the same instant.

Sometimes the interval is called a discord, and sometimes each of the sounds that form the discordant interval. But though any sounds that disagree may be termed discords, that title more particularly belongs to that of the two which is foreign to the harmony of the base.

There is in nature an infinity of discords; but though in music none are admitted, except such as belong to the genus and key in which the piece is composed, or into which it may modulate, and these are specified in the rules of composition.—What then are these rules? Have they any foundation in nature, or are they purely arbitrary? Let us examine. The physical principle of harmony resides in the common chord, or the harmonies of a single sound. All concords are derived from that source, and it is nature that furnishes this chord. But that is not the case with discords, at least with such as are admitted in music. We perceive, indeed, how they are generated; by the progression of consonant intervals and their differences; but we perceive not the physical cause which warrants our use of them in the composition of harmony. Nature points out the origin of
such harmony as is grateful to our ears, and when it becomes otherwise, we stop.

There is a discord in the 7th division of every string. It is not indeed a true 7th; but it is more like that discord than any thing else, except the extreme sharp 6th; and it is so equivocal, that it will serve for either; suppose C the fundamental, the 7th division of the string will serve for B♭ or A♯ for both which it serves on keyed instruments.

Now, as nature gives this kind of 7th to every fundamental base, if we join the 7th with the 8th in practice, suppose the key to be G. we have the chord of the minor 7th to G, ♭6/5 to B, and 6/7 to D, discords which nature has pointed out, if not correctly produced. F and G are likewise the two 5ths, or 4th and 5th of the key of C; the perfect chords of which therefore furnish, with that of the key note C, the essential harmony to that and every other key.

Rousseau, therefore, not being able to find the origin of discord in nature, or in Rameau’s system, has treated it as a mechanical operation. But, are we never to use the minor modes which afford us such exquisite pleasure in plaintive and pathetic strains, because its origin is out of our reach: Are we never to smell at a rose, because we cannot account for its being more fragrant than the tawdry poppy? And, because in comparing successively the sounds of the diatonic scale, major and minor, with the fundamental, Rousseau and some other theorists, find only two discords, the 2d and the 7th, are we to use no others?

We were not quite satisfied with the article Discord in the last fol. from Grassineau and Malcolm, and tried to make the matter more clear, pleasant, and intelligible from the ingenuity and eloquence of Rousseau, who in his Musical Dictionary, has given us an article, or rather a dissertation on the subject, of 10 or 12 pages; but it contains nothing but a dry confusion of Rameau’s origin of the minor mode, which was never favourably received or adopted, even by his most zealous disciples, and has now been long forgotten.

We shall therefore attempt no new physical or metaphysical discoveries concerning discord; but shall conclude this article by informing young musical students, that though Rousseau has reduced all discords to the 2d, or at most to that and the 7th, which is but the 2d inverted; we think it right to inform them, that the 4th and the 9th are still regarded as discords by many who will expect them to be regularly prepared and resolved, as well as the 5th when made a discord by the 6th, and the 3d by the 4th; so that it may be imprudent, and attended with some inconvenience, if they are not studied and practised, whatever they may be called; and we shall only ask reformers of the old system of harmony, if the 3d made a discord by the 4th, the 4th by the 5th, the 5t by the 6th, and the 9th by the ♭3/4, are not discords, what are they?

See the regular preparation of all practical discords. COUNTERPOINT, Pl. XIV, XV, XVI, and passing notes added to the latter.

Discords are of two kinds: those that are regularly prepared and resolved, and passing notes, in which no harmony is given.

In moving bases, or divisions in the treble, all the notes not to be found in the chord on which the passage is built, are passing notes.

Padre Martini has given in six bars (Saggio di contrap.) all the regular discords, with their preparations and resolutions. See examples of Counterpoint in Types.

Discords seem to have originated from appoggiaturas, or embellishments of a treble part.

Sevenths resolved into 6ths, are appoggiaturas; as are the bases carrying 2ds.

As melody quitting Canto Fermo, and plain counterpoint, began to receive ornaments, appoggiaturas seem to have been the first that were received in harmony. The 4th made a discord by the 5th at a close, is the first that appears in the most ancient counterpoint that has been preserved.

Man has been defined by the French, animal d’habitude, and said by the English to be “a bundle of prejudices.” And melody in music may be said to consist of a bundle of appoggiaturas; first introduced by singers, and for which it afterwards became the business of composers to find harmony.

Great relaxation has taken place of late in the preparation of discords; it used to be an inviolate rule never to jump to any discord except the 7th; but Berthoven, [sic] op. 14, jumps to the 9th. We have formerly said, that the preparation of discords in vocal music was probably established as a rule in favour of bad singers, who were uncertain of hitting them right per saltum. But very pleasing and pathetic
effects are to be produced by unprepared discords. As all good taste in music originates from good singing, so good singers were the first to hazard, at a close, an unprepared 9th, as in the following example:

\[ \text{Old rules told us, that double-discords must be doubly prepared and resolved. See Music plates.} \]

Rousseau has given, in Pl. K. of his Dict. de Mus. fig. 1, two diatonic scales, one, the natural scale, in constant and universal use; the other he calls the scale of Aliquots, in which are introduced two new characters, for which we have no names or instruments by which they can be expressed: these are the false notes of the French horn and trumpet, which a few modern theorists want to persuade us, in spite of our senses, are the true harmonies of nature. But they have never yet been admitted in an orchestra, or written in a musical composition. We give the Greek enharmonic scale, as a curiosity; but of which we can make no use in counterpoint, as we have no fundamental base for quarter tones. We have but two genera, one diatonic, and one chromatic, for the eye; when these are to be corrected, the key, and the ear of the performer, must determine.

The new equivocal character given by Rousseau and Kirnberger, for what are generally called the false notes or 4th and 6th of the French horn and trumpet thus:

\[ \text{DISCRETIONE, in the Italian Music, is used to direct the singer or player to execute his part with care diligently.} \]

\[ \text{DISDIAPASON, in Music, a compound concord, in the quadruple ratio of 4 to 1, or of 8 to 2.} \]

The disdiapason is produced when the voice goes from the first tone to the fifteenth, and may be called a fifteenth.

The voice ordinarily does not go farther than from its first tone to the disdiapason; \( i.e. \) it does not go beyond the compass of a double octave; for the disdiapason is an octave doubled. It may sometimes rise several tones above a disdiapason, but the effort or struggle disfigures it, and makes it false. In reality, the ancient scale, or diagramma, only extended to a disdiapason.

\[ \text{DISDIAPASON-Diapente, a concord in a sextuple ratio of 1 to 6.} \]

\[ \text{DISDIAPASON-Diatessaron, a compound concord in the proportion of 16 to 3.} \]

\[ \text{DISDIAPASON-Ditone, a compound consonance in the proportion of 24 to 35.} \]

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\[ \text{DISSONANCE, see DISCORD.} \]

Editorial note: A scientific article by John Farey Sr.

This is a remarkable word, half Greek, and half Latin δις and sonans, sounding twice. The only perceptible dissonance, or discord, which nature gives in the harmonies to a given bass, is the flat 7th 1, 2, 3, 4, 5, 6, 7. See HARMONICS, and BASSE fondamentale. Systeme de Pastini. This term is generally used in the same sense as discord, but a late writer, whose MSS. we have perused, says that if \( l, a, b, \) and \( c, d, \) express the ratios of three sounds, their harmony will be uninterrupted or a concord, if \( b \) and \( d \) have no common divisor but \( l \); and, on the other hand, their harmony will be interrupted or a dissonace if \( b \) and \( d \) have a common divisor; in that case, let this divisor be \( x \): then will \( x - l \) express the order of dissonancy.

Among the examples given of the application of this rule are, the key, octave and double octave, or 1, \( \frac{1}{2} \) and \( \frac{1}{4} \), where consequently \( x = 2 \) and \( x - l = 1 \); or, according to this rule, this chord is an example of the first order of dissonancy. The common chord minor is next examined by this rule, or 1, \( \frac{5}{6} \) and \( \frac{2}{3} \), where \( x \) being \( = 3 \), this chord is declared to be a dissonance of the second order, and the theories of Tartini and Pizzoti are quoted in justification of this degradation of the minor common chord to the rank of discords, a doctrine however, to which we are by no means disposed to subscribe, or to admit the propriety of the general rules above-mentioned.
Dissonant Triad.

Editorial note: A scientific article by John Farey Sr.

This consists of two major thirds, or the superfluous triad of the chromatic scale, as C, E, ♯G. (Callcott’s Mus. Gram. p. 147.) The interval C ♯G is a sharp or superfluous fifth, which see.

Distension, Distensio, Διατασις, in the Ancient Music, was used for the differences of sounds with relation to acute and grave. Wallis’s Append. ad Ptolem. Harm. p. 154.

Nature, in this respect, strictly speaking, assigns no limits. But, with regard to our use, the ancient musicians held, that the nature of what sounded, and also of what was to judge, that is, the human ear, was to be considered; for, neither the human voice, nor even any instrument, can give intervals of distensions immensely great or small, nor could the ear judge of such. Aristoxenus fixes the least interval of distension in practice, to the diesis enharmonica. As to the greatest, he thinks it does not exceed two octaves, and a fourth or a fifth, if we consider any human voice, or three octaves, if we consider one and the same instrument. He does not deny that the extent of the voice, considered in different subjects, as in men and children, may go even beyond four octaves. Aristoxen. p. 21, edit. Meibom.

All the following scientific articles on DITONE are by John Farey Sr.

DITONE, DITONUM, in Music, an interval comprehending two tones, a greater and a less. See INTERVAL, and TONE.

The word is formed of δις, twice, and τοῦος, tone. The ratio of the sounds that form the ditone is of 4 to 5, or ⅘ = 197 Σ+ 4 fj +17 m, which is the major third and that of the semi-ditone, of 5 to 6. F. Parran makes the ditone the fourth kind of simple concords: others make it the first discord, dividing the ditone into eighteen equal parts, or commas, the nine on the acute side go to the greater tone. Salomon de Caux.

Dr. Callcot, in his “Plain Statement of earl Stanhope’s Temperament,” has applied this term to the five lower keys of each septave (or octave) of the clavier, or range of finger keys on harpsichords, pianofortes, organs, &c.; the ditone is , and the tritone , which, together, make up the septave, or

See SEPTAVE and FINGER-Key.

DITONE, Greatest, is an interval whose ratio is \( \frac{64}{81} \), \( = 208 \Sigma+ 4 fj +18 m \), which is the dissonant major third of Galileo, and also the comma-redundant major-third, which see.

DITONE, Least, is an interval whose ratio is \( \frac{81}{100} \), \( = 186 \Sigma+ 4 fj +16 m \), which is the comma-deficient major third, which see.

DITONICO, DIATONIC,

Editorial note: A scientific article by John Farey Sr.

According to Zarlino, is the pure and natural diatonic genus, or the diatonic of Didymus; in which not one of the sounds is in the least altered; such is the plain chant of the church. But the genus diatonum ditonicum of Ptolemy, which coincides with the diatonic of Pythagoras, and results from that division of a monochord bearing the name of Euclid’s section of the canon, is expressed by \( \frac{256}{243} x \frac{8}{9} \). But these ancient systems have been justly laid aside since the invention of a temperament, as being unfit for the execution of musical compositions in several parts. Smith’s Harmon. p. 33.

Divergency of Tune, in Music. M. Huygens and M. Sauveur long ago observed, that no voice or perfect instrument can always proceed or leap from one note to another by perfect intervals, without erring from the pitch at first assumed, and hence it is, that temperaments in the melody are unavoidable, where perfect harmony between the parts of a concert are attained, as Mr. Farey has observed
are absurd, and ill placed, even in a slow and plaintive melody. On the contrary, when the heart is much moved and affected, the voice can more easily find sounds to express passion than the mind can furnish words; and hence came the use of interjections and exclamations in all languages. It is no less a prejudice to assert that a division is always proper on a favourable word or syllable, without considering the situation of the singer, or the sentiment he has to express.

DIXIEME, Fr. the 10th in Music, that is to say, the octave of the 3d, or 3d of an octave.

DIXNEUVIEME, 19th double octave of the 5th in Music.

DIXSEPTIEME, Fr. 17th double octave of the 3d in Music. Every sounding body gives with its principal sound, its major 17th preferably to its immediate 3d, or 10th, because the 17th is produced by an aliquot part of the whole string, \( i. e. \) a 5th part; whereas, neither \( \frac{3}{5} \), which would give the 3d, nor \( \frac{5}{7} \), which would give the 10th, are aliquot parts of a string. See SOUND, INTERVAL, HARMONY.

DO, in Music, a syllable substituted by the Italians to ut in solemnization, as more vocal and fit for the exercise of the voice, for which \( u \) is the most unfavourable of all the vowels, and \( t \) totally stops all emission of sound.

DOCTOR, in Music. See Academical DEGREES.

DODECACHORDON, Gr. The title given by Glarianus to the book, in which he proposes to augment the number of ecclesiastical tones or modes of the Romish church from eight to twelve. This publication bred schism among the writers on canto fermo. He pretended by these four additional modes, to establish in their original purity the twelve modes of Aristoxenus, which, however, were thirteen; but this attempt was confuted by John Baptist Doni, in his treatise on the modes and genera.

The dodecachordon, however, is not only a scarce but a valuable book, from the great number of curious compositions it contains of the most eminent early contrapuntists; particularly of the admirable Jusquin Du Prey, and his master Okenheim.

DOIGTER, Fr. the art of fingering upon keyed-instruments. M. Rameau has condescended, in his last work, “Code de Musique,” to place the young musician’s hand on the keys, and to regulate the fingers; but the business seems to have been better done by
Couperin. Rousseau excludes the use of the right hand, which is an erroneous precept: but the rules with which Duphlip has furnished him are in general good. Rameau’s fingering is the old French method, which has been long abandoned. Couperin’s fingering in the minority of Louis XV, 1717, was new and admirable, and has been often adopted by the best masters, among the rest, Emanuel Bach. See FINGERING.

DORIAN, adj. as the Dorian mode in Greek music, it was the lowest of those which have since, in ecclesiastical music, been called authentic. (See MODES, and CANTO FERMO.) The characters of this mode were gravity, solemnity, and its fitness for tragedy, subjects of war, and religious rites. Plato regards the majesty of the Dorian mode as efficacious in preserving order and decorum; for which reason he has permitted its use in his republic. It was called Dorian from having been first used by that people. Its invention is ascribed to Thamyris of Thrace; who having rashly challenged the muses, and been defeated, lost at once his lyre and his sight.

Its invention is ascribed to Thamyris of Thrace; who having rashly challenged the muses, and been defeated, lost at once his lyre and his sight.

It is agreed that the ancient modes or keys are all minor. Some place the Dorian mode in D; but Ptolemv, who reformed the Greek modes, has placed it in E. Sir Francis Eyles Stiles, who wrote an ingenious paper on the subject of the modes or tones of the Greeks, which was read at the Royal Society, and is printed in the Transactions for 1761, supposes the modes to be only different species of octave of the sounds in C or A natural; but how such different and powerful effects could be produced by transpositions of the same sounds is not easy to conceive. See ANCIENT GREEK MUSIC and MODES.

DORIC, in Music. The Doric mode is the first of the authentic modes of the ancients.

Its character is, to be severe, tempered with gravity and mirth: it is proper for occasions of religion, and war. It begins with D, Sol, Re.

Plato admires the music of the Doric mode, and judges it proper to preserve good manners, as being masculine. And on this account he allows of it in his Commonwealth.

The ancients had likewise the Sub-Doric mode, which was one of their plagal modes. Its character was, to be very grave and solemn. It began with G, Ut, a diatessaron lower than the Doric mode.

DOUBLE, Fr. in music, is equivalent to variation. Handel, in his two sets of lessons, of which the title is in French, has made use of the French terms throughout the two books. Variation at this time was only multiplying notes, and doubling their rapidity.

DOUBLE, [in the theatre] is used in the French theatres for the substitutes of great actors and actresses, when a performer of an inferior order is allowed to take the part of a great performer during an indisposition, real or imaginary; or when a new piece is preparing, which prevents them from appearing at the end of the run of a successful drama. Without hearing an opera performed by substitutes, it is impossible, says Rousseau, to conceive how a piece is degraded, and what patience is requisite in the audience, who deign to frequent the theatres at such times. All the zeal of good French citizens is necessary to those who have any ears, and who ever heard good performers, to bear such detestable jargon.

DOUBLE Base, Contra-basse. Ital. Contra-basse, Fr. This instrument has sometimes three, and sometime four strings with different tunings. But if it doubles the violoncello, or any base part, its tones will always be an octave below those produced by other base instruments.

But whoever wishes to known of what the double-base is capable, should hear the extraordinary performance of Sig. Dragonetti, who executes on the double-base all that can be played on a violin, or any other treble instrument; and, we believe, generally in sons harmoniques.

DOUBLE Chorde, Fr. double stops on the violin, that is, playing different parts on two strings at the same time, as in the first six solos of Corelli, Geminiani, and Tartini. It is very difficult to play double stops on the violin in tunes, and still more difficult on the violoncello; yet many great performers, with strong hands and nice ears, have distinguished themselves by the accuracy of their performance of two parts at once. The elder Hamitz and Haydn have composed solos for one instrument, in which the under part is not a second treble, but a real base, in the true character of an accompaniment of a solo on the violoncello or tenor, by slightly touching, staccato, the under notes. Crosdill’s playing the treble part and base of the March in Scipio on his vi-
oloncello, as completely as if performed by two violoncellos, will long be remembered.

**DOUBLE Counterpoint.** See COMPOSITION, and COUNTERPOINT.

**DOUBLE Croche, Fr. a semiquaver, or a note with a black head, and two hooks to the tail, or two ties.**

**DOUBLE Crochet, Fr. a croche, or what we call a quaver, cut twice in abbreviation; dividing the crotchet into four semiquavers.** See ABBREVIATION.

**DOUBLE Deficient intervals, in Music, are such as are two major commas greater than a true consonance, as double deficient THIRD, FIFTH, &c. which see.**

**DOUBLE Descant.** See DESCANT

**DOUBLE Diesis.** See DIESIS.

**DOUBLE Discords, in counterpoint, must be doubly prepared and resolved.**

**DOUBLE Emploi, a name given by Rameau to two different ways of treating the chord of the \( \text{IV} \) to the fourth of the key, or as the French call it the sous-dominant; in the one the fifth is made a discord by the sixth, and resolved by ascending one degree upon the third to the next base; in the other, the sixth is made a discord by the fifth, and is resolved by ascending one degree upon a sixth to the next base.**

\[ \text{\begin{align*}
\text{VI} & \quad \text{IV} \\
\\text{V} & \quad \text{IV} \\
\\text{IV} & \quad \text{IV} \\
\end{align*}} \]

This generally precedes a close, when the \( \text{IV} \) are played instead of the \( \text{IV} \).

**DOUBLE Fugue, in Music, a fugue on two subjects, of which the second theme must have regular answers like the first.** If these subjects or parts of them should reciprocally serve for accompaniments to each other, they would be more easily worked, and confusion avoided. The double fugue in Geminiani’s sixth concerto, opera III, and the double fugue in Handel’s third lesson in \( \text{F}^\# \) minor, are admirable specimens of this kind of fugue. In this species of ingenuity, the subjects should come in, one after the other, and in notes of different lengths; as contrast in the subjects will render them more marked and distinct. With more parts more subjects might be introduced; but confusion is ever to be feared from a multitude of subjects; to treat them well is the utmost effect of the art. But these painful efforts are more calculated as exercises to try the strength of young students than masters. Rousseau compares them to the clogs and weight with which young horses are loaded to keep them within bounds. -

**DOUBLE Sharps, in Music**

*Editorial note: A scientific article by John Farey Sr.*

[When] Marked \( \#\# \) or +, have the effect of rising a note two half tones; but according to Dr. Boyce’s MSS. in the library of the Royal Institution, these half tones are not to be considered as strictly equal, but the double, or second sharp, as raising the note an *apotome* \( \frac{2048}{2187} \) higher than a single sharp had elevated it. Double-flats, marked \( \flat\flat \) or \( b_b \) are likewise said to have the effect of adding an *apotome* to the flattening effect of a single flat. On the contrary, Mr. Maxweli makes a double sharp to have the effect of two single sharps in raising a note just two SEMITONES medii, which see.

**DOUBLE Superfluous, or redundant intervals, in Music, are such as are two major commas greater than a true consonance, as double superfluous THIRD, FIFTH, &c. which see.**

**DOUBLE Tonguing, on the German Flute, is articulating with the tip of the tongue and management of the breath every note of the most rapid division.** It was said of Dothel Figlio, a celebrated performer on that instrument about the middle of the last century, that he slit his tongue in order to perform this feat better than his neighbours, as the tongues of parrots and magpies have been double pointed to help their articulation, and augment their mechanical prating powers.

**DOUBLETTE, in Music, the principal, or octave stop in French organs.**

**DOUX, Fr. soft, the same as dolce and piano, in Italian. Dolce, however, in Italian, means something more than soft, or the echo of a short musical phrase, as piano at first implied. But purists among the Italians, say, that the indiscriminate use of dolce for piano, is an abuse of words. Besides the diminution of**
force, dolce indicates a more sweet and expressive manner of playing, by sustaining the tones, and marking the first note of a bar somewhat more forcibly than the rest.

Doux in French, as well as piano in Italian, has three shades whoich out to be distinguished; as doux, plus doux and très doux, piano, piu piano and pianissimo.

DOUXIEME, the 12th, or octave of the 5th.

Editorial note: A scientific article by John Farey Sr.

Every sonorous body gives with the principal, the 12th rather than the 5th, because the 12th is produced by an aliquot part of the whole string, which divides itself into three parts or octaves of the 5th of the entire string; whereas the two 3ds, which constitute the 5th, are not aliquot parts of the same string.

DOUZEAVE, in music.

Editorial note: A scientific article by John Farey Sr.

[This] signifies the common system of 12 sounds within an octave, in which case each interval is not very distant from equal among themselves, and are called half notes; whereas by considering the scale as a septave (or octave) five of the intervals are nearly double in value to the other two respectively, called notes and half-notes; for some of the chief properties of douzeaves, see our article TEMPERAMENT; see also the Philosophical Magazine, vol. xxvii. p. 316. xxix. p. 348, &c.

DRAGON of Wantley; the title of an old Yorkshire satirical ballad of much wit and humour. It is supposed to have been written early in the reign of James I, and in burlesque of romances and the wonders of chivalry. We have a very ample and curious historical account of the origin of this ballad, in the last edition of “Percy’s Reliques of Ancient Poetry,” in which a tyrannical and rapacious landlord is figured under the “Dragon;” and “More of More Hall,” was either the attorney or the counsellor who conducted a successful suit against him on the subject of tithes. But this ballad is mentioned here among musical articles, having been the foundation of Harry Carey’s celebrated burlesque opera of the “Dragon of Wantley,” so admirably set to music by Lampe, in 1737, “after the Italian manner.” This excellent piece of humour had run twenty-two nights, when it was stopped, with all other public amusements, by the death of her majesty queen Caroline, November 20th, but was resumed again on the opening of the theatres in January following, and supported as many representations as the “Beggar’s Opera” had done, ten years before. And if Gay’s original intention in writing his musical drama was to ridicule the opera, the execution of his plan was not so happy as that of Carey; in which the mock heroic, tuneful monster, recitative, splendid habits, and style of music, all conspired to remind the audience of what they had seen and heard at the lyric theatre, more effectually than the most vulgar street tunes could do; and much more innocently than the tricks and transactions of the most abandoned thieves and prostitutes. Lampe’s music to this farcical drama was not only excellent fifty years ago, but is still modern and in good taste.

DRAMATIC Machinery.

Editorial note: A technical article. The part on theatre design was by Peter Nicholson. He wrote the articles in the Cyclopaedia on Architecture and Carpentry. The description of the illustrative plates was by John Farey, Jr, who drew them.

In the earlier ages, although dramatic entertainments were very popular, especially among the Grecians and Romans, more attention seems to have been paid to the genius and labour of the poet, than to that of the mechanist or decorator. The names of Eschylus, Aristophanes, Terence, Plautus, and many others, have reached us, while those of the mechanics employed (if there were such) have sunk into oblivion. Whether the mechanical and decorative taste of the ancients was equal to the genius of their poets, it is wholly foreign from the design of this article to inquire. In the present state of dramatic representation we find, by experience, that Cinderella, and Mother Goose, generally fascinate the spectators more than even the most eminent works of Shakespeare. If this be a proof of decay or perversion of literary state, it is also at least a very strong one of the progress of the mechanical arts, and of the effect which they produce upon the public mind even in matters of amusement. Of all the branches of architecture, few (if any) have been esteemed more difficult or uncertain, than the construction of the interior part of a theatre. The architect, besides the general knowledge incidental to his own immediate
profession, would require at least a considerable acquaintance with the principles of optics and acoustics to ensure his success; and unfortunately this task has been too frequently committed to persons who, although perhaps good architects and mechanics, were totally ignorant of both these sciences. The latter science is still so imperfectly understood, that great difficulty must remain in this part of the business; the optical part is not so arduous, and a degree of theoretical knowledge, combined with attention to its practical application, will enable the architect who constructs the interior of a theatre to avoid defects, too common in most of those which have been hitherto executed.

The interior of a theatre is generally, and apparently with justice, divided into two departments. That which is before the curtain, and which contains the audience or spectators, and that which is behind, and which ought to be so constructed as to place the whole performance in the most favourable point of view, and to afford to the performers and artists employed the greatest facilities of executing their respective professional duties with correctness and effect. To the latter of these departments this article is confined.

Before entering into any description of the moving parts of the machinery, it may be proper to notice those parts of the architectural work, which must be adapted to receive and support them. Of these the first, and perhaps, the most important, is the

**Construction of the Stage.**

The stage of a theatre is of an oblong or rectangular form, and is constructed as an inclined plane, the back part being more elevated than the front. It is usual to allow one inch of perpendicular ascent for every 36 inches of length from the front to the back of the stage. Thus the acute angle formed between the flooring or inclined plane, and a line drawn from the front to the back part, and parallel to the horizon, will be 1° 24’ 29". This inclination is considered to be of advantage to the vision lines, supposed to come from the eye of a spectator in the front of the house, to any given point in the stage. It particularly places it in the power of the architect, to keep the back part of the pit lower, than could be done without injuring the vision, were the flooring of the stage horizontal. This must be a considerable object, especially in large theatres, where there are many tiers or rows of boxes, and where the galleries must of necessity be constructed at a great altitude, above the level of the front of the stage. As it is also found, that cloth of every description (especially woollen) has a considerable effect in diminishing the transmission of sound, it is considered proper to keep the whole audience in the pit as low as possible without impeding the vision, that their clothes may produce less of this effect upon the sounds which issue from the stage and the orchestra. A greater declivity might perhaps be of use in this respect, but here the architect must limit himself to so much as will not prove injurious to the action of the performers upon the stage, especially the dancers.

The stage of a theatre, like other wooden floors, consists of plank laid upon cross joists, and where the dimensions of the stage are large, these joists must be supported by cross beams and upright posts to prevent the flooring from springing or yielding too much, as in the common operations of practical carpentry applied to flooring, and entirely depending on the same geometrical laws. In constructing the joists and framing, the architect must in the first place consider the number of apertures which ought to be made for the purpose of conducting the business of the stage with propriety; the dimensions and disposition of these apertures; and the easiest and most economical way of forming others to suit that succession of novelty which seems to be the prevalent taste of the present day. In adapting his joisting and frame-work to answer these purposes, will consist his chief difficulty. The constant changes and improvements which take place, render it impossible to ascertain any precise mode of doing this, but the general way will be considered under the section of this article: *Apertures of the stage*, comprising the foot-lights, traps, flaps, and sliders—to these we now proceed.

**Apertures of the Stage.**

The first aperture in the stage immediately behind the orchestra, and in front of the proscenium and curtain, is that for raising and lowering the foot lights, both for the purposes of trimming the lamps, and of darkening the stage when required. It is marked by the letters A, A, fig. 1, *Plate IX, Miscellany,*
which is a horizontal plan of a stage 60 feet in length, and 25 feet in breadth at the curtain line. In this plan, the lines which represent the side walls of the theatre are too much contracted, for it is necessary to give at least eight or ten feet of additional room for the performers and scene-shifters, behind each wing. The letters B, B, denote the line which forms the front of the stage behind the orchestra.

The next apertures are the side traps, of which any convenient number may be constructed. Four of these are exhibited in the plan, and are distinguished by the letters E, E, E, E. In the middle are two larger traps. The first, at F, is of an oblong form from six to seven feet in length, and from three to four feet in breadth. It is most frequently used for the grave scene in Shakspeare’s tragedy of Hamlet.

The trap marked by the letter G is generally square, and is chiefly used for the sinking of the cauldron in the tragedy of Macbeth. Behind these, in large theatres, where many changes of the scenery are frequently required, there are a number of longitudinal apertures across the stage, which are covered by planks moveable upon hinges, so that by throwing them back, the stage may be opened in a moment. The use of these is to allow the flat scenes to sink through the stage, when required. Three of these will be found in the plan, at the letters H, H, H, and are known by the name of flaps.

In the late Theatre Royal of Covent Garden, much of the scenery, not in immediate use, was kept in the cellar under the stage. For the purpose of raising and lowering these scenes with facility, other apertures were made, and closed with square or rectangular pieces of wood, which could be placed or displaced in a few minutes: these were called sliders, and a plan of one is given at the letter I.

**Framing of the Traps.**

It was usual to produce the ascent and descent of the foot lights by the agency of a person placed in the cellar under the stage. This might have answered the purpose of lowering the lamps for trimming sufficiently well, but the partial darkening of the stage required a more minute attention. For this reason, it was found proper to convey the mechanical power to the place where the prompter stands, that the lamps might be raised or sunk, either by himself, or by a person immediately under his inspection. A framing of this kind, constructed, with a slight variation, from a plan of Mr. George Sloper, of Covent Garden, and similar to what was used there, is represented in fig. 2.

This figure is a transverse elevated section of the stage s it would be viewed by a spectator seated about the middle of the pit. The two side walls of the theatre, under the stage, are represented by the letters L., L.; the aperture, where the horizontal frame which supports the lamps rises, is marked AA, as in fig. 1. The horizontal frame M M slides upon two upright posts, under the sides of the aperture AA, and from both ends cords, passing over two pulleys O, O, are fixed to a large wheel N, placed in a stout framing, which is omitted to prevent confusion in the figure. The weight of the frame M M, and the lamps, is counterpoised by a weight suspended by a cord passing over the pulley R. Upon the same axis with the large wheel N, is a small wheel, and what is called by mechanics an endless line, passing round this, is guided over the directing pulleys P, P, P, to the small barrel or cylinder Q, which being turned by the prompter, or an assistant, the lights are elevated or depressed at pleasure, without entering the cellar under the stage, except when trimming the lamps may be necessary. The difference of the diameters of the wheel N, and the small wheel on the same axis, serves merely to increase the power, and diminish the velocity of the ascent and descent of the lights, upon the common mechanical principle of the wheel and axle.

The traps are worked under the stage, by an apparatus attached to each, and similar in all, according to the dimensions of the respective apertures. That corresponding to the aperture F, in fig. 1, is represented by figs. 3 and 4. Fig. 3, has a transverse elevation like fig. 2. At the ends of the aperture are two upright posts V, V, upon which the trap slides. The trap consists of a horizontal board fitted to the aperture above, and under this is another, with grooves to fit the posts V, V, so that the horizontal position of the trap may be preserved while rising and sinking. These are represented at S. In front of the posts V, V, are two others U, U, to carry a cylinder T, turned by a winch to raise or sink the trap, and secured by a catch and ratchet wheel. The trap, if necessary, may also be counterpoised, but this is seldom, if ever, done.
Fig. 4, is a profile elevation of the same machinery, which will further illustrate the relative positions of the posts V and U, and the way in which the cords by which the motion is communicated, pass from the trap to the band. The reference letters are the same in both figures. The cords are generally made fast to the beams or joists, at the roof of the stage cellar, and pass over a pulley at each end of the trap, to double the power of the person who turns the winch. Besides the moving the traps, each aperture is closed by a board supported by an upright piece of wood, or similar contrivance when the traps are not at work.

No machinery whatever is permanently attached to the flaps or sliders, for as these apertures serve generally for the passage of the flat scenes through the stage, the machinery must depend upon the particular effect which it is necessary to produce. The flat scenery is generally raised by a crane, unless a very rapid ascent or descent be required, when it may be done by the application of a counterpoise.

Disposition of the Stage Lights

There is, perhaps, no department of the theatre where so much pains ought to be taken, as in the disposition of the lights, for upon this, in a very great degree, depends the effect of the scenery, however nicely the perspective may have been executed by the painter, and every optical illusion calculated to astonish or amuse the spectator. It was formerly the custom to light the stage by a large chandelier, or frame of lamps, suspended in the middle of the prosenium, and elevated or depressed at pleasure. This still prevails in many parts of the continent, and even in Britain, is very generally used to illuminate the ring, or area of those theatres, where feats of horsemanship, and other athletic exercises are exhibited.

It seems obvious, that the suspension of a chandelier directly in the view of the spectator, must materially deteriorate the effect of an exhibition, which can only be considered as excellent in the degree in which it is considered as a faithful copy of nature. When suspended over the prosenium of a large theatre, it must also greatly impede the vision of all spectators seated in the upper parts of the house. These inconveniences induced the late Mr Garrick, when patentee of the old Theatre Royal of Drury-

lane, to remove the chandelier and substitute the frame of lamps now distinguished by the appellation of foot lights, and this improvement has been adopted in all other regular theatres in the British islands.

But although the adoption of the foot lights removes the objections to the chandelier, they are still very far from producing that disposition of light and shade, which would be very desirable to increase the effect both of the scenery and of the countenances of the performers. The glare of light in the front, and parallel to the stage, besides the smoke which the lamps, however clean and nicely trimmed, always produce, inverts every shadow, and throws the shade upwards instead of downwards upon the performers' face. The most experienced professional men assign this as the reason, that the face of a performer must be so highly coloured to produce an effect in the front of the house, as to appear absolutely ridiculous to a stranger unconversant with the business, if admitted into the green-room, or behind the scenes. The limits of this article will not admit of going farther into detail upon this subject, nor indeed have we any established facts to proceed upon. All mechanical experiments necessarily involve a certain expense, while their success is merely speculative, and it is much better, in every case, to ascertain the extent of the improvement practically than theoretically. The disposition of the lights of a theatre, however, still seems to afford very ample scope for the exercise of the talents of an expert and skilful optician.

To give a sufficient light to the stage side lights are used, as well as foot lights: these are generally placed between the wings, to turn upon a hinge, for the purpose of darkening the stage when necessary. A plan of these, which is very simple, will be found in fig. 5. The apparatus consists merely of an upright post, to which is attached a piece of tinned iron, forming two sides of a square, and moveable upon joints or hinges, and furnished with shelves to receive the lamps or candles. That which gives light to the stage is represented by 1, and the position in which the side lights are placed, when the stage is partially darkened by 2. Side lights are placed between every set of wings, on both sides of the stage.
Besides the foot and side lights, which are permanent, a number of occasional lights are disposed at times on different parts of the stage, to give effect to transparencies, and for other causes, of which, as they must be varied according to circumstances, no particular account can be given. They must be left entirely to the genius and taste of the persons who conduct the business of the stage.

Disposition of the Scenery.

The scenery of a theatre consists of the flat scenes which form the termination of the perspective across the stage, and the side scenes, or wings, which are disposed upon each side of the stage so as to be shifted as often as may be necessary, and to afford opportunities for the actors to come upon the stage, or quit it, at any of the intervals between the respective sets. Besides these, there are scenes which may be occasionally placed and displaced, such as the fronts of cottages, cascades, rocks, bridges, and other appendages, requisite in the representation of particular dramas. These are generally called pieces.

The flat scenes are of three kinds: the first of these are drops or curtains, where the canvas is furled or unfurled upon a roller, placed either at the top or bottom of the scene. A difference of opinion exists as to the placing of the roller, which, as it is a mere matter of taste, may probably never be determined—both ways are used in the London theatres. The rollers, in either case, are made to revolve by means of cords tightened or slackened as may be necessary, and when the scenes are large it is usual to wind them up by means of a cylinder and a winch, as in the trap machinery.

Although the drop scenes are the most simple, it is necessary sometimes to have recourse to those scenes which are called flats. In these the canvas is stretched upon wooden frames, which are generally constructed in two pieces, so as to meet in the middle of the stage, the junction being in a perpendicular direction. The side frames are moved in grooves, composed of parallel pieces of wood fixed upon the stage, and so constructed that they may be removed with facility from one place to another. The upper part of the framing is also confined by a groove, to retain the perpendicular position of the flat scene. These are sometimes constructed, to save room, upon joints, by which they may either be lowered to the horizontal position, or drawn up to the side walls. In this respect their construction is pretty similar to that of a common drawbridge. This plan was used in the late Theatre Royal, Covent Garden, where they were called flys. The principal use of the flats is where apertures, such as doors, windows, chimney-pieces, &c. are wanted in the scene, which may be opened and shut as required; these are called in the technology of a theatre, practicable doors, &c. because, when not to be used, they may be painted upon a drop scene. A third kind of scene is the profiled or open flat. This is used for woods, gateways of castles, and such purposes: it is framed exactly like the other, and the only difference consists in parts of the scene being left open to shew another behind, which terminates the view.

A very important part of the scenery of a theatre is the wings. These also are stretched upon wooden frames, and slide in grooves fixed to the stage. In some large theatres they are moved by machinery, in others by manual labour. The disposition of the grooves will be seen at the letters K. K., in fig. 1. In this figure are nine sets of wings, the front only of which are marked by the reference letter. The wings, like the flats, whether moved by the hand or by the aid of machinery, usually stand upon the stage. The plan of moving the wings of the late theatre of Covent Garden, and that of the Theatre Royal of Glasgow, invented by the writer of this article, [Peter Nicholson, Ed] are represented in Plate X.

Fig. 1, is a transverse elevated section of the stage cellar, and stage of a theatre, where the wings are moved by a cylinder, or barrel under the stage, as was done at Covent Garden. D, D, are the side walls of the house; at A is a strong horizontal beam of wood, such as builders generally call sleepers, laid upon the floor of the cellar under the stage. Of these there must be a sufficient number to serve as railways for the frames of all the wings to run upon: four of these frames are represented and distinguished by the letters B B, C C. The frames B, B, are in front of those marked C, C. each frame runs upon two small wheels to diminish the friction, and all passing through longitudinal apertures in the stage, which serve as guides, rise to a sufficient height above the stage to support the wings which are attached to them in front, so as to be quickly removed, and others substituted. The line of the stage is rep-
presented at E. Two frames at each side of the stage only were used for each set of wings. At F is a long cylinder, or barrel of wood, revolving upon iron axles, and extending from the front to nearly the back of the stage, so as to move all the wings at once. It will appear, by inspecting the plate, that the cords, or endless lines, passing from each frame round the barrel F, and over the directing pulley H back to the same frame, are so disposed that when the upper part of the barrel is moved towards the right, the front frames B, B, will move forward upon the stage, and the back frames C, C, will be withdrawn. In this state they are represented in the figure. When the motion of the barrel is reversed, that of the frames will also be inverted; the back frames will advance, and the front ones will recede. When a change of scenery is requisite, the wings are taken off the frames which are out of the view of the spectators, and those fixed on which are to be next displayed. Upon the barrel F is a wheel, moved by a pinion G, by means of the handle I, to give motion to the barrel, and increase the power. A horizontal fly wheel, like that of a jack, was also added, but in so short a motion it is not probable that it could be of great advantage.

Fig. 2, is an elevation of the machinery by means of which the wings of the new subscription Theatre Royal of Glasgow are moved, and is the only plan of the kind hitherto attempted. It may be thought strange that any deviation should have been made in this theatre, from the plans adopted in the Theatres Royal in London; the reasons are the following. Before plans for moving the machinery had been procured, the architectural part of the house was finished, and three apartments upon each side under the stage having been fitted up for dressing rooms, there did not remain sufficient room to construct the barrel and apparatus to advantage in the stage cellar, which was sufficiently occupied by the foot-lights and trap framings already described. It became necessary, therefore, either to alter the house, or to abandon the idea of working the wings by machinery, unless another place could be found where the machinery might be placed to advantage, without interfering with that space behind the scenes allotted to the performers and servants of the theatre. In every theatre it is necessary to have platforms at each side above the stage, and between these a temporary flooring, for the purpose of hanging up, taking down, or moving the flat scenery. These side platforms are distinguished by the letters K, K, and the intermediate moveable flooring by L in Fig. 2. This suggested the idea that the barrels might be placed upon one of these platforms, and the wings moved above instead of below. But had the moving lines been attached to the upper parts of wings resting on their bases, every motion of the barrel must have overturned those wings, or at least have made them totter, and impeded their motion. To obviate this it was thought expedient that the wings, instead of resting upon the stage, should be hung from above, the basis being so near to the stage as to appear to every spectator to rest upon it, although really suspended over it. Upon this general principle arising, as most inventions do, from a case of immediate necessity, the machinery which shall now be described was planned and executed.

Under the platform K were placed horizontal boards upon their edges, ¾ of an inch in thickness and seven inches deep; these corresponding to the number of the wings to be used, were separated at each end by square pieces of board, of the same thickness, to keep them asunder; at each end the whole were bound together by a clasp of iron, O, which passing upwards through the platform, was secured by wedges passing through the arms of the clasp; by means of these wedges the clasp, and all the wings suspended from it, could be raised, should the platform yield in any part. The clasps, horizontal boards, and intermediate pieces, were secured by a screw-bolt passing through the whole. The horizontal pieces of board served as rail-ways for the suspended wings to move upon, and were seven feet in length within the clasps; from these the wings were suspended by sheers of iron, in each of which was placed a small friction roller resting upon the board, and the lower part of the sheers was screwed to the wing, so that its base might be nearly an inch clear of the stage. Between the pieces of wood which separate the rail-ways in front were pulleys of about six inches diameter, two of which are represented at PP; a cord attached to a staple in the top of the sheers of each wing, and passing over each of these pulleys, connected the wing with one of the barrels above at F. When the barrel was turned
these cords necessarily pulled forward the wing to which each was attached, and thus the wings were brought forward. To allow the wings to recede, another cord, attached to the sheers, was conducted over the directing pulleys H, H; and from the other end a weight was suspended sufficient to overcome the friction and pull the wing back whenever the cords attached to the barrel were slackened. The frame M, which carried the barrels, consisted of upright posts of wood about four inches square, and the horizontal rails for carrying the barrels were of cast iron with brass bushes for receiving the axles or journals of the barrels. The barrels were solid pieces of fir, six inches diameter, and hooped with iron at each end, the longest, which moved six wings on each side of the stage, was divided into three pieces, and the journals connected by coupling boxes. Eight barrels were used, four of which were placed as represented in the figure, and the other four above upon the rail at M; because the barrel, when pulling forward the wings, was obliged to raise all the weights for making them recede; a counterpoise, equal to the sum of all these weights, was placed upon the barrel in an opposite direction. To increase the power each barrel had a wheel and pinion on one end, exactly similar to what is represented at F and G in fig. 1; the pinion containing one-third, part of the teeth in the wheel of course trebled the power, and thus one man was able to work 12 wings at the same time with sufficient velocity, for the wings always advanced or receded more quickly than the drop scenes could be raised or sunk. The direction of the cords will be very obvious by inspecting the figure, two barrels with the counterpoises being corded.

For raising and lowering the drop-scenes another framing was constructed carrying 12 short barrels, a profile section of which, with one barrel, is represented at N. When the drop-scenes were pulled up the barrel was secured by a ratchet-wheel and catch.

Although this machinery was constructed rather to correct an error in the general construction of the theatre than for any other reason; it appears, after four years trial, to possess some important advantages over the plans of the London theatres, whilst it is fair to state that it is equally liable to some objections. As it was constructed in a hurried manner, the practical part was not executed so perfectly as might have been wished; all the directing pulleys were made of wood, and the grooves to receive the cords by no means sufficiently deep to prevent them from slipping occasionally, which must have frequently interrupted the motion of the wings. For this reason the counterpoise weights were substituted for the double or endless line; and this was more necessary, because the cordage being new, it was perfectly evident that the natural stretch would in a few days render it quite unserviceable in this respect, unless greater care had been taken than is generally to be expected. This machinery, with very little attention, has been found to answer the purpose remarkably well. Its advantages over that used in Covent Garden seem to be the following:

The frames which carry the scenes by the plan fig. 1, resting upon the floor of the stage cellar, require a strength of framing to keep them steady, which both renders them heavy to move and involves a very great expense for the timber and workman-ship; besides this, many people must be employed to change the wings upon the frames when drawn back, and in this respect no saving of labour can arise, and the only advantage gained by the machinery is regularity of motion. The hanging wings of the Glasgow theatre are greatly lighter, and might be much more so than they are, for the whole framework was finished upon the presumption that they must rest upon their bases, as in the case of other wings. But it will at once occur, that a much greater strength of frame-work will be necessary for a scene upwards of 20 feet high, and resting upon its base, than for one suspended from above, where the force of gravitation acts in a contrary way, and which requires no other power than what is necessary to distend the canvas. Add to this, the weight of a framing passing through grooves in the stage and running upon a rail-way nearly 20 feet below, and without exactly measuring the dimensions of the wood, which must always depend upon those of the theatre, the disproportion of the one plan to the other will appear enormous. In the working of the wings according to either of these plans the superiority also evidently rests with the latter. A person or persons under the stage are situated in a most inconvenient place for observing the conduct of the drama, and regulating operations to forward it effect. On a platform above every thing is easily vis-
ible, and common attention to what passes below is all that is necessary. In the London theatres, as also in most respectable provincial ones, a whispering tube is placed, to convey sounds from the prompter to those employed above, for their occasional government; this tube is entirely similar to a common speaking trumpet.

The defects of the hanging machinery, as constructed at Glasgow, ought also to be noticed. The rail-ways, upon which the wings move, were found sometimes apt to warp, and had of course some tendency to interrupt the motion of the wing; this might be easily remedied by making the rail-ways of cast-iron, and if the upper edge should be well polished the friction would be very small indeed.

In a provincial theatre, where a certain set of wings are almost constantly used, the plan of screwing the sheers which carry the pulleys to the wings may answer very well; it is, however, certainly more desirable that means should be devised for altering the wings with greater speed than can be done by the drawing of screw-mails. Many plans may be contrived to answer this purpose; one, which may do sufficiently well, is represented in figs. 1 and 2, Plate XI.

Fig. 1, is a profile elevation of the suspending apparatus and upper part of the wings as in fig. 2, Plate X. B is the platform above; A, A, the hanging supports, with wedges to raise or sink the whole as may be proper. C is the rail-way which in this instance is supposed to be of cast iron. E is a pair of sheers or clutch of malleable iron, through which is an axle to carry a small friction wheel on each side. F, F, are fractions of the wings, suspended by screws or bolts and cutters, so as to be easily changed. The cordage and barrels may be either as in the former plate, or the endless line may be substituted, if precautions are taken to prevent the cords from slipping off the directing pulleys.

Fig. 2, is a transverse elevation of the same apparatus, taken directly behind the wings as they advance or recede, and the various parts are distinguished by the same letters of reference as in fig. 1.

The object of this apparatus is, in the first place, to ensure the regularity of the motion of the wings; and in the second to effect this motion by as few servants as possible. The hanging part of all the divisions between the five wings represented may be of cast iron, and the projecting parts under the friction rollers may be either cast as feathers, or in separate pieces, and joined by counter-sunk screws. The intermediate pieces to preserve the distances, where the bolt D passes through, may be of well-seasoned plank.

By these means, and the application of the double rollers, an interval is left by which any wing may be speedily removed, without unfixing a single screw or bolt; and the moving cords, being merely hooked to the wing, may be instantly unfixed and placed upon hooks in the suspending apparatus, as represented in fig. 1, until a new wing is placed on the railway. At the same time, by using cast iron, the whole may be compressed into so small a space, as to have all the wings, necessary for an evening representation, fitted in their places before the exhibition commences, unless in very extraordinary cases.

Besides the permanent machinery, which is always in use, many occasional engines must be used to suit particular pieces. The limits of this article will not admit of going much into detail respecting these; nor is it necessary.

The mechanist, whose chief aim is to produce continual novelty, must depend much more upon the fertility of his own genius, than upon antecedent plans. We shall therefore close the article, with short descriptions of a few miscellaneous specimens, which will be found in the remaining figures of Plate XI.

Fig. 3, represents the common method of executing a sea scene. A certain number of horizontal axes being placed across the stage, with cross boards properly painted and cut or profiled, when turned upon their respective centres, produce the appearance of water, which may be represented either as tranquil or stormy as the occasion requires.

To give the appearance of ships or boats, a very simple apparatus will suffice. A plan of a small boat is given in fig. 4.

A frame of wood, moving upon friction wheels, is represented by the letters A, A, upon this the boat is placed upon an axis at B. From the aftermost part of the boat, a cord, passing over the pulley C, is conducted behind the scenes. The bow or fore part of the boat being made heavier than the after-part or stern, the cord, by being tightened and slackened alternately, will move the boat upon the axle B, and
give it a motion very similar to that produced by the natural undulation of the waves. If the friction wheels are covered with cloth or list, and the axles smoothly turned and well oiled, the noise from friction will be avoided, which often destroys the illusion when boards without wheels are pushed across the stage. The frame A is drawn across between the axes in fig. 3, and all that is under the surface of the water (represented at D.) is concealed by a painted board. Two stops may be placed upon the carriage to regulate the vibration of the boat, as represented in the figure.

Fig. 5, is a plan of a machine to produce the oblique ascent or descent of a car, horse, or any other body, above the stage. Upon a cross bar of wood A, A, passing between the platforms, and sufficiently high to be concealed from the spectators, is a box or frame B, moving upon rollers. A cord F, attached to this frame, is wound upon a barrel upon the platform. Another cord G, attached to any fixture upon the opposite side, and passing over a pulley in the box B, suspends the car C. When the cord F is wound upon the barrel, the car will ascend in the direction of the dotted line D, and when unwound will descend in the same line by its own gravity. The cord E will keep the car or other body steady. This is merely another application of the principles, investigated under the article DIAGONAL motion, and were the descent required to imitate the parabolic curve of a projectile, it might be effected by constructing the barrel like the spiral of a watch, the diameters for the convolutions of the cord F being accurately calculated, and another barrel constructed to regulate the descent of the suspending cord G. The cords are very slender and painted black, to elude the eye of the spectator. The lights also are strong in front, and dim behind, to assist the optical deception. To give the cords sufficient strength without increasing their diameter, they are spun of the best hemp, mixed with brass wire well annealed, Those used at Covent Garden for the flying horses in the Pantomimic Spectacle of Valentine and Orson, whose flight was effected by an apparatus similar to that in the figure, although less in diameter than a common quill, were said to possess sufficient strength to suspend a ton weight.

Fig. 6, is an apparatus, rather optical than mechanical. It is designed to give the effect of a full moon, and was used with great success at Drury Lane. The front view is distinguished by the numeral l; the profile by 2. It is a conical case of tin, the lesser diameter of which is a concave reflector at A. The greater diameter, at B, is covered with taffeta, or any transparent coloured cloth, to give the shade required, and a lamp is suspended within the case, which is perforated in many places to admit the air. Simple as this apparatus is, it gives a very striking resemblance of a full moon when suspended by three cords, and when the back part of the stage is darkened.

Fig. 7, is a plan of one of those quick transitions of scenery, which are used in pantomimes or other pieces, where an assimilation to the agency of magic is attempted. Any number of perpendicular cylinders being placed upon the stage to revolve easily; let these be covered with canvas of sufficient length to reach from each cylinder to that nearest to it. When the canvas is rolled upon the cylinders and painted they will assume the appearance of pillars placed in a room or hall, and a scene placed behind will be seen through the intervals. By pulling the cords at A, the canvas unwinding from each cylinder and reaching to the next, will almost instantaneously change the appearance of the pillars into that of a flat scene, and the former appearance may be as instantaneously restored, either by the action of weights, as in the figure, or by a power acting in a contrary direction. Cords similar to those at A, must be placed at the bottom in the direction of the dotted line B, to unroll the canvas equally, and the pivots at top and bottom must be concealed.

Fig. 8, is a section of those double flat scenes, which are also used to produce instantaneous changes. The whole scene being covered with pieces of canvas, framed and moving upon hinges, one side is painted to represent a certain scene, and the other to represent one totally different. The section marked 1 shews these pieces when elevated above the joints; that marked 2 shews them when suspended below. The contrivances for moving them are very various. In general, however, they are kept in the elevated situation by catches, which being suddenly-relieved, they fall by their own weight.

DRAMATIC Music of the Greeks. Aristotle tells us, in his “Poetics,” that music, μελοποιεία, is an essential part of tragedy; but how it became essential
this philosopher does not inform us. M. Dacier has endeavoured to supply this omission, by suggesting, that custom and a natural passion implanted in the Greeks for music, had incorporated it into their drama. Indeed Aristotle calls it, in the same work, “the greatest embellishment that tragedy can receive.” And innumerable passages might be quoted from other ancient writers, to prove, that all the dramas of the Greeks and Romans were not only sung, but accompanied by musical instruments.

However, many learned critics, not reflecting upon the origin of tragedy, and insensible, perhaps, to the charms of melody, have wondered how so intelligent a people as the Greeks could bear to have their dramas sung. But as antiquity is unanimous in deriving the first dramatic representations at Athens from the dithyrambics, or songs sung in honour of Bacchus, which afterwards served as chorusses to the first tragedies, we need not wonder at the continuation of music in those chorusses, which had been always sung. Nor will the custom of setting the episodes, as the acts of a play were at first called, appear strange to such as recollect that they were written in verse, and that all verse was sung, particularly such as was intended for the entertainment of the public, assembled in spacious theatres, or in the open air, where it could only be heard by means of a very slow, sonorous and articulate utterance.

It is true that tragedy is an imitation of nature; but it is an exalted and embellished nature; take away music and versification, and it loses its most captivating ingredients. Those who think it unnatural to sing during distress, and the agonies even of death, forget that music is a language that can accommodate its accents and tones to every human sensation and passion; and that the colouring of these on the stage must be higher than in common life, or else why is blank verse, or a lofty and figurative language, necessary.

The stage cannot subsist without exaggeration; as verse is the exaggeration of common speech, so music is that of verse; in like manner exaggerated gesture becomes dancing. In the same manner as it becomes necessary on the stage to allow of small deviations from truth and nature in favour of the poet and the actor, whose writings and speech are somewhat more inflated when the buskin is on, than at other times. Marmontel, in the Encyclopédie, art. Declamation, says, “For the same reason as a picture, which is to be seen at a distance, requires bolder strokes and higher colouring, the theatrical voice must be pitched higher, the language be more lofty, and the pronunciation more accentuated, than in society, where we communicate our ideas with more facility, but always in proportion to the perspective; that is to say, in such a manner that the tone of voice should be softened and diminished to the degree of nature, before it arrives at the ear of those to whom it is addressed.”

The marks, cithara, or vases, the accompaniments of the cithara, and flutes, equal and unequal; all which, singly and collectively, prove the declaration of the Greeks and Romans to have been musical, and regulated like the recitative of modern operas, by a notation.

DRAMATIC Music of the Romans. Livy, lib. vii, cap. 2, gives a kind of history of the Roman drama, which, as well as the Grecian, was inseparable from music. The Romans, indeed, were later in cultivating arts and sciences than any other great and powerful people; and none of them seem to have been the natural growth of the soil, except the art of war; all the rest were brought in by conquest. Before their acquaintance with the Greeks, they had all their refinements from the Etruscans, a people very early civilized and polished. The dramas of Plautus, Terence, and other early dramatic writers, invented nothing, their plays were all translations from the Greek, and probably sung or declaimed to Grecian music. Vitruvius speaks of no other than was used in the theatres. Cicero, in his second book of Laws, tells us, that before Greece and her arts were well known to the Romans, it was a custom for them to send their sons for instruction into Etruria. And thence they had the first ideas, not only of religion, but of poetry, painting, sculpture, and music, according to the confession of their own historians.

Besides the obligations which the Romans had to the Etruscans and Greeks for their taste and knowledge in the fine arts, the conquest of Sicily, 200 years before the Christian era, contributed greatly to their acquaintance with them. Fabricius gives a list of seventy Sicilians who have been celebrated in antiquity for learning and genius; among whom we find the well known names of aeschylus, Diodorus Siculus, Empedocles, Georgius, Euclid, Archimedes,

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Epicharmus, and Theocritus. Among these, the Romans might have had tragedy from AESChylus; comedy from Epicharmus, and music from Empedocles.

DRAMATIC Music, attempted in England, previous to the Italian opera. All theatrical representations and public amusements having been suppressed by the parliament, in 1647, no exhibition was attempted till 1656, when Sir William D’Avenant’s “Entertainment of Declamation and Music after the Manner of the Ancients,” seems to have escaped molestation more by connivance than the protection of government. For though Ant. Wood has asserted, that Sir William D’Avenant had obtained leave to open a theatre for the performance of operas in the Italian language, during the protectorship, when all other theatrical exhibitions were suppressed; “because being in an unknown tongue they could not corrupt the morals of the people;” yet on a careful scrutiny into the validity of the fact, it seems to be wholly a mistake. Ant. Wood, at this time, had never been in London, and seems but little acquainted with its amusements at any time.

Being in possession of the first edition of Sir William D’Avenant’s “Entertainment” performed at Rutland house, and printed in 1657, the year after, we shall give an account of the manner in which it was disposed and arranged, from the work itself; which informs us, that “after a flourish of music, the curtains are drawn and the prologue enters,” who speaks in English verse, and talks of the Entertainment being an opera, the only word that is uttered in the Italian language throughout the exhibition. He desires the audience, indeed, to regard the small theatre as “their passage, and the narrow way, to our Elysian field, the opera.” But not a line of this introduction is set to music, either in recitative or air; though, after it has been spoken, and the curtains are again closed, “a consort of instrumental music, adapted to the sullen disposition of Diogenes, being heard awhile, the curtains are suddenly opened, and, in two gilded rostras, appear Diogenes the cynic, and Aristophanes the poet—who declaim against and for public entertainments by moral representations.” Then in two prose orations that were spoken, not sung, public exhibitions are censured and defended in the style of that celebrated philosopher and comic writer.

Operas are, indeed, frequently mentioned and described: Diogenes, manifestly alluding to the splendid manner in which they were then exhibited in Italy, when he says, “Poetry is the subtile engine by which the wonderful body of the opera must move. I wish, Athenians! you were all poets, for then if you should meet, and with the pleasant vapours of Lesbian wine, fall into profound sleep and concur in a long dream, you would every morning enamel your houses, tile them with gold, and pave them with aggots!”

When the cynic has finished his declamation, “a consort of music, befitting the pleasant disposition of Aristophanes, being heard, he answers him,” and defends operas, their poetry, music, and decoration, with considerable wit and argument. After which the “curtains are suddenly closed; and the company entertained by instrumental and vocal music, with a song.”

“The song being ended, a consort of instrumental music, after the French composition, being heard awhile, the curtains are suddenly opened, and in the rostras appear sitting a Parisian and a Londoner, in the livery robes of both cities, who declaim concerning the pre-eminence of Paris and London.”

When the Frenchman has finished his Philippic against our capital; after “a consort of music, imitating the waites of London, he is answered by the Londoner.” In neither of these harangues is the opera mentioned, which, as yet, had not found its way into either capital. When the Englishman has terminated his defence, there is another song; an epilogue; and, lastly, a flourish of music; after which the curtain is closed, and the entertainment finished.

At the end of the book we are told, that “the vocal and instrumental music was composed by Dr. Charles Colman, captain Henry Cook, Mr. Henry Lawes, and Mr. George Hudson.

By this account it appears, that the performance was neither an Italian, nor an English, opera. That there was no recitative, and but two songs in it, the rest being all declaimed or spoken, without the least assistance from music. It seems, indeed, as if Sir William D’Avenant, by this entertainment, as it was called, had some distant design of introducing exhibitions similar to the Italian opera, on the English stage, for which these declamations were to prepare the way.
Pope tells us, that “The Siege of Rhodes,” “by sir William D’Avenant, was the first opera sung in England.”

“On each enervate string they taught the note
To pant, or tremble, through an eunuch’s throat.”

What foundation our great poet had for this opinion, we know not, unless he trusted to the loose assertion of Langbaine, who, in “An Account of the English dramatic Poets,” says, that the Siege of Rhodes, and some other plays of sir William D’Avenant, in the times of the civil wars, were acted in stilo recitativo.

The first performance of the Siege of Rhodes was at Rutland-house, in 1656. It was revived in 1663, and a second part added to it. In the prologue the author calls it “our play,” and the performers, players, not singers. The first part is divided into five entries, not acts; each preceded by instrumental music. But we can find no proof that it was sung in recitative, either in the dedication to lord Clarendon, in the folio edition of 1673, or the body of the drama.

It was, indeed, written in rhyme, which, after the Restoration, became a fashion with theatrical writers, probably to imitate the French, and gratify the partiality of Charles II, for Gallic amusements. Such dramas were called heroic plays, and the verse dramatic poesy.

Upon the whole, it seems as if this drama was no more like an Italian opera than the masques, which long preceded it; and in which were always introduced songs, chorusses, splendid scenes, machinery, and decorations. But if we might believe Mr. Pope, in the lines just cited, this opera as he calls it, was not only set to recitative and florid music, but sung by eunuchs’

Downes, the prompter, tells us, that in 1658, sir William D’Avenant exhibited another entertainment, entitled “The Cruelty of the Spaniards in Peru,” expressed by vocal and instrumental music, and by art of perspective in scenes. These scenes and decorations, according to Downes, were the first that were introduced (on a public stage) in England. Roscius Anglicanus. Mr. Malone (Sup. to Shakspeare) imagines that Cromwell, from his hatred to the Spaniards, may the more readily have tolerated this spectacle.

In another piece, however, of sir William D’Avenant’s, “The Playhouse to be let,” a musician who presents himself as a tenant, being asked what use he intended to make of it? replies, “I would have introduced heroique story in stilo recitativo.” And upon being desired to explain himself further he says, “recitative music is not composed of matter so familiar, as may serve for every low occasion of discourse. In tragedy, the language of the stage is raised above the common dialect; our passions rising with the height of verse; and vocal music adds new wings to all the flights of poetry.”

In the third act of this piece, which we are told was in stilo recitativo, we have the history of sir Francis Drake expressed by instrumental and vocal music, and by art of perspective in scenes, &c.

Such were the first attempts at dramatic music to English words in this country, long before the music, language, or performers of Italy were employed on our stage.

The word opera seems, however, to have been very familiar to our poets and countrymen, during the chief part of the last century; stilo recitativo was talked of by Ben Jonson, so early as the year 1617, when it was a recent innovation even in Italy. After this it was used in other masques, particularly scenes of plays, and in cantatas, before a regular drama, wholly set to music was attempted.

But the high favour to which operas had mounted in France by the united abilities of Quinault and Lulli, seems to have given birth to several attempts at dramatic music in England.

Sir William D’Avenant dying in 1668, while his new theatre in Dorset Gardens was building, the patent, and management, devolved on his widow, lady D’Avenant, and his son Mr. Charles, afterwards Dr. D’Avenant, well known as a political writer, and civilian, who pursued sir William’s plans. The new house was opened in 1671; but the public still more inclining to favour the king’s company at Drury-lane than this, obliged Mr. D’Avenant to have recourse to a new species of entertainments, which were afterwards called dramatic operas and of which kind were the Tempest, Macbeth, Psyche, Circe, and some others, all “set off,” says Cibber, “with the most expensive decorations of scenes and habits, and with the best voices and dancers.”
“This sensual supply of sight and sound,” continues he, “coming in to the assistance of the weaker party, it was no wonder they should grow too hard for sense and simple nature, when it is considered how many more people there are, who can see and hear, than can think, and judge.”

Thus men without taste or ears for music ever comfort themselves with imagining that their contempt for what they neither feel nor understand is a mark of superior wisdom, and that every lover of music is a fool. This is the language of almost all writers on the subject. The ingenious author of the “Biographica Dramatica” tells us, that “the preference given to D’Avenant’s theatre, on account of its scenery and decorations, alarmed those belonging to the rival house. To stop the progress of the public taste, and divert it towards themselves, they endeavoured to ridicule the performances which were so much followed. The person employed for this purpose was Thomas Duffet, (a writer of miserable farces,) who parodied the Tempest, Macbeth, and Psyche; these efforts, were, however, ineffectual.” This is fair and historical; but after saying that “the duke’s theatre continued to be frequented;” when he adds, “the victory of sound and shew over sense and reason was as complete in the theatre at this period, as it has often been since,” it seems as if sense and reason had for a moment quitted this agreeable, and, in general accurate and candid writer. Opera is an alien that is obliged silently to bear the insults of the natives, or else she might courteously retort, that nonsense without music is as frequently heard on the English stage, as with it on the Italian; indeed, when Metastasio is the poet, who will venture to say that either good sense or good poetry is banished from the stage?

But it does not clearly appear, because music and decorations were added to Shakspeare’s Tempest and Macbeth, that one theatre was in greater want of sense at this time than another. We have seen the dramas as they were altered by Shadwell and sir William D’Avenant, and in the latter find that little was curtailed from the original play, or sung, but what is still sung, and to the same music set by Matthew Lock, of which the rude and wild excellence cannot be surpassed. In the operas, as they were called, on account of the music, dancing, and splendid scenes with which they were decorated, none of the fine speeches were made into songs, nor was the dialogue carried on in recitative, which was never attempted on our stage during the 17th century, throughout a whole piece. Indeed, it never fully succeeded in this, if we except the Artaxerxes of the late Dr. Arne; whose music, being of a superior kind to what our stage had been accustomed, and better sung, found an English audience that could even tolerate recitative. In the censure of these musical dramas, which has been retailed from one writer to another, ever since the middle of Charles the second’s reign to the present time, the subject seems never to have been candidly and fairly examined; and, indeed, it appears as if there had been no great cause of complaint against the public taste for frequenting such representations, particularly those written by Shakspeare, in which the principal characters were performed by Mr. and Mrs. Betterton, as was the case in Macbeth, though music, machinery, and dancing were profusely added to the treat

DRAMATURGIA, Ital, the title given to a book compiled by Leo Allatius, or Alacci, in 4to, containing a chronological list of all the dramas, whether for declamation or music, which had been published in Italy from the invention of the press to 1667. A new edition of this useful catalogue was published at Venice, with a continuation, to 1755. The authors of words and music, the printers, dates of the several editions, and places of publication, are all specified. See LEO Allatius.

DRIVING, Notes, in Music. See BINDING-Notes and SYNCOPATION.

In driving notes the first part of the sound begins generally on the unaccented parts of a bar, and ends on the accented parts. See LIGATURE

DRONE-BASE, in Music, a continuation of the sound of the key-note, as on the bag-pipe. Sometimes the drone of this instrument is doubled by the 5th of the key-note. See BAG-PIPE. The same drone-base, or bases, belong to the Piva, and Como musa, Italian bag-pipes.

DRUM, in the Military Art.

Editorial note: A technical article probable by John Farey Jr.

[A]n instrument used particularly in martial music; and in some instances to be found in modern orchestras. It is said by Le Clerc to be an oriental in-
vention, and brought by the Arabians, or perhaps the Moors, into Spain. The ordinary military or side-drum is made either of brass or of very thin board, turned round into a cylinder; in which form it is well secured by glue and rivets; and further, to strengthen it, is lined throughout with a strong kind of hempen cloth, or coarse Holland, cemented to its interior; so as to prevent the wood from splitting. The drum thus made, will not, however, stand great heats or intense cold; nor will it in damp weather yield so full a tone as one with a brass barrel. Within each end of the barrel there is a flat wooden hoop firmly fixed, and projecting about the third of an inch beyond the brass or wood: these, which are called the batten-hoops, serve to prevent the head from being cut by the edges. The head is made of parchment cut to a circular form, about two inches each way larger than the ends of the drum-barrel: it is fastened, while moist, to a small ring of copper, or of very firm, tough wood, called the flesh-hoop, so as just to exceed the size of the band. The head properly means the parchment covering of that end which is beat upon: the other end, which is covered with a coarser parchment, is called the reverse. The head and the reverse, being applied to their respective ends of the barrel; over each a hoop, of about an inch and a half broad, and about the third of an inch in thickness, is drawn, to press the parchments cleft over the ends of the barrel, but not to pass over the flesh hoops. The bracing-hoops, having holes made for passing a cord alternately from one to the other, backwards and forwards, are pulled down as near as possible towards each other, thereby to strain the head and reverse parchments very tight; but as the cord is subject to relax, it is necessary to have sliders of very strong buff leather, called braces, which being pressed downwards from the head hoop, towards the reverse hoop, cause them to approach still nearer, and to tighten the two parchments to an extreme.

When in this state the drum is said to be "braced;" when otherwise, "unbraced." To give greater effect, and to cause that vibration which occasions a rough intonation, three pieces of thick cat-gut are stretched across the reverse, flat upon it, and parallel. When these, which are called "snares," are slackened, so as not to vibrate when the head is beat upon, the drum is said to be "damped," or "un-snares;" some, instead of slackening the snares, put a cloth between them and the reverse; whereby the sound is considerably deadened: this properly is termed "muffling;" though most persons consider that term to be appropriate only when the head is covered with crape, &c. as at funerals.

After all the foregoing preparation, the drum would have little or no sound, were it not that a round hole, about the size of a large pea, is left in the centre of that side which is nearest the body when the instrument is suspended by means of a "sling" passing over the right shoulder and under the left arm.

However simple the beats of the drum may appear, it is, nevertheless, by long practice only, that perfection can be attained; and then requiring both a correct ear, and a very nimble wrist. Every beat is perfectly regular in the number and division of the strokes from the two sticks; of which that held by the right hand is slightly grasped, while that in the left hand is retained in an oblique position; passing between the middle and third fingers, and being held by the two first fingers and the thumb; the two lower fingers crossing under it, and the palm being turned upwards. Such is the established precision in which the drum-majors take great pride, that if all the drummers of the British service were assembled together, they would be found to beat perfectly alike throughout what is called "the duty;" that is to say, all the beats in use; of which the following may be considered the principal.

The Roll, which is a continued rolling sound, without the least inequality or intermission; this is produced by giving two taps with the same stick, using the different sticks alternately, each beating twice. The ordinary mode of teaching the roll is by the beat of "daddymammy;" so called from the double taps, in which each hand, after its two taps, is raised as high as the shoulder; thus forcing the pupil to strike distinctly and leisurely. By degrees he is able to beat quicker, and, ultimately, "to roll," in the manner above described, with such incredible celerity and evenness, as to produce a close and smooth sound.

The Swell is nothing more than the roll occasionally beat so softly as scarce to be heard; then increasing to the utmost of the performer's strength; and again lowering so as almost to die away upon the
ear: the great difficulty is to raise and to lower the sound very gradually. This beat is merely ornamental; it is usually performed in the reveillez, &c., while the fifes are silent: it is quite arbitrary, being an *ad libitum* performance.

*The Flam* is a beat made by the two sticks striking almost at the same instant on the head, but so as to be heard separately: it is used as a signal for various motions and manoeuvres.

*The Preparative* cannot be described in letter-press; it is the ordinary signal for the firings to commence.

*The General* is an air, which, when performed at full length, is the signal for marching to some new ground, or to some other station: the first bar of its measure is beat as a signal for the firings to cease.

*The Assembly, or Assemblez,* is a signal for the line to fall in; and, when beat after the general, is followed by the march, which is beat by each corps as it moves from its ground.

*The March* is almost indefinite, but is ordinarily beat in compliment to a reviewing, or a passing, field marshal, general, prince of the blood, &c.; as also during salutes, when the battalion present their arms. “The Dead March” is beat with muffled drums, as already described. “The Grenadiers’ March,” and “The Lilies of France,” are complimentary marches, and, in strictness, ought not to be beat but to a corps of grenadiers, or when a grenadier officer commands, or when the colours of the regiment are flying. “Slow March” is in slow, solemn time; and “Quick March” is in quick time: what are commonly called marches, and which have no particular distinguishing character, are usually performed in ordinary time. “The Rogue’s March” is played when men, and “The Whore’s March” when women, are drummed out of a town.

*The Ruffle* is a short roll; perhaps of five or six seconds duration, beat very close and firm, decreasing a little in force just before it concludes, which it does in an abrupt and smart manner, and with a strong flam.

*The Reveillez* is beat rly in the morning, usually at day-break, to waken the garrison: it is a medley of various airs and beats.

*The Tattoo* is always beat at night, at such hour as the garrison should retire to rest; it is the signal for extinguishing fires and light, except in public guard-rooms. All soldiers found abroad after the “Tattoo” is beat, are considered as trespassers against martial law. This beat is a medley of airs and beats; the drums accompanying only at certain intervals.

Beat for Orders; a peculiar mixture of rolls, flames, and single taps, beat at the adjutant-general’s quarters, or office, for assembling all persons whose duty it is to receive the orders of the day. Each regiment also beats for orders, to assemble the serjeants, &c. who keep the order books of the several companies.

*The Retreat* is beat every evening at sun-set, or after a corps has been dismissed to their quarters; it is often beat in rather a quick time along the front of a corps, when paraded for inspection or roll-call. This beat likewise warns corps engaged in action, or performing evolutions, to retreat.

*The Troop,* is beat before the new guards, &c. about to march off from their place of assembly, to relieve others then on duty. This, as well as the “Re-treat,” is ordinarily in triple time of three crotchets or quavers; not unlike the “Waltz,” when performed rather slowly.

*To Arms* is a beat resorted to on all emergencies, whether owing to disturbances, fire, invasion, &c.

There is a kind of accompaniment performed on the drum, when beating to marches, and to other airs played by a fife. This is called the *Drag,* and is either double or single, according as the music may admit. The *Single Drag* is little more a tap of the drum for each note in the air; the taps being given in exact time with the divisions of the music. This is what we commonly beat as an accompaniment to quick steps, “Rule Britannia,” &c. The *Double Drag* is a much fuller accompaniment, in which, for the most part, two or three taps are given for every note in each bar; or, eventually, the whole is performed in a kind of articulate roll, not to be easily described, in which the accented parts are reinforced with much strength. But to say the most of the side-drum, its monotony soon tires the ear; its rattling sound becomes oppressive, and the little variety of its beats, in general not over-well executed, adds to the fatigue of listening, and produces something worse than indifference towards its sounds. This, however, is a doctrine by no means tolerated among drum-majors, who affect to produce infinite variations from what the vulgar call the “parchment fiddle.”
They have a long train of “single reveilleze,” &c. which are intended to be performed without the fife, and are considered as concertantes among the sages in this branch of music: many pride themselves on the number of those solos, which, possibly, may have charms for their ears, though failing to fascinate ours. When we speak of the drum as a musical instrument, we must at all events exempt the side, or military drum; which was most quaintly and ludicrously described by an American, the author of “Yankee Doodle;” who, in detailing the gay appearance of the first regiments which were sent to suppress the insurrection, states;

“They have got little barrels,  
The heads be kiver’d wi’ leather;  
They beats upon ’em wi’ little clubs,  
To call their folk together.”

Bass Drum, or Turkish Drum, is an instrument of the same construction as the side drum above described; only it is on a very large scale, has no snares, is slung by the middle across the performer’s body, and is beat upon at both ends; the right hand being furnished with a large stick, having a knob at its end; the left being provided either with a whisk or a stick, whose knob is covered with buff leather to soften the tone. The right-hand beats the accented parts of the measure, the let filling up the time according to the performer’s judgment. This instrument is of great service in military bands, giving a marked emphasis and a fine effect to the music, and proving an admirable guide to the corps while marching, so as to make them preserve a correct and regular pace.

The Kettle Drum, so called because the bottoms, which are made generally of copper, standing upon three or four short legs, like those at the bottom of a cast iron pot, so much resemble large boilers or kettles. These drums are used in pairs, the one being pitched to the key-note, the other to the dominant, or fourth below the key. In some instances three kettle-drummers have been used, the third being tuned to the fifth below the key; but this is very rare. It were to be wished that practice were more common; because not only could the kettle drums then accompany in the key and its two adjuncts, but when performing in the key the perfect cadence could be completely supported by this powerful instrument.

For example: suppose a piece to be composed in C major; then the centre drum, standing before the performer, would be tuned to C; that to the performer’s left would be G.; and that to his right would be F. Now the perfect cadence in the key of C comprises FG; al which notes are thus attainable. When the modulation passes into the key of G, the left hand drum will become the key; and when it passes into F, the right hand drum will be the key, with the important advantage of having its dominant C, standing at its side. It is to be observed, that the three drums must stand in a triangular position; the two adjuncts rather near to the key, but not quite touching, and the performer standing between the two adjuncts, which would rarely be required in the same bar, except in the perfect cadence.

The Double Drums and Tromboni, which were introduced in the band at the commemoration of Handel, for a blow and a blast, now-and-then, produced an admirable effect; but by a constant roll and scream they reverse the effect by shortening the concords, and making them as transient as the discords in ACCiacatura, which see.

The kettle-drum is furnished with screws, whereby the head can be tightened at pleasure; and that head is fastened to a large hoop, which being moveable upwards or downwards for several inches, so as to increase or to diminish the internal area of the instrument, it follows, that the kettle-drum can be tuned in exact accord with the instruments of the band; the size of the bottom, or kettle, being duly proportioned to the note it is to yield.

Formerly, kettle-drums, of a small size, were in use in our several regiments of horse, but being found extremely unwieldy, they have been for many years laid aside. It is difficult to account for our adoption of the Turkish custom in a branch so peculiarly ill adapted to its reception. Throughout Asia kettle-drums, of an immense size, are carried across camels in the train of all crowned heads; the instrument is adorned with superb trappings, and beat by a man, who has a kind of seat made for him on the saddle.

The Naugaurah, as it is there termed, is one of the types of royalty, though it is sometimes usurped by, and tacitly tolerated with, persons of distinction, when in authority at a distance from the court. These also imitate their sovereigns, by having nobuts, or
bands of music, stationed in a gallery over the entrance into the palace-yard. The bands, in which the Naugaurah is extremely audible, perform at stated hours during the day and night, to the great delight of their retainers, but in a strain highly offensive to a well-tuned ear.

The musicians of Hindoostan perform with incredible dexterity on a pair of very small kettle-drums, called Taublahs, which they fasten before them, by means of a cloth wrapped several times round their waists: they use no sticks, but beat with their fingers in a peculiar style, so as to vary the intonation in a manner far from displeasing, according as the fingers strike more or less near to the rims of the Taublahs. The note is not pitched to any particular concordance, but, as in the side-drum, is perfectly adventitious. Single drums, of the same description, and fastened in front of the performer, by means of leather straps passing round the waist, are also used on many occasions; especially to accompany the post, for the purpose of intimidating tigers, which as well as the flambeaus, which likewise attend the letter carriers during the night. Many of the post-office people are annually carried off by tigers.

The drum used by the Hindoos in their religious processions, and in their recreations is cylindrical, and about 20 inches in length, the diameter about a foot; they are beat with one hand at each end, and are usually made of wood. The same people likewise use very large drums, perhaps a yard in length, and resembling a frustrated parabolical spindle; or, in other words, like a long narrow cask, whose centre may be about double, or even treble, the diameter of either end. These drums, which as well as the wooden cylindrical kind just described, are called Doles, are commonly made of baked earth, and, like the former, have their heads made of parchment.

DUE CORI, Ital. Mus, two chorusses, or choirs, placed at a distance from each other, sometimes performing in four parts alternately, or antiphonally; and sometimes uniting in eight real parts. We hear of compositions in the fifteenth and sixteenth centuries, not only for eight, but 36 parts; such was a motet by Ockenheim, the master of Jorquin, as all the musical writers of the sixteenth century triumphantly tell us.

Zarlino says, that so great was the rage in his time for multiplying parts in musical composition, that some masters, not content with three or four which sufficed to their predecessors, had increased them to fifty; from which, he truly observes, nothing but noise and confusion could arise. However, in another part of his book, he tells us, that Adriano Willeart had invented masses à du Cori, over a tre, or as some call them a Cori Spezzati, which had an admirable effect. We know not how Ockenheim disposed his parts; but they would have furnished nine choirs of four voices each. In the large churches of Italy, where the performers are divided into two bands, placed in opposite galleries, all the imitations and solo parts are distinctly heard, and when united in at least eight real parts, completely fill the ears of the audience with all the charms of congregated sound. We have never heard this species of composition attempted in our cathedrals, when a powerful band of instruments and additional voices are joined to the usual choral performers. Indeed, all our chanting and common choir service, derived from the ancient antiphonal singing, is of this kind: the performers being equally divided, and placed on each side the choir, form two bands, one of which is called the dean’s side, and the other the chanters: Decani, Cantoris; but the number of voices in our cathedral establishments is not sufficient to produce the great effects which might be obtained from the united force of all the vocal and instrumental performers that are assembled upon particular occasions, such as the Feast of the Sons of the Clergy at St. Paul’s; the Triennial Meetings of the three Choirs of Worcester, Hereford and Gloucester; the Feast of St. Cecilia, at Salisbury and occasional performance of oratorios in other cathedrals and churches of the kingdom; but above all from such a stupendous congress of musicians as has been assembled at Westminster Abbey.

We are in possession of a mass composed by Orario Benevoli, in 24 real parts for six choirs, and a song of 40 real parts, or ten choirs, by our venerable countryman Tallis. These are curiosities, harmonical phenomena. But there can be little melody in any of these multiplied parts; but to make them move at all
without violation of rule, requires great meditation and experience.

Many of the movements in Corelli’s concertos, when the Ripienos differ essentially from the principal parts, and many of Handel’s chorusses, are written a Due Cori; but their effect is lost by the band being all crowded together in one orchestra. It is only in the two opposite galleries of a church, or other large building, that has two galleries fronting each other, such as, before the fire, our beautiful Pantheon contained, that such grand effects can be produced, as we have heard in the churches of Italy.

DUET, DUO, Ital, a musical composition in two parts, whether vocal or instrumental. This title is general for all music in two parts; but in speaking of a dramatic duet, in an opera, the term requires a more extended explanation.

Though many admirable theatrical duets had been composed by the Italians, before Rousseau wrote the musical articles for the Encyclopédie, or collected them into a dictionary; yet he was the first to analyse that species of composition, to point out its forms, and account for its effects. And this he has done so judiciously, and with such enlarged views, that, though long, we shall translate the chief part of his article, for the sake of its ingenuity, and the author’s reasoning on the subject.

He observes, that “the rules for vocal duets, and, in general, for all music in two parts, are the most rigorous, with respect to harmony, of any musical productions. Many passages are prohibited, and many movements, which would be admitted to a greater number of parts; for there are passages and combinations, which please when accompanied by a third or fourth part, without which they would shock the ear. Besides, as only two sounds are wanted, it would be unpardonable not to choose the best. These rules were formerly more severe in chamber duets, such as those of Steffani and Clari; but in later times, they have been relaxed, since every one sets up for a composer.”

The citizen of Geneva might have assigned other reasons for this relaxation, by allowing dramatic duets, where not only the harmony of two parts was to be select and polished, but generally two distinct characters to be supported: where perpetual fugue or imitation to the same words was absurd, and where a dialogue was to be preserved almost entire, and where the union of the two voices was reserved for moments of passion, expressive of joy, sorrow, or anger.

“A duet may be regarded in two lights: as a melody in two parts, such for example, as the first movement of Pergolesi’s “Stabat Mater,” the most perfect and touching duo (in 1768) which ever dropt from the pen of a musician; or, as imitative and theatrical music, such as the duos in opera scenes. In both species, the duet is of all kinds of music, that which requires the most taste and selection of passages, and is the most difficult to treat without neglecting the unity of melody. Let me be allowed here to make a few remarks on dramatic duets, the particular difficulties of which are superadded to those of all other duets in general.

“It has been well remarked, that duets are out of nature in imitative music, where passion is to be painted: for nothing is less natural than to hear two persons talking at once during a certain time, either to say the same thing, repeat the same sentiment, or to contradict it, without ever listening or waiting for an answer; and though this may be admitted in particular cases, it certainly ought not to be suffered in a tragedy, where such indecency is neither suitable to the dignity of the personages, the interlocutors, or to the education which we may suppose them to have received. It is, only, therefore, in great transports of passion that the heroic interlocutors can be supposed to interrupt each other, and speak at the same time; and even then, it is extremely ridiculous that such simultaneous discourse should be prolonged in a regular manner.

“The first means, therefore of avoiding this absurdity, is to place those duets in lively and touching situations, where the agitation of the characters throws them into a kind of delirium, capable of making the audience and themselves forget those theatrical decorums, which enforce illusion in cold scenes, and destroy it in the heat of passion. The second means is, to compose duets as much as possible in dialogue. This dialogue should not be formally phrased and divided into long periods, like recitative, but formed of interrogations, replies, and exclamations, short and spirited, which give an opportunity for the melody to pass rapidly from one to the other by turns, without ceasing, to form such a melody as the ear can seize. Another necessary at-
tention is, not to take indifferently for subjects all the violent passions; but such as are susceptible of a pleasing melody, and are a little contrasted; so as to require a melodious accent and an agreeable harmony, in two parts. Rage and fury march too fast to take a likeness: we distinguish nothing; we only hear a confused roar and barking, and the duo has no effect. Besides, that perpetual repetition of abuse and insult belongs more to watermen and drovers than to heroes: it more resembles the threats of bullies, who wish to make themselves feared more than to hurt.

But still more must be avoided that excess of tenderness and feeling, which only talks of charms, chains, and darts; a flat and frigid jargon, with which true passion is totally unacquainted, and which are no more wanted for good music than good poetry. The instant of separation, when one of the two lovers is dragged away to death, or flying to the arms of another—the sincere return of a rover; the affecting conflict of a mother and a son, who wish to die for each other—all these moments of affliction, which draw delicious tears from the spectators: these are the subjects for duets, when treated by the poet with that simplicity of language which penetrates the heart. Whoever has frequented the Lyric theatres must know what tenderness and emotion can be excited in a whole audience, by the single word addio. But the moment the poet aims at wit, or lets any affected phrase escape him, that instant the charm is broken, and we must laugh, or die with fatigue.

"These observations regard the poet. With respect to the composer, it is his business to find a suitable melody to the subject, and distribute it in such a manner, that each of the interlocutors, speaking by turns, shall so connect the musical phrases, without changing the subject, or at least the movement, that passing in its progress from one part to the other, without a junction, it shall seem as uniform as if sung by a single voice. The duets that produce the best effects are those of voices of equal pitch, because the harmony is more compressed. And among voices of the same kind, the best effects are produced by sopranos, or treble voices, whose diapason being most acute renders the accents most distinct, and their tones more touching. And these are the only duets used by the Italians in their serious operas: and I have no doubt but that the employing castrati in male parts was originally owing to this observation. But though there should be an equality between the two voices in a duo, and a unity of melody, it does not follow that the two parts should be exactly alike in the cast of melody; for, besides the necessary diversity of style, it seldom happens that the situation of the two characters is so perfectly similar, that they should express their sentiments in the same manner: so that the composer ought to vary their accents, and give to each the character which best shall paint the state of their minds, especially in their alternate recitative.

"When the two parts unite and sing together, which ought to be seldom used for a short period, a melody should be found that admits of moving in 3ds or 6ths, in which the second part has its effect without disturbing the first. (See UNITY of Melody.) Care must be taken to avoid harsh discords, high and piercing sounds, reserving the fortissimo of the orchestra for moments of transport and disorder, in which the performers seem "to forget themselves," infuse their sufferings into the souls of spectators of sensibility, and make them experience the power of harmony soberly conducted: but these moments ought to be rare, short, and artfully introduced. The ear and the heart must be prepared by a sweet and affecting music for a crisis of this kind; that both may assist the composer and performer in raising such emotions, which must be transient and conformable to human weakness: for when the agitation is too strong, it cannot be durable; and whatever is out of nature never touches the heart."

He then illustrates his reflections by the exquisite duet in Metastasio’s “Olimpiade,” set by Pergolesi, which has been the model of almost all dramatic duets ever since: recommending to the reader the seeking in the works of that first musician of his time, and of our own, how such a duet should be treated; which, he truly says, is but a recapitulation of the preceding scene:

"Mia vita . . . . . addio.
Ne’ giornituoi felici
Ricordati di me,” &c.

The art, however, has not stood still since the time when the sweet and admirable Pergolesi was prematurely snatched from the musical world. Jemelli, Penz, Piccini, Sacchini, Anfossi, Treatta,
Sarti, Mozart, Cimarosa, and Peasiello, though they have adhered to his model, have extended, refined, and polished melody, invented ingenious and picturesque accompaniments, without forgetting the poet, the actor, or dramatic effects.

_Duets_ introduced in _intermezzi_ and comic operas, turn on such whimsical circumstances, and are sung by such grotesque characters, that there is no reducing them to rule; yet the Italians, with all their good taste in serious music, have so natural a tendency to buffoonery, that, in their burlettas, there is no kind of imitation which they have not tried to tune, or squabble which they have not painted by variety of measures and characteristic melodies. Comic duets are hardly ever sung by two similar voices, but generally by a soprano and tenor or base: “and (says Rousseau) if they have not the paths of tragic duets, in revenge, they are susceptible of the most piquant variety. All the subtilties of coquetry, all the peculiarities of the advocati, Dottori, of Pantaloon, Harlequin, Columbine, and the contrast of all the follies of our sex, and the artifice of the other; in short, all the accessory ideas of which the subject is susceptible, all concur to render these duos interesting and amusing.” As a model of perfection among comic duets, he instances “Lo Conorco a quig l’Occhietti,” in Pergolesi’s “Serva Padrona;” which, however admirable in its day, has been often far surpassed in agreeable air, unity of melody, simple, pure, and brilliant harmony, accent, dialogue, and taste, by Cimarosa, Peasiello, and Mozart.

_DUETTI DA CAMERA_, such as those of the elder Bononcini, Steffani, Clari, Hasse, and Handel, are almost all _fugati_. They used to be regarded, particularly those of Steffani, as excellent _solfeggi_, by the great opera singers, a century ago.

_DUETTINI_, _Ital._, a little duet, such as those of Aprili, Mostellari, Millico, and others.

_DULCIANA_, in _Music_, a very pleasing solo stop in the organ, brought hither by Snetzler. It has since been very successfully imitated by Green, Grey, and others. It is a very long and narrow pipe, in unison with the open diapason; is as sweet as a reed-stop, and seldom wants tuning.

_DULCIMER_, a musical instrument in a triangular form, strung with about 50 wire strings, resting on a bridge at each end; the acute gradually shortening to about 18 inches, and the grave lengthening to about 36; it is struck with a small iron rod in each hand. The base strings are doubled in unison, and its tone is not disagreeable. When played on, it is laid on a table before the performer, who with the small iron rods strikes it with more or less force, as light and shade may be wanting. The instrument has not the honour to be admitted into concerts, and is seldom used, except at puppet-shows, and by itinerant musicians.

_DULCINO_, in the _Italian Music_, a wind instrument, otherwise called _quart fagotto_. It serves for tenor to the hautboy, and is no more than a little bassoon. Bross. Dict. Mus. in voc.

_DUO_, in _Music_, a song or composition, to be performed in two parts only; the one sung, and the other played on an instrument: or by two voices alone. See DUET.

_Duo_ is also when two voices sing different parts, accompanied with a third, which is a thorough base. Unisons and octaves are rarely to be used in _duos_, except at the beginning and end.

_DURADE_, or _DURO_, in the _Italian Music_, signifies hard, harsh, or, more properly, sharp. This name is given to B natural, because it sounds sharp, when compared with B mol, or flat.

_DURUM_, _Latin_, in _Music_, hard, harsh, sharp, one of the distinctive terms applied to the three original major keys, in forming the hexachords. _G_ is the _ut_ of the durum hexachord. _C_ of the _natural_ hexachord, and _F_ of the _molle_. These furnish a series of six sounds ascending in each, by the same intervals.

\[
\begin{align*}
G & \quad A \quad B \quad C \quad D \\
C & \quad D \quad E \quad F \quad G \\
F & \quad G \quad A \quad B \quad C
\end{align*}
\]

By these hexachords the three keys are connected; there being three notes of each, in common with the next hexachord above or below.

_ECHEIA_, harmonic-vases used in the ancient theatres for the augmentation of sound. Vitruvius, book v, cap. 5, tells us, that they were placed in cells or niches, between the rows of seats occupied by the spectators, to which the voice of the actor had free passage; that they were made of brass, or earthenware, and proportioned in magnitude to the size of the building; and lastly, that in the small theatres, they were tuned in harmonical proportions of fourths, fifths, and sixths, with their replicates; and
in theatres of great magnitude, there was a vase to correspond with every sound in the disdiapason, or great musical system, in all the genera.

The Romans, according to the same author, were obliged to the Greeks for this invention, as well as for tragedy itself. For the echeia were brought first into Italy from Corinth, by Mummius. Perhaps they had something of the effect of the whispering gallery at St. Paul's church, which, by its orbicular form, augments sound in the same manner as the belly of an instrument, a hogshead, or a draw-well.

Sir Francis Bacon long since observed, that sound diffuses and wastes itself in open air, but if inclosed and confined in a canal, or narrow limits, its force is augmented; and adds, that inclosures not only increase and fortify sound, but preserve it. Resonance is but an aggregate of echoes, or of quick repetitions and returns of the same sound, which soon uniting into one point, are consolidated and embodied; and by this means, the force of the tone first given is greatly augmented upon the delivery, and preserved some time after the first cause ceases. This constitutes the ringing of musical instruments, and places favourable to sound; but with respect to the whisper, which is instantly carried from the person who utters it, to the opposite side of the gallery, it runs along the smooth surface of the wall, and arrives at the place of its destination with nearly the same degree of force as it is delivered.

It is not easy now, however, to describe, or even to conceive, the form and effects of the theatric vases; but their existence and use having been recorded by so scientific a writer as Vitruvius, has excited much curiosity, and produced many conjectures, and, as yet, ineffectual experiments. Our smaller theatres, luckily, are in want of no such helps; but this is certain, if these vessels were tuned to musical tones and intervals, nothing but noise and confusion could be produced from them by common speech, or such as is used in modern declamation. For if any one cough, speak loud, or strike forcibly upon the case of a harpsichord, with the lid propped up, or on any hard body near it, the shock will make every string in the instrument sound at the same instant; but if a fixed and musical tone be produced by the voice, or upon a violin or flute, none but the unison will be heard upon the harpsichord; and though the cloathing of the jacks be in close contact with all the strings, which renders it impossible to produce a clear tone from any one of them, by the common means of quills, or hammers, yet if any person sing near them, every note will be exactly echoed by the instrument.

If, therefore, these echeia were of the use related by Vitruvius, it must have been from the voice approaching them in fixed and musical tones, modulated in unison with the tones of the vases.

The best commentary upon this obscure subject in Vitruvius is that of Perault, who has given an engraving of part of an ancient theatre, on purpose to exhibit the situation of the harmonic vases. “Les dix Livres d’Architecture de Vitruve.” Parr 1684, 2d edit. folio. Kircher, whose pen was never impeded by doubts or difficulties, has not only described, but given them imaginary forms resembling bells. See Musurgia, tom. ii, p. 285.

Everything was upon a large scale in the ancient theatres. The figure, features, and voice, were all gigantic. The voice was, in a particular manner, the object of an actor's care; nothing was omitted, says father Brumoy, that could render it more sonorous; even in the heat of action it was governed by the tones of instruments, that regulated the intervals by which it was to move, and to express the passions.

When a new opera-house was built at Turin about 30 or 40 years ago upon a very large scale, all the architects, mathematicians, and the learned in (phonics) harmonics, or the philosophy of sound, were consulted about the form and situation of those vases; but the problem we believe has not yet been solved.

**ECHELLE**, Fr. a scale, or gammut. The names which French musicians give to the eight notes of C major, ut, re, mi, fa, sol, la, si, ut, are retained in all keys, whether the notes so denominated are flat, sharp, or natural. This scale is generated by the harmonics of three bases, C, G, and F: or the key note and its two fifths, the fifth above and the fifth below the key note.

![ECHELLE diagram](https://via.placeholder.com/150)

This is termed the natural or diatonic scale, that is, composed of tones and semitones.
But the moderns have another scale, which they call semitonic or chromatic, from its proceeding by semitones, or what are called half-notes. For a base to this chromatic scale, see Music, Plate XXIV, and prepared base to ditto, Plate XVI. This scale furnishes the means of modulation into what key we choose to make the fundamental, and of transposing our ideas from the natural to the fictitious or artificial keys as they are called.

ECHO, in Music, pieces composed in imitation of echoes. Sometimes also the word echo stands for piano, intimating that the instrument, or voice, is to play, or sing, after a soft and sweet manner. Organs and harpsichords have what they call an echo stop.

ECHOMETER, in Music, a rule, or graduated scale divided into many parts for the purpose of measuring the length or duration of sounds, determining their different value, and even the ratios of their intervals. The word is derived from the Greek ηχος sound, and μέτρου, measure. We shall not attempt to describe this machine, as it is never used, and there is no good echometer. Those who wish for more information on the subject, will find it in the Mem. de l'Acad. des Ins. for 1701. M. Sauveur suggested the invention.

ECMELES, sounds in the Greek Music, which, like those of speech, were inappreciable, and in tune with no fixed tones of the musical scale; consequently, they could furnish no melody. This term was opposed to emmeles, or musical sounds.

EFFECT, in Music. This word became technical in England about the middle of the last century; and we believe that it was Abel who brought it hither.

The great bands of sovereign princes in Germany, before the revolution, such as those of Mannheim, Dresden, Wirtemberg, Esterhazi, &c. inseparably attached to the same orchestra, under the immediate direction of the composer, had leisure to try effects; and it was at the beginning of the cultivation of symphonies on the new plan of Stamitz, Holzbauer, Canabich, Ditters, Vanmaldere, Toeschi, and Filtz, different from the light opera overture, which had superseded those of Lulli and Handel, that experiments of this kind were tried. The effects of crescendo and diminuendo were successfully produced in theatrical orchestras, even in songs; and we remember the first air in which we noticed this effect, was composed by Jno. Christ. Bach, and sung by Ciprandi: Non so donde vici, &c.

To produce an effect, is to cause an agreeable and powerful impression in the ear and the mind of the hearer, by unusual musical combinations: so that the word effect, in music, means something uncommonly excellent; and effect is not only applied to a single passage, but to such whole movements or works, as are full of effects which produce sensations that appear superior to the means employed to excite them. Long practice and observation may teach a musical student how to discover passages of effect upon paper; but genius alone inspires them. It is the defect of bad composers, and of all beginners, to heap parts on parts, and crowd instruments on instruments to produce that effect which flies their grasp; and as an ancient said, “to open a wide mouth to blow a small flute.” You would expect, in seeing their crowded and laboured scores, that you should be surprised by prodigious effects, but if you are surprized at all, it will be at hearing so meagre, mean, and confused a composition, without effect, and more likely to stun than delight good ears. On the contrary, the eye seeks in the scores of great masters, those sublime and ravishing effects which their music is sure to produce when well executed. Frivolous fillings up are either unknown, or despised by men of fine genius, who never call our attention to a crowd of small and puerile objects, but move us with great effects, the result of that force and simplicity united, which always constitute their character.

EIGHTH, in Music, is, next to the unison, the most perfect concord, and the boundary of the present musical system; it includes 12 semitones, which produce 24 keys, 12 major and 12 minor; it contains all the intervals, concords and discords; as all beyond the octave are but replicates, or recurrences of the same sounds: the flat 9th being but the octave of the flat 2d, and the major 9th of the major 2d.; the 10th of the 3d, &c. It is an essential note of the triad or common chord, and is so near unison in its effects, that when a male and female, or a man and an adolescent sing the same melody together, it seems, to persons ignorant of music, as if they sung in the same pitch of voice. In instrumental music, as well as in the accompaniment to vocal, the tenor often plays Col. Basso: that is, an octave above the
base; and the 2d violin playing an octave below the first, has sometimes a beautiful effect. See OCTAVE.

ELLIPSIS has a place in Walther's Lexicon as a musical term, to express a passage when broken, and rendered imperfect by a rest; but though some note is left out in moments of rage and perturbation, it is understood, or the time would be broken.

Vol 13 Elocution-Extremities

All the following scientific articles on EN-HARMONIC are by John Farey Sr.

ENHARMONIC, in the Ancient Greek Music. The Greeks included all musical sounds in three genera or kinds of interval: the diatonic, for tones and semitones; the chromatic, for semi-tones and minor thirds; the enharmonic, for quarter-tones and major thirds. The scale of each genus was arranged in tetrachords, or systems of four sounds, of which the first and last were stantes, immobiles, or fixed; while the two middle sounds were termed mobiles, or changeable; and it is by these changes that the genera are distinguished.

Each of the three genera had some sounds in its scale that were peculiar and characteristic, and some that were in common with the other two. For instance, B C E F A B♭ and d, were used in all the three genera, whereas D G were peculiar to the diatonic, C♯ and F♯ to the chromatic, and B♭ E♭ and A♭ to the enharmonic. A complete scale of each genus in modern notes will explain this matter better than words.

ENHARMONIC Diesis, is an interval whose ratio is $\frac{125}{128} = 21 \Sigma + 2m$. See Enharmonic DIESIS.

ENHARMONIC Degree of Aristoxenus, otherwise his diesis quadrantis, was a quarter of the major tone, or $26 \Sigma + \frac{1}{2}f + 2\frac{1}{4}m$.

ENHARMONIC Degree of Euclid, otherwise his diesis quadrantis, was three-thirtieths of a minor fourth, or $25\frac{5}{6} \Sigma + \frac{1}{2}f + 2\frac{1}{5}m$.

ENHARMONIC Ditone of Euclid, was twenty-four thirty-seconds of a minor fourth, or $203\frac{1}{8} \Sigma + 4f + 17\frac{3}{4}m$.

ENHARMONIC Quarter of a tone, is the same with enharmonic diesis, above.

ENNEACHORD, in Ancient Music, an instrument with nine strings.

ENTRACTE, Fr. the space of time which elapses between the end of one act of a drama and the beginning of another; and during which the representation is suspended, while the action is supposed to be advancing elsewhere. The orchestra fills up this space by performing a symphony, which supplies the place of what used, in England, to be called an act-tune.

It does not appear that the Greeks ever divided their dramas into acts; consequently, they had no act-tunes. The representation was never suspended on their stage empty from the beginning of the piece to the end.

The Romans, less interested in these exhibitions than the Greeks, were the first who divided their pieces into several distinct parts, the intervals of which afforded a relaxation to the attention of the
spectators; and this custom has been continued else-
where ever since.

But as the entract was intended to suspend the
attention, and give some repose to the mind of the
audience, the stage should have remained vacant. But
the interludes with which the vacuity was
formerly filled furnished an interruption in a very
bad taste, which in all times injures the piece in break-
ing the thread of the action.

However, Molière himself did not see so simple
and obvious a truth; the spaces between the acts of
his last pieces were filled with interludes.

The French, whose public spectacles have more
reason than enthusiasm in them, and whose dread be-
ing long kept in silence, have since reduced their in-
teracts to their due simplicity, and it is to be wished
for the perfection of the drama that they were imitated,
in that particular, every where else.

The Italians, whom an exquisite sensibility often
guides better than reason, have proscribed the dance
of the dramatic action (see OPERA); but by an inco-
sistence arising from the too long duration which
they allow to their representations, they fill their in-
teracts with ballets, which banish them from the
piece in representation, and if they avoid the ab-
surdity of a double imitation, they give into an equal
absurdity by a transposition of scene, and by harass-
ing the spectator from object to object, they make
him forget the principal action, lose the interest, and,
in order to give pleasure to his eyes, rob him of
those of the heart.

They began, however, to feel (in 1768) the defect
of this monstrous assemblage; and after having
already almost driven intermezzi from their stage,
they will doubtless, ere long, get rid of the dance, re-
serving it only as a brilliant and detached spectacle
at the end of the grand piece.

But though the stage remains vacant during the
interact, it is not to be understood that the music
ought to be silenced; for at the opera, where it con-
stitutes the principal existence of every thing, the
sense of hearing ought to be so connected with that
of sight, that as long as the stage is seen the har-
mony should be heard, which is supposed insepara-
able from it; so that its concurrence may not appear
afterwards foreign or new, but united with the
melody of the vocal performers. Chiefly from
Rousseau.

The difficulty which presents itself on this sub-
ject, is to suggest what the composer ought to dictate
to the orchestra when nothing is doing or transact-
ing on the stage: for if the symphony, as well as all
dramatic music, is only a continued imitation, what
is it to say when nobody speaks? What ought it to
do when there is no action? "I answer to that (says
Rousseau) that though the stage is vacant the heart
of the spectator is not; there ought to remain a
strong impression of what has been seen and heard.
It is for the orchestra to cherish and sustain this im-
pression during the interact, that the spectator at the
beginning of the ensuing act may not find himself as
cold as at the beginning of the piece, but that the in-
terest may be as much linked in his mind as the
events are in the action represented.

By this means the musician will always have an
object of imitation, either in the situation of the per-
sonages, or in that of the spectators. These should
hear nothing from the orchestra but expressions of
what they have felt, identified with what they hear;
and their situation will be so much the more deli-
cious, as there shall be a more perfect accord
between that which strikes their senses and which
touches the heart.

An able musician will draw from the orchestra
another advantage, which will contribute to give the
representation all the effect possible, in conducting
the spectator, by degrees, to the state of mind the
most favourable to the effect of the scenes which are
going to be represented in the following act.

The interact has no fixed duration; but it is sup-
posed to be more or less considerable, in proportion
to the time necessary for that part of the action,
which is passed behind the scenes. However, that
duration should have its bounds of supposition, rel-
ative to the hypothetic duration of the whole action;
and the real bounds relative to the duration of the
whole representation.

This is not the place to examine whether the rule
of 24 hours is well founded, and if it ought never to
be violated. But if we would give to the supposed
duration of an interact bounds regulated by the
nature of things, I see no other rule than that of the
time during which no sensible and regular change
happens in nature, which cannot be made appar-
ently transacting on the stage during the interact.
Now this time being 12 hours, which compose a day
or a night, if that is exceeded, there is no longer any possibility of illusion during the supposed length of the act."

This is reviving the old contention concerning the unities, which have never been received as a law in this country. And as to act-tunes analogous to the business of the drama, it is an idea which was executed by Purcell in many of the plays of Dryden and Congreve; and Arne, when composer in salary at Drury-lane theatre, composed very pleasing and appropriate act-tunes to many of the stock plays, which never were printed, but preserved in MS. in the archives of the old theatre; but we suppose that the strains of Orpheus or Amphion might be as easily recovered now as these compositions.

EPTAMERIDES, in Music,

Editorial note: A scientific article by John Farey Sr.

[A] name given by M. Sauveur to one of the intervals of his system, inserted in the Mem. de l'Acad. des. Sc. for 1701.

This author begins by dividing the octave into 43 parts or merides, then each of these into 7 eptamerides, so that the octave entire comprehends 301 eptamerides, which he still subdivides. (See DECAMERIDE.) The word is formed of επτα, seven, and of μερις, a part. In Sauveur's subdivision the octave = \( \frac{23}{301} \sum + \frac{21}{301} f + \frac{33}{301} m \) and its common logarithm is = .9989999.0035; or .9990000.0000 according to the assumption of M. Sauveur, wherein the octave = .6990000.0000 and its reciprocal .3010, &c.

EQUAL Beating, in Music,

Editorial note: A scientific article by John Farey Sr.

[This] is said of such tempered concords as beat equally quick, or make the same number of wa, wa, wa, wa’s, in a given space of time, when sounding. The first who mentions, or makes any use of equal-beating concords, is Dr. Robert Smith, who observes (Harmonics, p. 188.) "if several imperfect consonances of the same name, as Vths, for instance, (by which the whole scale is usually tuned,) beat equally quick, they are not equally harmonious, or tempered; to make them so, the higher in the scale ought to beat as much quicker than the lower as their bases vibrate quicker (prop. xi. cor. 2.); that is, if a Vth be a minor tone higher than another, it should beat quicker, in the ratio of 10 to 9, or (if a major tone) 9 to 8 nearly; if a IIIId higher, in the ratio of 5 to 4; if a Vth higher, in the ratio of 3 to 2: if an VIIIth higher, of 2 to 1; &c.

In schol. 2, to prop. xx., the doctor gives a table of beats to be made in fifteen seconds of time, by four successive 5ths above C respectively, in order to form a system for the common instruments with twelve notes in an octave, wherein every IIIId shall beat sharp, as fast as the Vth to the same base beats flat; let it be observed, however that this will not be the case in the IIIIds or Vths affected by the beating notes, or resulting 5th, after this method has been pursued through eleven 5ths.

In the same table we have the number of beats for the above succession of 5ths, so calculated, that the Vths and VIIths to the same bass may beat equally quick, the former flat, and the latter sharp; which will give the notes of the doctor's system of equal harmony in three octaves, as far as the same can be applied on a defective or douzeave instrument. At page 220, mention is made of another equal beating system, wherein the IIIIds and the Vths to the same bass beat equally quick, and which is said to approach so near to the system of equal harmony, as not to need a particular table.

In the directions given by earl Stanhope, pages 13 and 14, of his stereotype "Principles of the science of Tuning, for adjusting his two successive biequal 3ds, and three successive triequal quints; his lordship directs that these shall be made to beat equally quick respectively; and falls into the mistake of supposing that this would produce the equal temperament of those IIIIds and the Vths respectively; that he had previously calculated for them, by mean proportionals, for his monochord system, contrary to the demonstrations of Dr. Smith above; and in a printed "Letter to the duke of Cumberland respecting the Stanhope Temperament," this error being persisted in, after it had been pointed out by Mr. Farey in the Philosophical Magazine, vol. xxvii. p. 203, it becomes necessary for us to point out (as could not be done under BIEQUAL Third, in our work*), that the ratios \( \frac{9}{5} \), \( \frac{12}{19} \), and \( \frac{5}{2} \), exactly represent the notes E♭, A and c respectively, when the two successive 3ds (which his lordship calls biequal) E♭A and A♭c,
whose ratios are $\frac{15}{19}$ and $\frac{19}{24}$, make an equal number of beats in a second of time; and this number of beats, when C makes 240 complete vibrations in 1", is exactly ten times in a second. We thus see, that there are three different intervals, called by his lordship biquad thirds, whose ratios are $\frac{19}{24}$, $\frac{10}{19}$, and $\frac{15}{19}$; and their common logarithms are .8985423.5924, .8975940.0867, and .8973376.5811 respectively, or in the new notation $206.228 \Sigma + 4 \ f + 18 \ m$, $207.5 \Sigma - 4 \ f + 18 \ m$, and $208.772 \Sigma + 4 \ f + 18 \ m$ nearly respectively; and, there are, indeed, others which arise from the new instructions which his lordship gives in the letter to the duke of Cumberland above referred to, for tuning equally tempered concords by means of the absence of "beating between the two beatings;" which new species of equal beating is considered in the Philosophical Magazine, vol. xxxiii. p. 297, and is shown to produce other intervals than the above, and which yet come under the appellation of biquad thirds, as defined by earl Stanhope.

* Editorial note: This article above does not appear in the Cyclopædia, nor is it discussed in the article THIRDS in Vol 35, which see.

EQUAL Temperament,

EDITORIAL note: A scientific article by John Farey Sr.

[This] is a system of twelve intervals within an octave, all equal to each other; each of which has the ratio $\frac{1}{12} = 51 \Sigma + f + 4 \frac{1}{12} + m$. (see Philosophical Magazine, vol. xxix. p. 347.) the common logarithm of each of such mean semitones being = 9749141.6703. This system is often called the isotonic, and sometimes that of Mersennus, by M. Couperin, M. Marpurg, Mr. Emerson, Mr. Cavallo, Mr. Davis, and others, who have written in its favour. Dr. Robert Smith who disapproves of this system, states the temperaments of its V and 4th, its VI and 3d, and its III and 6th to be $\frac{1}{10}$, $\frac{7}{11}$, and $\frac{5}{16}$ parts of a major comma respectively (Harmonics, p. 167.), but these are incorrect, and ought to have been $\frac{1}{10}$, $\frac{7}{11}$, and $\frac{5}{16}$ parts of a major comma, the temperaments of these concords, very nearly, as stated in the first column of Tab. II. page 158, of the same work. Mr. Emerson, in his "Algebra," prob. cci. calculates the beats which the concords in this system make, in the octave above the G of the bass cliff, and states these at $-15, +11, +1 \frac{1}{2}, 1 - 18$, and $+13$ in one second of time, made by the 3d, III, 4th, V, 6th, and VI re-
respectively, the flat temperaments being marked—
and the sharp ones +.

The equal temperament of Mr. Farey, (Philosophi-
only in an insensible degree from the above, his half
note being 51Σ + f +5 m between the notes C and ♭D.
♭E and E, F and ♭G, G and ♭A, and ♭B and B; and
51 X + f-4 m between the notes ♭D and D, D and ♭E,
E and F, ♭G, and G, ♭A and A, ♭B, and B, &c. yet
this very slight variation enables an organ tuner to
tune the twelve notes of this system, by help of cer-
tain combinations of perfects Vths, 4ths, and IIIIs! In
this method of obtaining an equal temperament, the
successive 5ths CG, G D, D A, A E, E B, B ♭A, ♭D,
and ♭A, are to be tuned upwards, each by ascend-
ing (on a spare range of pipes or different stop to the
one intended to be tuned) five successive perfect
4ths, and from the highest note of these descending
two perfect 5ths and one major 3d, which last or
lowest note is to be transferred to the G of the stop
intended to be tuned. From this same note, G, five
4ths up, and two V + III down, are to be tuned to get
D, and so on to ♭A. The remaining 5ths c F, F ♭B,
and ♭B ♭E, are to be tuned downwards, by descend-
ing from c five successive 4ths, and thence ascending
two Vths and a third to obtain F, from which note,
repeating the same process until the note ♭E is ob-
tained; when, if the operations have been carefully
performed, and no beats suffered to remain in any of
the perfect 4ths, 5ths, 3ds, or unisons, or in the
octave C c, &c. the resulting 5th, or that between the
beating notes ♭A and ♭E, will be found, but in an al-
most insensible degree flatter than all the other fifths
in the scale; the difference being only m, or less than

\[
\frac{1}{4000}
\]
the part of a major comma! between this V, and
each of the other eleven Vths; this being 357 Σ + 7f +
30 m, and each of the others 375 Σ + 7f +31 m. The
logarithm of the first or largest of the half-notes in
this system is = 0.79491919.200, and of the
smallest. 0.7949157.7262. See TEMPERAMENT.

EQUISONANCE, in Music, a name by which the
ancients distinguished octaves from other concords.
Octaves being the only paraphoni, or concords, when
doubled above or below. This is a distinction which
would be as useful in modern music as in the an-
cient. All other concords, doubled, become discords.

ESCHATON, in Music, the difference between the
diesis en harmonica and the hyperoche; that is, what
remains after taking the difference between the
semi-tone minor and diesis enharmonica, from the

Thus the difference between the semi-tone minor
and the enharmonic diesis is

\[
\frac{25}{24} \cdot \frac{128}{125} = \frac{3125}{3072}
\]
and this
taken from the diesis is

\[
\frac{128}{125} \cdot \frac{3072}{3125} = \frac{393216}{390625} = \frac{6}{\frac{16777216}{5}}
\]
and is the major residual; which see. This interval
is about \(\frac{53}{100}\) about of a comma, as will easily appear
by logarithms. Mr. Henfling has taken notice of this
interval. He calls it eschaton, from its being the least
and the last interval that occurs in his system.

The word is Greek, εσχατον. See INTERVAL.

ESCHATON of Dr. Callcott’s MSS., is an interval
whose ratio is \(\frac{1667711}{16677216}\). etc.

EXCESSIVE, in Music, is used as a prefix to de-
note the excess of certain tempered intervals above
the true intervals of the same name; it is generally
opposed to defective, viz. when there is a deficiency
to the same extent as there is here an excess; but
their use is not limited to any certain quantity of ex-
cess or defect, they being sometimes applied in con-
junction with or to represent the diachism, some-
times with enharmonic diesis, or others with min-
imum semitone, &c.; whereas the prefixes, redund-
ant and deficient, are used only with the major
comma, and hence the word comma is sometimes
omitted; and in like manner the prefixes superfluous
and diminished are confined to the minor semitone,
which last word is therefore sometimes omitted in
naming the class of intervals, which are increased or
lessened by a minor semitone.

EUNUCH, Eυνουχς, a term applied in the gen-
eral to all who have not the faculty of generating,
either through imbecility or frigidity; but more par-
ticularly to such as have been castrated, or have lost
some of the parts necessary for that purpose.

The word is formed of ευνην εχει , q. d. l

\[\text{ etc.}\]

In England, France, &c. eunuchs are never made
but on occasion of some disease which renders such
an operation necessary; but in Italy they make eu-
uchs for the sake of preserving the voice; and in the
East they make eunuchs to be guards or attend-
ants on their women.

Great numbers of children, from one to three
years of age, are yearly castrated in Italy to supply
the operas and theatres, not only of Italy but other parts of Europe, with singers; though it is not one in three, that, after having lost their virility, have a good voice for a recompence. See CONSERVATORIOS. …

Editorial note: The rest of this article relates to eunuchism in Antiquity and the Orient, so has been omitted.

EXECUTANT, Fr. in Music, a participle used substantively. A musician or performer who executes his part part in a band, in the same sense as concertant implies a performer in a concert. See CONCERTANT, EXECUTER, and EXECUTION.

EXECUTER, Fr. to execute, play, sing, or perform a composition, or piece of music, in all its parts, whether vocal or instrumental, and to let every note and passage be heard agreeable to the notation in the score.

As music is an object for the ear, it can only be judged by its effects in the execution. Many pieces of counterpoint look correct and learned on paper, which no real judge can hear without disgust; and others that look thin, simple, and common, which in the execution afford the highest pleasure, by unexpected effects. Vulgar composers, attentive to symmetry and the filling up all the parts, often appear to be great contrapuntists, while they are judged merely by the eyes; and such composers often have the address to employ so many different instruments and such a number of parts in their music, that it is with great difficulty a sufficient band can be collected to do it justice in the execution. Rousseau.

EXECUTION, in Musical Performance, the action of conveying to the ear, by the assistance of the eye, what has been written in the score. As much music is composed of many parts so interwoven and linked together, that both the time and intonation are very difficult to seize, and of which the spirit depends more on taste than notation of such pieces, nothing is so uncommon as a perfect execution. The reading of the notes exactly is no great merit, the performer must enter into all the ideas of the composer, and feel, and make the hearer feel, the fire or pathos of the expression; but above all he must be possessed of a nice and acute ear, always attentive to the effect of the whole. In French music the leader must be particularly careful to press and relax the time according to the taste of the melody, the power of voice, and the gesticulation of the singer; the other parts must consequently be extremely attentive in following him. "The totality of the opera at Paris, where music had no other measure than the gestures of the singer, must, in my opinion, require an admirable musician indeed to keep all the performers together." N. B. This was written by Rousseau near 40 years ago, and at that time little disputed; but the editors of the late edit. of the Encyc, men of taste and judgment, will, perhaps, say with Moliere, "medicin malgre lui," this may have been so formerly, "mais, nous avons changés tout ca."

"If the French," says St. Evremond, "compose in a bolder style than formerly by their intercourse with the Italians, the Italians in their turn have gained by their commerce with the French, by learning of them a more agreeable touching, and perfect execution." Letter to the duke of Buckingham.

The reader (says the author of the Lettre sur la Mus. Fran.) will, I believe, excuse me if I wave making any remarks on this passage, I shall only observe, that the French think all the world interested about their music; but on the contrary, in three fourths of Italy, Italian musicians are totally ignorant that there exists a musician France different from their own.

A facility of reading and performing a single part is likewise called, if difficult, execution; particularly when rapid passages are played correctly, and without hesitation, at sight.

Execution of this kind depends in an especial manner on two things; the first in having a powerful hand and quick eye; and the second in having read much music, and being able to phrase it at a glance: for while we only look at single notes, we shall hesitate in pronouncing them: a great facility of execution is only acquired by uniting them into meaning, and putting the thing itself in the place of the sign. In this manner the memory of the reader of a book is no less assisted than by his eyes; and what he would read with great difficulty in a foreign language, though written or printed with the same characters as his own.

EXPRESSION, in Music, is a quality by which a musician manifests his feeling, and executes with energy, all the ideas with which he ought to impress the hearer, and all the sentiments which the com-
poser intended to express. There is an expression in composition as well as in its execution, and it is by their concurrence that the most pleasing and agreeable effect results.

To give an expression to his works, a composer ought to seize and compare all the relations which can be found between the features of his object, and the productions of his art; in a musical drama, he ought to know and feel the peculiar cast of all the characters, in order severally to exhibit them exactly as delineated by the poet: for as a good painter does not throw the same light on every figure, neither will the able musician give the same energy to all the sentiments, nor the same force to every figure, but will put each part in its true place, less to give it weight, individually, than to contribute to the effect of the whole.

After having well considered what a character has to say, he meditates how he shall say it; and here begins the application of the precepts of his art, which is to find the particular language in which the actor would wish to make himself understood.

Melody, harmony, movement, choice of instruments, voices, and melody, by its immediate connection with the grammatical and oratorical accent, is that which gives a character to all the rest. So that it is constantly from melody that the principal expression should be derived, as well in instrumental as vocal music.

What a composer therefore has to express by melody is tone of voice, with which the sentiments can best be tendered; and care should be taken not to mimic that of theatrical declamation, which is in itself only an imitation, but the voice of nature speaking without affectation and without art.

The composer will therefore at first seek a kind of melody which shall furnish musical inflections the most consonant to the sense of the words, always lowering their expression to the thought, and the thought to the interlocutor’s state of mind; for when we are strongly affected, all that we say in a manner savours of the general sentiments which govern us; and we never chide what we love in the same tones as we should an indifferent person. Our speech is differently accented according to the different passions by which we are agitated; sometimes acute and vehement, sometimes languid and monotonous, sometimes varied and imperious, sometimes smooth and tranquil in its inflections. Thence the musician regulates the choice of keys which he uses in his melody, and the different places in which he employs voice, keeping it down with small intervals to express the languor of sorrow and dejection; and straining it with acute sounds in passion and grief; driving it rapidly through all the intervals of the diapason in the agitation of despair, or the turbulence of distracted passions. Above all it must be remembered, that the charms of music consist not only in imitation, but in an agreeable imitation; and that the declamation (or recitative) itself to have its full effect, should be subordinate to melody; so that there is no painting sentiment without giving it this secret charm inseparable from it, nor touch the heart without pleasing the ear. And this is still very conformable to nature, which gives to the tone of voice of persons of sensibility, certain touching and delicate inflections, which those who feel nothing never possessed. Never, therefore, mistake rough and coarse for expressive, nor harshness for energy. Give not a hideous picture of the passion which you wish to paint, nor imitate the performers at the French opera, where the voice of passion resembles a complaint of the colic, more than transports of love.

The natural pleasure which results from harmony, augments in its turn the moral pleasure of imitation, in uniting the agreeable sensations of chords to the expression of the melody, upon the same principle as that just mentioned. But harmony does still more; it enforces even the expression in giving more truth and precision to melodious intervals; it animates their character, and exactly marks their place in the order of the modulation; it calls back the preceding, announces that which ought to follow, and thus connects the phrases in the melody, as ideas are linked together by grammar, in a discourse. Harmony, regarded in this light, furnishes the composer with powerful means of expression, which escape him when he seeks expression in harmony alone; for then, instead of animating the accent, he extinguishes it by his chords, and all the intervals, confounded in a continued crowd of combined sounds, offer to the ear only a series of fundamental chords, which have nothing touching or agreeable in their effect, and not only suffocates the
melody, but the sense of the words. What then must the harmonist do to fortify the expression of the melody, and give it more effect? He will carefully avoid covering the principal sound in the combination of chords; he will render all the notes of the accompaniment subordinate to the vocal part; he will give relief and energy to it by the concurrence of other parts; he will enforce the effect of certain passages, by the chord of the sharp 7th; he will disguise others by supposition or suspension in making no provision for them in the base; he will gain strong expressions by major discords, he will reserve the minor, for tender sentiments; sometimes he will unite all his parts by smooth and flowing notes; sometimes he will contrast them with the melody by pointed notes; sometimes he will fill the ear with full harmony, and sometimes enforce the accent by the choice of a single interval. He will render present and sensible the chain of modulation throughout, and will make the base and its harmony serve to determine the place of each passage in the key, in order that no interval or trait of melody shall be heard, without feeling at the same time its relation with the whole.

With respect to rhythm, formerly so powerful as to give force, variety, and ornament to poetical harmony; if modern languages less accentuated, and less prosodic have lost this charm, our music can substitute another more independent of speech in the precision of measure, and in the combination of its proportions, whether moving together or separately in each part.

Quantity in language is almost wholly lost in notes of music; and the music, instead of speaking with words, borrows, in some sort, from the measure a language apart.

The force of the expression consists in this particular, in the uniting these two languages as much as possible together, in such sort, that if the measure and the rhythm speak not in the same manner, they will at least say the same things.

Chearfulness, which gives vivacity to all our movements, ought to do the same in musical measures. Melancholy locks up the heart, relaxes all our motions, and the same languor is felt in the melodies which it dictates; but when grief is poignant, or great conflicts are passing in the mind, speech is unequal; it moves alternately with the slowness of the spondee and the rapidity of the Pyrrhic, and sometimes suddenly stops short, as in accompanied recitative; it is on this account that the most expressive music, or at least the most passionate, is commonly that in which the times or portions of each bar, though equal in themselves, are the most unequally divided; whereas the image of sleep, of repose, of peace of mind, require small exertion of voice, and are naturally painted with notes of equal length, which move neither quick nor slow.

There is one observation which the composer ought not to neglect, and which is, that the more studied and extraneous is the harmony, the slower should be the movement, in order that the mind may have leisure, to disentangle the discords, and follow the rapid chain of modulation. Nothing but the last degree of fury can permit the union of rapid measures and harsh chords. When the head is distracted, and the actor, by violent agitation, seems not to know what he says, this energetic and terrible confusion may be communicated to the mind of the spectator, and, in like manner, make him lose his reason. But if the composer is not inflamed and sublime, he will only be coarse and cold; if he does not throw the audience into a delirium, he runs a great risk of a failure; for he who loses his reason is only mad in the eyes of those who preserve it, and insanity is no longer interesting.

Though the greatest force of expression is derived from the combination of sounds, the quality of their tone is not indifferent in the effect. There are voices so strong and sonorous as to impose by their force; others, thin, flexible, and fit for execution; others again so touching and delicate as to penetrate the heart by soothing and pathetic strains. In general, treble voices and acute are fittest to express tenderness and affection; bases and baritones for intemperate passion and choler; but the Italians have banished bases from their serious operas, as a part, of which the melody is too rude and boisterous for the heroic style, and have substituted in their steady tenors of which the melody has the same character, with a more agreeable effect. They employ base voices in the grotesque and ridiculous parts of their comic operas with more propriety.

Instruments have also their peculiar expressions, proportioned to their quality of tone, force, and compass. The flute is tender, the hautbois cheerful,
the trumpet military, the horn sonorous, majestic, and proper for grand expressions. But there is no instrument of more varied expression, and more universally useful, than the violin. This admirable instrument is the foundation of every orchestra, and can furnish a great composer with all the effects which mean musicians vainly seek in a multitude of different instruments. The composer ought to be acquainted with the finger-board of the violin, to consider the shifts, and know how to write arpeggios, by distinguishing the open from the stopped strings, and to choose and make use of keys according to the different characters they have upon that instrument.

It is in vain for the composer to attempt to animate his orchestra, if the ardour which ought to reign in it does not inflame the performers. The singer who only sees notes in his part, is not qualified to seize the expression of the composer, nor to give one of his own to what he sings, if he has not well comprehended the sense. He must understand what he reads before he can make it comprehended by others; and it is not enough to be possessed of general sensibility, if not particularly energetic in the language we speak. Let him begin therefore by thoroughly understanding the character of the melody which he has to execute, its expression of the words, the distinction of its phrases, the accent which it has in itself, that which it requires in the voice of the singer, the energy which the composer has given to the poet, and that, which in his turn he can give to the composer. Let him resign his whole powers, then, to all the enthusiasm which these considerations shall have inspired; he should express every thing as completely as if he were at once the poet, composer, actor, and singer, and he will then have all the animation which it is possible for him to give to the work which he has to execute.

In this manner he will naturally embellish with taste and delicacy airs that are only elegant and graceful; with spirit and fire, such as are animated and gay; with sighs, the tender and pathetic; and with all the agitation of forte and piano, such as are expressive of rage and fury. Whenever the musical and oratorical accents are united (as in arie parlanti), wherever the time shall be strongly marked, and serve as a guide to the accents of the melody; wherever the accompaniment and the voice shall so agree in their effects as to form only one melody, and the hearer, deceived, wholly attributes to the voice the passages which the orchestra embellishes; and, finally, wherever sober ornaments, judiciously applied, manifest the abilities and facility of the singer, without disguising and injuring the melody, the expression will be sweet, agreeable, and animated; the ear will be delighted, and the heart affected; nature and art will at once concur in pleasing the hearer, and there will reign such a coincidence between the words and the music, that the whole will seem to proceed from one delicious language, which can say every thing, and always please.

This is more a dissertation than an article of a dictionary, but these are the sentiments of the citizen of Geneva, to most of which in music we readily subscribe, as he is ever more reasonable and consistent in speaking of that art than on any other subject. His views concerning dramatic music are always so ingenious, elevated, and refined, that we cannot resist translating him. Though we fear that the French, with all their present rage for Italian music and Italian expression, will not adopt them; and the Italians themselves, in their most happy moments of conception, have been successful from instinct and enthusiasm, more than precepts or reflection.

**EXTEMPORANEOUS Playing**, flights in Music, on a harpsichord, or piano forte, have many appellations; as toccata, toccatina, Ital, prelude, capriccio. On the organ it is called a voluntary.

There have been organists, whose abilities in unstudied effusions on their instruments have almost amounted to inspiration, such as Sebastian Bach, Handel, Marchand, Couperin, Kelway, Stanley, Worgan, and Keeble, several of whom played better music extempore, than they could write with meditation.

**EXTENSION**, in the Ancient Music, according to Aristoxenus, was one of the four parts of the melopœia, which consisted in sustaining certain sounds longer than their quantity strictly required. We call these binding-notes, and sometimes perhaps tempo rubato. See COMPASS.

**Vol 14 Extrinsic-Food (part)**

FABURDEN, in Music, is an old English term, and used at the beginning of discant, to express what has since been styled counterpoint. If this spe-
cies of harmony had its admirers, it had likewise its enemies, when it was introduced independent of the Gregorian chant, or when this chant was corrupted by it; and if many statutes remain for celebrating festivals "cum cantu, et discantu, à haute voix, a chant et à dechant," there are others to censure the art, and keep it within certain bounds. It was thought so licentious at the beginning of the fourteenth century, that the use of it was prohibited in the mass by a bull of pope John XXII, 1322. However, there is at the end of it this favourable clause: "It is not our intention wholly to prevent the use of concords in the sacred service, particularly on great festivals, provided the ecclesiastical chant or plainsong be carefully preserved." The Abbé Lebeuf observes, that those who drew up this bull, which is inserted in the body of canon laws, erroneously confined discants to fourths, fifths, and eighths, from the perusal of ancient authors on the subject of music, particularly Cassiodorus, where they had found the following definition: "Symphonia est temperamentum sonitus gravis ad acutum, vel actui ad gravem, modulamen efficiens, sive in voce, sive in percussione, sive in flauto. Symphoniae sunt sex: prima, diatessaron: secunda, diapente: tertia, diapason: quarta, diapason et diatesseron: quinta, diapason et diapente: sexta, diapason et diapason." "Symphony, or music in consonance, is the mixing grave sounds with acute, or acute with grave, either in singing or playing upon stringed or wind instruments. Symphonic concords are six; the fourth, fifth, and eighth, with their octaves." It is hardly possible to read this passage, and not give up the contest concerning ancient counterpoint; or, at least, reduce it to that meagre kind, of which an example has been given in the first volume, (Hist. Music by Burney, p. 145.)

It is easy to suppose, says the Abbé Lebeuf, that the design of those who first permitted chants in faburden to be sung in the churches of France, was to distinguish festivals and holy times, by the ornaments and graces with which they were sung; as, in others was done by allowing particular portions of the service to be performed in fauxbourdon, or counterpoint. Traité Historique sur le Chant Eccles. See FALSO-BORDONE.

FACE, Fr, in Music, is used to distinguish the different forms of triad, or ways of taking the common chord; as 1:\textsuperscript{st} face 3 8 3, 2:\textsuperscript{nd} face 8 3 5, 3:\textsuperscript{rd} face 5 8 3; or, as we should say, first stage or station \&c of a chord. A chord has as many faces or forms as it has notes. The chord of the 7\textsuperscript{th} in G, for instance, may be played four several ways on a keyed instrument, placing the thumb on the lowest note as 8 3 5 7.

FACTEUR, Fr. in Mechanics, a maker; as in music, a flute or fiddle maker, an organ builder. How great a demand there was for flutes in Athens, may be conceived from a circumstance mentioned by Plutarch in his life of Isocrates. This orator, says he was the son of Theodorus, a flute maker, who acquired wealth sufficient by his employment not only to educate his children in a liberal manner, but also to bear one of the heaviest public burdens to which an Athenian citizen was liable, that of furnishing a choir or chorus for his tribe, or ward, at festivals and religious ceremonies. Each tribe furnished their distinct chorus; which consisted of a band of vocal and instrumental performers and dancers, who were to be hired, maintained, and dressed during the whole time of the festival: an expense considerable in itself, but much increased by emulation among the richer citizens, and the disgrace consequent to an inferior exhibition. The fluctuations of trade and public favour have rendered the business of boring flutes far less profitable at present than it was in the time of Theodorus. But then we have had a harpsichord maker in our own country (old Kirkman) who died worth 100,000 l. and who was as able to maintain a choir as Theodorus, or any dean and chapter of a cathedral.

FAGOTTINO, Ital, in Music, a little bassoon. FAGOTTO, the Italian name for a bassoon, is derived from the manner in which it is tied up when taken to pieces, at which time it resembles a faggot, or bundle of sticks; and its French appellation is derived from its low pitch, Bas-son.

FALL, in Music and Poetry. See CADENCE.

FALSE Relation, in Music. In the beginning of counterpoint, before the ear was tired of consonance, every perfect concord, rendered sharp or flat, was called false relation, "and absolutely forbidden." (See Pepsuch, p 9.) Such as the flat 5th and sharp 4th; but at present those intervals produce effects more agreeable to the ear, than in their most perfect
state; even a flat and sharp unison and octave have been successfully hazarded by Emmanuel Bach, Haydn, and Mozart.

**FALSET, from FALSETTO, Ita**, a feigned voice, an octave above its natural pitch, to supply the want of sopranos or feeble voices. “Before the year 1600, when Castrati were first employed in the service of the Papal chapel, at Rome, to sing the soprano, or highest part, it was the custom to have it performed by Spaniards in falset.” Santarelli. But long before that period, in early times of discant, the upper part used to be sung in falset. Du-Cange derives the word falset from *fausetum*, a term used, during the middle ages, in the same sense; and this, he supposes, from *faucibus*, whence the high tones of voice proceed. *Pipeth* was sometimes used in a similar sense to express piping, or such high singing as imitated the sound of pipes or small flutes.

**FALSO-BORDONE.** See FAUX-BOURDON. Plain music, of note against note, with which the psalms and canticles are of enchaunted. But the Italians particularly style falso-bordone a manner of singing in three parts, composed of a succession of 8ths, 3ds, and 6ths.

**FANDANGO**, the name of a riotous Spanish dance. This is a very ancient national dance; and is supposed to be that of which Martial speaks, when he aims the whole force of his invective against the wanton dances of Betica; especially of the district of Cadiz, and the voluptuous manner in which they are performed by the women. Baretti justly defines it, “a regular and harmonious convulsion of all parts of the body.” The “bolero” is an imitation of it, but shortened, modified, and stripped of all those accessories which give to the fandango so very free a character. The passion of the Spaniards for these dances is extreme. Accordingly, Mr. Townsend, in his “Travels,” observes, that if a person were to come suddenly into a church, or a court of justice, playing the fandango, or the bolero, priests, judges, lawyers, criminals, audience, one and all, grave or gay, young or old, would quit their functions, forget all distinctions, and all set themselves a dancing. The fandango and bolero are danced in couples, to the sound of the guitar, and the noise of castanets, which the men employ with equal precision and sportiveness to mark the time and animate their motions. In the bolero the men and women perform the same motions, but those of the women are more lively, more animated, and more expressive. The fandango is graver than the bolero: the steps are neither so lively, nor is their time so strongly marked; they more resemble different modes of balancing; but the inflexions of the body are more varied, and add to its gracefulness. Motions of the eyes and features mark all the postures of this dance; the most lively expression of all the passions that agitate the heart is then exhibited. The fandango and bolero are also executed in the form of a ballet or a figure dance; they are then danced by eight, four men and four women; and at intervals each couple in its own corner goes through all the motions of these dances: these are what they call “sequidillas.” These dances are usually performed to the sound of the guitar, accompanied by the voice of the player. The women mark the time very correctly with the heel: these dances are not in general practised in genteel society.

**FANFARE, Fr.** a kind of military air, or flourish, generally short and spirited, either performed by trumpets, or by other instruments in imitation of them. The fanfare is usually sounded by two trumpets, accompanied by kettle-drums, and, if well executed, it has a certain martial and animated effect perfectly suited to its use. Of all the troops in Europe, the Germans (in 1768) were those which had the best military instruments, consequently their marches and fanfares had an admirable effect. It is worthy of remark, that in the whole kingdom of France there was not a single trumpet that played in tune; so that the most warlike nation in Europe had the most discordant instruments, which was not without its inconvenience. During the last war the Bohemian, Austrian, and Bavarian peasants, all born musicians, unable to imagine that regular troops had instruments so false and so detestable, took all the old corps for new-raised troops, whom they began to despise, and it is incredible how many brave men lost their lives by false intonation. So true it is, that
in preparations for war, nothing should be neglected that occupies the senses. Rousseau.

All Europe seems now convinced of the wisdom of this remark; and all the regiments of every nation have either German bands or German masters to instruct their young musicians.

FANTASIA, Ital. FANTASIE, Fr. an instrumental composition in Music, executed at the same time that it is conceived. There is this difference between a capriccio and a fantasia, that the capriccio is a string of singular and unconnected ideas, produced by a heated imagination, and which may, however, be composed at leisure; whereas the fantasia may be a very regular production, which differs from written music no otherwise than by being played immediately from the head, and that it no longer exists after performance. So that a capriccio depends on the assortment and choice of ideas, and the fantasia on the promptitude with which it presents itself. It follows that a capriccio may be written down, a fantasia never; for as soon as it is written or repeated it is no longer a fantasia, it is a common piece of music. These were the ideas of Rousseau 40 years ago, and are now the general ideas of all who bestow a thought on the subject. But in the 17th century, when instrumental music first began to be cultivated, the accpetation of the word fantasie or fancy was very different from the present, which on the organ is termed a voluntary; on the harp or piano forte a toccata, toccatina, or prelude to something else. But of what were termed fantasies, previous to the invention of sonatas, quartets, or concertos becoming general, the following is the history. The reign of our James the First is a very early period in the cultivation of music, merely instrumental. The words concerto and sonata seem at this time not to have been invented even in Italy; as the Crusca dictionary gives no instance of so early a use of them in music-books. Concerto and suono implied nearly the same things; but concertare and concertanti were at first applied to the union of instruments with voices, in motets and madrigals, by doubling the voice-parts. It was not till late in the seventeenth century that instrumental pieces, of many parts, began to be called concertos, and of few, sonatas.

The earliest compositions we have found in Italy, for three or more instruments of the same species, are ricercari and fantasie. But of these, none seem to have been printed when the elder Doni published the second edition of his Libreria, 1557; as all the instrumental music that appears in his catalogue of musical compositions, which had then been published in Italy, are “Intabolature da organi, et da leuto, d’Anton da Bologna, di Giulio da Modena, di Francesco di Milano, di Jaches Buas, piu di dieci volumi, e la continuà.”

About the beginning of the seventeenth century madrigals, which were almost the only compositions, in parts, for the chamber, then cultivated, seem to have been suddenly supplanted in the favour of lovers of music by a passion for fantasias of three, four, five, and six parts, wholly composed for viols and other instruments, without vocal assistance. And this passion seems to have arisen from the calling in these instruments to reinforce the voice parts, with which they played in unison, in the performance of motetti and madrigals, thence termed concertati. At length, the instrumental performers discovered, that both the poetry and singing of the times might be spared without any great loss or injury to musical effects; as the words, if good, were rendered unintelligible, by fugue, imitation, and multiplicity of parts; and the singing, being often coarse and out of tune, could be better supplied by their own performance. Thus vocal music not only lost its independence, but was almost totally driven out of society; as the ancient Britons, calling in the Saxons to assist them in their conflicts with the Picts, were themselves subdued and forced from their possessions, by too powerful auxiliaries.

We are the better enabled to speak of the instrumental music of this period, by being fortunately in possession of several considerable manuscript collections of fantasies; particularly one in six parts, folio, which had been made for the l’Estrange family, in Norfolk, by the celebrated composer of Charles the First’s reign, Mr. John Jenkins, and collated with other copies, and corrected not only by himself, but by six or eight other eminent masters of the times. These pieces, which consist more of motets, madrigals, and innomines, originally designed for voices, than fantasies made expressly for instruments, were the productions of William Bird, Alfonso Ferabosco, sen. and jun. William White, John Ward, Thomas Ravenscroft, William Cranforde, Thomas Lupo, Gio-
vanni Coperario, and others. The style would appear now very dry and fanciless, in spite of the general title of these pieces. Indeed, it would be difficult to select one of them that would afford any other amusement to our readers, than that of discovering how ingenious and well disposed the lovers of music, during the former part of the last century, must have been to extract pleasures from such productions.

Notwithstanding the infinite pains that have been taken in collecting and collating these books, they only prove that however insipid and despicable we may think their contents, our forefathers were of a different opinion; and that, contemptible as they now seem, they were the best which the first musicians of the age could then produce.

There is an infancy in every human production that is perfectable. The instruments to which these fantasies were adapted were viols of different sizes. (See BASE Viol.) The passages, however, given to these several instruments at this time discover no kind of knowledge of the expressive power of the bow; and even Orl. Gibbons, who composed so well for voices in the church, seems very little superior to his contemporaries in his productions for instruments. Indeed, his madrigals of five parts as well as those of many others, are said in the title-page to be apt for viols and voices; a proof that with us, as well as the ancient Greeks, and other nations, there was at first no music expressly composed for instruments; consequently, the powers of these instruments must have been circumscribed; and when this music was merely played, without the assistance of the human voice and of poetry, capable of no great effects. The subjects of Orlando Gibbons's madrigals are so simple and unmarked, that if they were now to be executed by instruments alone, they would afford very little pleasure to the greatest friends of his productions, and those of the same period. At the time they were published, however, there was nothing better with which to compare them, and the best music which good ears can obtain, is always delightful, till better is produced. Air, accent, grace, and expression, were now equally unknown to the composer, performer, and hearer; and whatever notes of one instrument were in harmony with another, were welcome to the player, provided he found himself honoured from time to time with a share of the subject, or principal melody; which happening more frequently in canons, and fugues, than in any other species of composition, contributed to keep them so long in favour with performers of limited powers, however, tiresome they may have been to the hearers when constructed on dull and barren themes.

Music is so much a work of art, study, exercise, and experience, that every style must be best treated, even by men of the greatest genius, in proportion to the attention and labour they bestow on that particular species of composition. Orlando Gibbons, who appears to such advantage as a church composer, is utterly contemptible in his productions for instruments, of whose powers he was ignorant. Indeed, all instrumental music, but that of the organ, seems to have been in a very rude state at this time throughout Europe; and, if we except the fugues of Frescobaldi, all the music, even for keyed-instruments, is dry, difficult, unaccented, and insipid.

FAVORITO, in the Italian Music, is an epithet given to such parts of any composition as are performed to the greatest advantage. Thus, choro favorito is a chorus in which are employed the best voices and instruments to sing the recitativos, play the ritornelios, &c. This is otherwise called the little chorus, or choro recitante.

FAUSSE, Fr. in Music, false, out of tune, by being too high or too low. There are false voices, as there are false strings. It is supposed that this is occasioned by a bad ear, but the mischief is done before the sound arrives at the ear; and we have known persons sing out of tune, who stop perfectly well in time on the violin, and who judge very accurately of the intonation of others. It is often from defect of the organ, which is disobedient to the will of the owner, that false intonations occur; intonationi perfidi.

FAUSSE Quarte, Fr. in Music, another name for the trintonus, or sharp 4th. See TRITONUS.

FAUSSET, Fr. is that kind of voice which sings an octave above its natural compass, to imitate a boy or a female. A voice on this occasion resembles a flute or organ pipe over-blown, or blown with a sharper current, when it breaks into the octave. See OCTAVE and FALSET.

FAUX, Fr. in Music, false. See FAUSSE.

FAUX-Bourdon, Fr. See FALSO-BORDONE, and FABURDEN.
FEINTE, an old French musical term, to express the alteration of any note or interval, by a sharp or a flat. It is properly the generical term for dieses and accidental flats. Rousseau says, “this word is no longer in use; but no other is substituted in its room. The fear of using superannuated words daily enervates and impoverishes our language; its greatest enemies are the purists. The short, or chromatic keys on a harpsichord, now denominated sharps and flats, used to be called feintes. The keys which are white used to be black, because our coarse and vulgar artists never thought of making the clavier black to set off the ladies hands. Short eighths in organs and old instruments are likewise called feintes coupé, or cut keys.”

FEMALE Flute-Player. See flute, lamia, and AMBROSIAN.

FERMO, Ital, as canto fermo, or plain-chant, in Ecclesiastical singing, is used in opposition to canto figurato, or figurative song. Rosseau was of opinion that the Roman, or Gregorian chant, is a precious relic, though much disfigured, of the ancient Greek music; which after having passed through the hands of the barbarians, has not lost all its first beauties. Enough remains still to make it far preferable for the use to which it is destined, to that effeminate and theatrical, or flat and mawkish music, which has been substituted to it in some churches, without gravity, without taste, propriety, or respect for the place which they dare thus profane.

Canto fermo is written only on four lines in the Roman missals and only two clefs are used, the base clef of F, and the clef of C, which are moveable, and only one flat upon B, and two kinds of notes, the long and square note, to which a tail is sometimes added, and the breve in the lozenge form, but all black. These are called Gregorian notes, supposed to have been invented or adopted by St. Gregory, the first pope of that name. St. Ambrose, archbishop of Milan, is said to have invented the Ambrosian chant, or at least to have brought it from Antioch, and to have established it in his church at Milan, a considerable time before the pontifical reign of Gregory, who perfected it, and gave it the form which it still preserves at Rome, and in other churches where the Roman chant is still practised. See PLAIN Chant, AMBROSIAN Chant, and GREGORIAN Notes.

FETE, Fr. a feast, an entertainment of singing and dancing, introduced in an act of an opera, which always interrupts or suspends the action. (See BALLET.) These obtrusive entertainments, says Rousseau, are only amusing in proportion as the opera itself is tiresome. In an interesting drama, well conducted, it would be impossible to bear them. We have sometimes thought the same of the masque in Shakespeare’sTempest, though not in the feast of Romeo and Juliet, which is analogous and connected with the plot.

FIATO, Ital. a term in Music, equivalent with volta. Time, not measure, put at the end of a strain when there are different leading notes to the first and second part of an air. Primo fiato, or prima volta, the first time, secondo fiato, the second time; but the words fiato and volta are more frequently understood than expressed, as 1st 2nd mean the same thing.

FIDDLE, probably from Fides, Latin. This is the vulgar name for the violin, which is a modern instrument, as the use of the bow cannot be traced in antiquity. The earliest mention which we have found of the fiddle in England, is in the legendary life of St. Christopher, MS. Vernon. Bodl. Lib. (119) written about the year 1200.

“Christofre him served longe.
The king loved the melody off sithele and of songe.”

The fiddle, however, did not seem in common use in feasts, mummeries, and processions, for some hundred years after this period. It is mentioned by Chaucer, but was not allowed to be a concert instrument, till the reign of Charles II. who, in imitation of Louis XIV., established a band of twenty-four violins, alias fiddles, which gave birth to Tom Durfey’s song of “Four and Twenty Fidlers all on a Row,” &c., a humorous production in which there is a mockery of every instrument, and almost every trade; and which, in our own memory, used to be performed between the acts, or between the play and farce, by some man of humour at benefits. See VIOLIN, REBEC, and Bow.

FIFE, a small shrill flute blown at the side, like a German flute. It is in almost every musical band, and as the tabor and pipe enliven the dance, the fife and drum animate the soldier, particularly in the quick step. The fife has six notes, and furnishes two
octaves from the lowest D in the treble, to D in alt. The Swiss first brought this instrument into France, after the battle of Marignan, under Francis I; since which time it has been admitted into regimental music, in preference to the common octave flute, being made less false from its having a key which the fife à bec has not. Laborde.

The fife is an instrument, particularly intended for the use of regiments, and forms, in conjunction with the drum, the only music with which many corps are provided. This little shrill tube is usually about fourteen inches in length, and of one piece, though some are made to take to pieces; but such are not suited to military use: it may be considered a small kind of flute, especially if provided, as some are, with a key; but such are rare, the generality being confined to only six finger holes, and an embouchure, or mouth-hole. The want of a key necessarily occasions a difference in the fingering of many notes: but the compass, or extent, is about the same as that of the German flute; namely, from D below the treble staff, to D in alt.; but all beyond B in alt. are more or less harsh, and cruelly piercing to a sensible ear. Fifes are made of three several sizes, denominated A, B, and C, respectively; A being the largest and deepest toned, and one minor third below concert pitch; the next size is made to correspond with the B♭ of the musical scale, and is generally used when playing with military bands, using what are called B♭ clarionets. The C fifes, are those at concert-pitch, and are chiefly used for the ordinary service of these instruments. Such an assortment requires some vehicle or receptacle; accordingly we find that where such a diversity is allowed, each fifer is provided with a FIFE-case, which is a tin tube, about twenty inches long, and three in diameter, having two diaphragms of tin pierced for the several fifes to pass through, so as to be kept separate. There is a tin lid which fastens down, and either locks or is fixed by a spring pin. This case is generally painted to conform with the ornaments on the drums of the regiment, and is flung over the shoulder by means of a cord with tassels. Though certainly decorative, we cannot but view this appendage as both useless and extravagant.

FIFER, a person who plays on the fife: of these one is generally appointed to each company of infantry, who, in company with the drummer, plays to the corps while marching for the relief of guard; or when the arms are carried; also at the times of beating the reviellez, the assemblez, the retreat, the tattoo, and other regular or incidental duties. The most disagreeable part of the duty of the fifers and drummers, consists in the infliction of such punishments as offenders are sentenced by courts-martial to undergo in presence of their companions in arms, occasioning this class of persons to be often treated with marked odium, and to receive the opprobrious designation of "Bloody Thumbs." This term is derived from the stains of blood attaching to their hands, in consequence of their occasionally straightening the several cords of which a cat-'o-nine-tails is composed, and which in the act of flagellation are apt to become entangled, so as to fall heavily, en masse, upon the delinquent’s shoulders. We cannot let pass this opportunity of expressing our conviction, founded on the best authorities, that corporal punishments are as unnecessary as they are disgraceful; and that it is not only very practicable, but has in many instances been found very effectual, to substitute moderation for severity, and an attack on the pride of an offender, for one on his flesh.

Under the existing system we can never be led to envy the feelings of the fifers and drummers of a regiment; nor can we entertain the opinion that this class of our soldiery will be exempted from those opprobrious epithets, and those sarcastic reflections, which affix a stigma of the most obnoxious description.

FIFTEENTH, in Music.

Editorial note: A scientific article by John Farey Sr.

[This] is an interval whose ratio is 3th, or the double octave or replicate thereof = 1224 Σ 424 f + 106 m; see table of CONCORDS.

FIFTEENTH Stop, on an organ, is a range of pipes, so called because each note therein is tuned a double octave or fifteenth above the diapasons, which are reckoned the standard. In accompanying choral parts in a concert, or in church singing, this stop, the twelfth, the principal, and the two diapason stops, are generally used together.

FIFTH, in Music.

Editorial note: A scientific article by John Farey Sr.
[This] is a perfect concord, the next in perfection to the unison and octave; in the division of the monochord its ratio is 3:2, that is, the third part of a string is a 5th to the octave of the whole string. (See MONOCHORD and FUNDAMENTAL Base.) The 5th is a principal sound in the triad or common chord. It is made a discord by the 6th; the false 5th is a discord in itself, and must be prepared and resolved. The perfect 5th is seven half notes above the base. It is so perfect a discord that no succession of 5ths with the base, or any of the other parts, can be borne, ascending or descending together. Dr. Pepusch has given all the warrantable means of preparing and resolving it as a discord; and for the unwarrantable succession of 5ths, see Padre Sacchi delle quinte successive. The 5th of a key, falling to the key-note, in the base, being regarded as a full cadence or close, has given birth in France to the denomination of dominant, as it governs or leads to the keynote or tonic of every key. Thus G is regarded as the dominant of C, and D of G, &c.

The fifth, or major Fifth, is one of its most important intervals, and the most perfect or agreeable in its harmony of any other interval within the octave; it is usually marked V in writings on the theory of music, and consists of seven of the half-notes of keyed instruments, which have 12 sounds in the octave. Its ratio is \( \frac{358}{25} = \frac{7}{5} \), its common logarithm is .823908,4094, and its binary or Euler's log. = .584962, which is its decimal relation to the octave (i) of which it is nearly the 31\( \frac{1}{7} \) d part: it contains 32.639526 major commas, is composed of a major and minor third, and is the complement of a minor fourth to the octave: it is equal to the sum of a major tone and minor fourth, a semidiapente and a medius semitone, a tritone and major semitone, three major tones and a limma, three apotomes and four limmas; two major tones, one minor tone, and a major semitone also compose it; (see QUINT.) Two circumstances have concurred to render this concord the most proper to be used in the tuning of keyed and stringed instruments, viz. its great perfection, by which much facility is given in tuning, and it being the only concord which will bear repeating 12 times in succession (with, or without descending octaves) and each time produce a note answering nearly to the 12 notes in common use, and on the 13th repetition fall very nearly on an octave of the note first started from: which circumstances occasion this concord, tempered in different degrees, to be almost exclusively used in the tuning of instruments. Besides the above, various other intervals bear the names of fifth, as

Flat fifth, the semidiapente of the ancients, or false fifth of some, being less than a tone or major-fifth by the medius semitone, and consists of six half-notes; its ratio is \( \frac{45}{64} \), its common logarithm is .8470325,3979: its binary log. = .508148, and it is = 28.35340 major commas. It is the complement of a tritone, is equal to a minor fourth and a major semitone, a tritone and minor comma, to the difference between two minor thirds and a major comma; a major, a minor, and two major semitones also compose it; and it is the difference between two 4ths, and a IIIId, whence it may be tuned on an organ.

Sharp fifth, or diesis defective minor sixth, the superfluous fifth of Tartini, consists of eight half notes; its common logarithm is .8061799,7398; its binary log. = .643856, and it is = 35.92564 commas; it is the complement of the flat fourth; it is equal to two major and two minor tones, and is equal to the difference of a minor sixth and enharmonic diesis, also to 2 VIII — 2 6ths, 2 V — 2 3ds, 2 VI—24ths, or to 2 IIi: whence it may be tuned.

Comma deficient fifth, or lesser fifth of Holder, and deficient fifth of others, is less than a true fifth by a major comma, as its name imports; its ratio is \( \frac{45}{40} = \frac{3}{2} \), its common logarithm is .829037,7283, and its binary log. = .567042: it is = 31.639524 major commas. It is the complement of three major tones; it is equal to one major, two minor, and one major semitone, and to a minor fourth and minor tone; it is also equal to the difference between two 4ths and a 3d, whence it may be tuned.

Comma-deficient flat fifth, is an apotome less than a true fifth: its ratio is \( \frac{27}{26} = \frac{3}{2} \), its common logarithm is .8524275,7167, and its binary log. = .490228; it is = 27.35340 major commas. It is the complement of three major tones; is equal to two comma-deficient minor thirds: to two major tones and two limmas, and is also the difference between four 4ths, and two Vths, whence it may be tuned.
Comma redundant fifth, or greater fifth of Holder, is a major comma larger than a true fifth; its ratio is \( \frac{105}{104} = \frac{25}{24} + \frac{2}{7}f + 32 m \); its common logarithm is \( .8185137,0905 \), and its binary log. \( = .602881 \), it is \( = 33.639526 \) major commas, three major tones, and a major semitone, and is the difference between two VIths and a 3d and two 4ths, whence it may be tuned.

Comma-redundant sharp fifth, or superfluous fifth of some, is a semitone mediocris larger than a true fifth; its ratio is \( \frac{25}{24} = \frac{5}{4} \cdot \frac{5}{4} \cdot \frac{5}{4} \cdot 6 f + 28 m \); its common logarithm is \( .8416375,0790 \), and its binary log. \( .526068 \); it is \( 30.639526 \) major commas, three major tones, and two major semitones, also to two 3ds, whence it may be tuned.

Comma-redundant flat fifth, or tritone maximum of Euler, also the diminished fifth of some, is a minor 2 semitone less than a true fifth; its ratio is \( \frac{25}{24} = \frac{5}{4} \cdot \frac{5}{4} \cdot \frac{5}{4} \cdot 6 f + 35 m \); its common logarithm is \( = .8007849,4209 \), and its binary log. \( = .661776 \); it is \( 36.925.64 \) major commas, two major thirds, and a major comma; it is the difference between a major sixth and a limma; and between two Vths and a IIIId and two 4ths, by which it can be tuned.

Diaschisma-defective fifth, is adiaschisma less than a true fifth: its ratio is \( \frac{243}{256} = \frac{3}{2} \cdot \frac{3}{2} \cdot \frac{3}{2} \cdot 8 f + 35 m \); its common logarithm is \( .8297938,7996 \), and its binary logarithm \( .8346988,0472 \), and its binary or Euler’s logarithm \( = .449253 \), and as it is \( = 25.06728 \) major commas: it is equal to the difference between a Xith and three IIIIds, whence this interval may be tuned.

Minimum fifth of M. Hensling, or extreme diminished fifth of some, is exceeded by a true fifth, the quantity of two minor semitones and a major comma: its ratio is \( \frac{375}{352} = \frac{3}{2} \cdot \frac{3}{2} \cdot \frac{3}{2} \cdot 10 f + 33 m \); its common logarithm is \( .8647613,0675 \), and its binary or Euler’s logarithm \( = .449253 \), and it is \( 25.06728 \) major commas: it is equal to the difference between a Xith and three IIIIds, whence this interval may be tuned.

FIGURE, in Music. In general, figure includes all the characters used in music to express sounds, their place in the scale, with their duration and equivalent rests: whence contrapunto figurato, to distinguish it from contrapunto semplice, plain counterpoint, which Zarlino defines common chords of note against note, all of the same length, and without discords. Figurative harmony, sometimes called florid counterpoint, is that in which the chords are broken into melody, and expressed by figures or notes of different lengths.

FIGURE, Mute; mute figures, in Italian music, imply rests, or characters denoting silence.

FIGURED, in Music, is an adj. in thorough base, when the harmony of a composition is expressed by figures over the base to denote such sounds as differ from common chords. See CHORDS, THOROUGH Base, and ACCOMPANIMENT.

FILER UN SON, Fr. in Music, implies the conduct of the voice in singing, in such a manner as to be able to prolong, swell, or run rapid divisions of many bars, without taking breath. The French verb fîler, literally means to string, thread, or wire-draw any substance: and, applied to the voice, it means almost every perfection of a great singer. Millico used to say that the voice, by practice, should be rendered as ductile as wax when worked by the hand till it will receive any impression. Rousseau says there are two ways of managing the voice which come under the term fîler les sons: the first is what we have been describing; the second, that of sustaining a tone steadily, and perfectly in tune, in a long note, while...
the accompaniments are busily employed. When the Gabrielli was here, during the time that the Agujari sung at the Pantheon, after she had finished one of her bravura airs, with long and difficult divisions, and such high notes as had never been heard in England before, the Gabrielli said to a gentleman in our hearing, “mais messieurs, ce n’est pas filer les sons;” one singer is never to praise another. Agujari was, however, a very great singer in a different style from that of the Gabrielli; who, when at her best, had very singular vocal abilities. We have just now recollected that Agujari was forgotten in the alphabetical order where she ought to have had a niche, for which we beg pardon of her manes, and shall try to deserve it, by doing her justice here.

Editorial note: The article concluded with a biography of LUCRETIA AGUJARI. It is reproduced in the Biographies volume, which see.

FINALE, Ital. in Music, the last chorus, or movement at the end of an act of an opera; and in symphonies; concertos, quartettos, or sonatas; the last movement is called the finale. The finales of the Italian comic operas are the most ingenious, varied, pleasing, and masterly compositions which dramatic music can boast; particularly those of Piccini, Paisiello, Cimarosa, and Mozart. Such a variety of measure, such fire, grace, passion and pathos, by turns, that the hearer, at the end, is unable to say what movement or passage he likes best. They are extremely difficult to perform, yet the Italians, by dint of study and rehearsal, are no more embarrassed than if, instead of singing, they were only talking and squabbling the whole time.

FINGER-keys, in Music, or clavier of the Germans, signify the arrangement of short levers of different colours, on which the fingers act in performing on organs, pianofortes, and some other instruments with fixed tones; the arrangement of these within one octave, from C to C, is shewn in Music, Plate I.; the learning and recollection of which will be much facilitated, by considering the same divided (between E and F) into two parts, which Dr. Callcott, in his “Plain Statement of Earl Stanhope’s Temperament,” calls a ditone and a tritone, see those articles. It may be proper here just to add, that D is always the middle of the ditone or first division, and that G and A are the middle notes of the tritone or second division of the septave, or whole octave. In Mr. Hawke’s patent pianofortes and organs, with 17 strings or pipes in each octave (sold by Mr. Bill, Rathbone Place, and Mr. Elliot, Tottenham Court), the whole clavier or range of finger-keys is shifted, by pedals, for occasioning either the five flat or the five sharp notes of each octave to be brought into play, as may be desired; without altering the pitch of the long keys or natural notes. See TEMPERAMENT for an account of this, and various other systems of musical intervals.

FINGER-key Intervals.

Editorial note: A scientific article by John Farey Sr.

[This is] a term sometimes used for the half-notes, or semi-tones, between the 13 finger-keys of instruments; these, according to the common theory and notation used by all composers and copyists of music, are equal among themselves, and conform to the equal temperament of the scale, see that article, and Philosophical Magazine, vol. xxvii. p. 195; but, in strictness, these finger-key intervals, both the simple ones between the next adjoining as well as between the more distant finger-keys, differ very sensibly from each other, in most of the other different systems of temperament, and even in different parts of the scale of each of such systems themselves. The number of these finger-key intervals, which any interval, larger than the enharmonic diesis contains, appears on inspection, when it is expressed in the new notation of Mr. Farey, by the number of $f$s, or lesser fractions which it contains: thus, his expression for the fifth $358 \Sigma + 7 f + 31 m$, (Phil. Mag. p. 35, vol. xxx.) shews that interval to contain seven half-notes or finger-key intervals, and by which the situation of its treble above any note on the clavier or range of keys on an instrument, or of its bass below any note, considered as the treble of a fifth, can with certainty be found. See FIFTH.

FINGER-keyed Viol.

Editorial note: A technical article by John Farey Jr.

[This is] a musical instrument, noticed under our article CLAVIOLE, which is another name for the same invention: at that time we had not had an opportunity of seeing this instrument, but have now
the satisfaction of being able to present our readers with a drawing and description of it, having, for that purpose, obtained the permission of its inventor, Mr. John Isaac Hawkins, proprietor of the useful and mechanical museum, No. 79, Great Titchfield street, London, where are many curious mechanical contrivances, the most striking of which we shall occasionally notice. Plate XIV, Miscellany, is devoted to the elucidation of this curious piece of mechanism: a general idea will be given by inspecting the first figure, which is a perspective view of the whole instrument, laid open, while the remaining figures explain the construction of the more minute parts. The instrument contains 68 gut strings, stretched in a vertical position, and arranged in four series: the first, A, corresponding to the double bass, with 17 large strings, 13 of which are covered with wire; the longest string is 38 inches, and the shortest 28 inches: the second series of 17 strings, B, producing the tones of the violoncello, from 28 to 15 inches in length: the third, C, is the viola, from 15 inches to seven long, and the fourth, the violin, are from seven to three inches long. The frame containing the strings is of equal height in all parts, though the effective lengths of the strings are only to be reckoned from their respective bridges, a, b, c, and d, to the keys; each string is provided with a finger-key, which keys are arranged in the same order as in the organ, &c. and each string is adjusted to sound the proper note for the key to which it belongs; the adjustment is made at the upper end of the string by a screw. To keep the instrument in tune, through all variations of the atmosphere, each string is stretched by a helical spring, attached to the lower part of the frame at one end, and to the string at the other; by this means the tension of the string is always equal, notwithstanding its variations of length from the state of moisture in the air, as the force of the spring will not be sensibly changed, by such minute alteration of length: these springs are seen beneath the keys of the instrument at h, i, g, k, and several of the tuning screws are shewn separately in fig. 2. The end of the string, e, or of a wire to which it is tied, is hooked upon a pin projecting from the nut, a, of the screw, b, which is turned round by a small handle to produce the motion of the nut, and adjust the string.

The next parts to be spoken of are the rosined horsehair bows, which are the most ingenious part of this invention; they are four in number, being situated at E F G and H in fig. 1, one to each series of strings. The horse-hairs are arranged within a circular ring of brass, f f, in figs. 3 and 6, where the method is shewn by which an approximation to a circle can be formed from a great number of similar and equal chords within a larger circle; it is in fact a polygon, but with so many sides as to render its difference from a circle insensible. In its effects: the brass ring containing the hairs is sustained by three wheels, g, h, and i, within it, which admit of its rotative motion, and at the same time allow the strings to pass down through the ring at m; and to be as near to the hairs as possible, without touching them: for this purpose each series of the strings is arranged in a circular form to correspond with the curvature of the bows at E F G and H in the principal figure. The circular bows are put in motion by a pulley on the axes of the wheel i, and a strap or band passing round this, communicates motion from a vertical axis, k, in fig. 7, which is common to the whole, and is put in motion by a wheel, on the axis of a crank, which is turned by the treadle I, and provided with a fly-wheel, K, fig. 1, to regulate the motion, and continue it, while the treadle is ascending: the communication between the horizontal axis l, fig. 7, of the crank and fly-wheel, and the vertical axis k, giving motion to the bows, is made by two conical wheels, m and n, covered with soft leather, touching each other in their circumferences: this is an excellent substitute for toothed wheels, both with respect to the freedom and silence of the motion, as the toothed wheels, being necessarily constructed of metal, could not be divested of an unpleasant sound, not to be endured in a musical instrument.

The keys are constructed, as shewn in figs. 3 and 4, moving on a fulcrum at o, and by that means, when pressed down by the fingers, the opposite end elevates one arm of the bent lever p: at the same time the other arm is drawn back, and the wire, q, moves one arm of a second angular lever r; the other arm ends in a hook, which is engaged with the string corresponding to the key: from this arrangement, when the key is forced down, the string is drawn in contact with the hairs of the bow situated at f just above the lever r r, and the friction causes the string to vibrate in the same manner as the violin.
It is scarcely necessary, after this, to say anything respecting the action of the instrument: the performer keeps the bows in continual motion by the treadle I, which moves with such ease as to be no impediment to the freedom of motion requisite for a performer on a keyed instrument: an increase of pressure on the keys causes that fulness of tone which is so much admired in the violin, and the delicate softness, produced by lightly touching the keys, is a principal advantage in this instrument; and it is a great recommendation, that by its assistance these excellencies of the violin are secured to every good performer on keyed instruments. The velocity of the bows is another circumstance to be attended to at the same time with the pressure: when moved slowly the tones will be soft and delicate; but when the velocity is increased the tones are full, and adapted for grandeur of effect; the alteration in velocity is easily made, Mr. Hawkins having adapted an ingenious balance weight to the treadle, which acts to turn the wheel while the treadle is ascending, so that by this assistance the wheel can be made to revolve exceedingly slow, without danger of pitching, or stopping at the highest or lowest points of the cranks: this ingenious contrivance is equally adapted to lathes, or other machines receiving motion from the foot, and will be explained under the article FOOT WHEEL.

In this manner the velocity of the bows is completely manageable by the greater or less pressure upon the treadle, and the performer may easily make a sudden transition from quick to slow, by resisting the ascent of the treadle when he wishes to retard it, or pressing the treadle while it is descending to accelerate the motion of the wheel; it is worthy of notice that each bow moves with a different velocity, as is best adapted to produce the vibration of the strings it is applied to; this is effected by the different diameters of the four pulleys on the vertical axis k, fig. 5, which tunes the bows; these are in such proportion that when the double bass bow revolves at the rate of 25 times per minute, the others make 35, 50, and 75 revolutions in the same period. The instrument is provided with pedals, one of which, when pressed down, brings a piece of rosin in contact with the hairs of each bow, so as to cause no interruption for this necessary operation. Another pedal elevates the bows all together, and causes them to act nearer the bridge than when it is not in use, producing the effect well known to performers on the violin when they bow near the bridge; for this purpose the frame containing the three wheels g, h, i, fig. 6, of the bow, terminates in a stem t, which slides in a socket, and can be elevated or depressed by the pedal just mentioned. A third pedal brings a piece of leather lightly in contact with the middle of each string, which causes it to vibrate in two portions, and sound the octave in a beautiful tone, similar to the musical glasses.

FINGERING on Keyed Instruments. This is a subject which, to treat amply, requires great knowledge, meditation, and experience; and so many examples and illustrations of the rules, as an entire volume could hardly contain, much less an article of a dictionary. We shall, however, give the principal elementary rules for the carriage of the hand, and economy of the fingers, in a few keys, which, by analogy, may be extended to the rest. Couperin (see DOIGHTER) was the first who treated the subject with intelligence, in the minority of Louis XV, 1717; and though his compositions, for which the rules were given, have long since been thrown aside and forgotten, most of his rules are still good for music of a very different kind. He advises parents to place their children under an intelligent master, at six or seven years old, and prescribes not only the manner of placing the hands on the keys, but the carriage of the person. The height of the seat, if allowed to sit at so early an age, should be such as would place the wrists on a level with the keys; the fingers should be curved so as to be all of the same length, so as that each should cover a key. Some-thing should be placed under the feet of very young students, to prevent them from hanging loose in the air, and to support their frames in a just equilibrium; and this support should be diminished in proportion to their growth. The distance at which a person of mature age should sit from the instrument should be about nine inches and less in proportion to the short arms of children. They should place themselves in the middle of the keys, in as natural and easy a posture as possible; the knees not too close, and the feet even. Great attention must be paid to the countenance of children, that no grimace or appearance of difficulty should be visible, and become habitual, which would be attended to by standers-by more
than the music that is performing, however good and well executed. M. Couperin even advises a glass to be placed on the desk of the young performers in danger of becoming ridiculous, that they may correct themselves. Particular care should be taken to place the hands even, and not let very young subjects attempt reaching octaves too soon, as it flattens the left hand, and makes it seem to belong to a different person from the other. The time or measure should never be marked by the head, feet, or the whole person, which is unbecoming and constrained into affectation. Even in counting the time it should be done in a whisper, or else it tends to prevent the ear from having any share in the performance. The fingers should be suspended as near the keys as possible, and all their force should come from the upper joints, not from the weight of the hand, which would be heavy and thumping. Children in their early lessons should not be suffered to practise alone; they are too giddy and playful to remember the rules, till duly impressed by care and habit. Couperin used to take away the key of the instrument during the first lessons, that they might not undo in his absence all that he had tried with great pains to inculcate.

Shakes, beats, and trills, in all keys, must be early practised with both hands extremely slow, and quickened by degrees; as must be the exercises for each hand, called evolutions of fingering; for which see music plate. The weak fingers of both hands, that is, the ring finger and the little finger, must be very much exercised, to make them, if possible, equally brilliant with the others. Chords, if the hands are well placed on the instrument, are perhaps the best rules for fingering; for if the notes can be well and easily struck together, there will be no difficulty in breaking them into passages. The rapidly running up and down the keys, whatever number of flats and sharps there may be at the clef, depends on the thumb, which, in keys with flats, should be placed, in general, on C or F, and in most keys with many sharps upon B and E, that is, on a long key, which, if there are more than five sharps, will be E and B♯. The thumb of each hand, as far as five flats, must be appropriated to F and C for the same reason; but neither the thumb nor the little finger, in the rapid ascent or descent of the scale, should be used for a short key, unless in playing octaves or chords composed entirely of flats and sharps. In practising quick passages, the fingers should be lifted up with a spring, and not allowed to hang on the keys, till wanted again, unless in arpeggioing chords, or in passages of expression. In the first practice of a shake, in order to keep the wrist quiet, place the thumb on the 5th, 4th, or 3d below, and keep the fingers that are unoccupied as tranquil as possible. Couperin was the first, we believe, who made it a rule for his scholars never to play two notes together with the same finger, unless in repeating chords. See examples of iteration, Plate N° V.

N° VIII. Shakes should be practised with all the fingers. Transient shakes, double shakes, a chain of running shakes turned, a series of double notes in 3ds, 6ths, and octaves; in the two latter, the thumb and the little finger only can be used, and nothing but downright drudgery and perseverance can acquire these modern tricks, so unnatural to the genius of keyed instruments. Double shakes can only be gained, if at all, by long and patient practice. The experiment, however, should be made.

N° IX. In order to transfer the fingers to different parts of the instrument, upwards or downwards, without quitting a note which ought to be sustained, the young student should change the fingers upon the same note with both hands without letting the key rise. There is no harm in letting children play their first lessons by heart: it fortifies the memory; occupies the ear more than the eye; and, indeed, it is impossible for them to find the keys without looking at them, till the fingers fall mechanically upon certain passages and chords, as the feet, in walking, move without the owner paying the least attention to them.

With respect to reading music readily, it must be acquired by playing first with one hand, and then with the other, several new pages of notes every day, without repeating anything; and when that can be done readily, at sight, with each hand separately, then let the pupil begin playing simple strains with both hands. . This will be practice for the eye alone. But in learning to execute difficulties, it must be done by beginning slow, and repeating quicker and quicker a thousand and a thousand times; this is practice for the finger. Expression depends greatly on the sustaining and cessation of sound; or, in technical language, on what the Italians term legato or
sostenuto, and staccato or scioltó, as well as on accents, and the different shades of piano and forte.

In the evolutions of fingering, or short exercises to form the hands, it seems a paradox, but it may be truly said of Nos. III, and IV, that, by throwing a finger away, the fingers, in such passages, become inexhaustible.

In the course of these exercises, where the fingers are marked, the semicircle, or star, includes such notes as lie under the hand, without any contrivance or change: and in other places, where no fingers are marked, such are used as lie over the keys.

The detached passages, No. VII, are meant to be severally repeated quicker and quicker, till the hand is tired.

FINITO, Ital, in Music, a canon or fugue is said to be finito, finished, when it is not perpetual, but when at some certain place all the several parts stop together on the chord of the key note; after having followed each other for several rounds, on signal being given by the leading part holding up his finger. See CANON.

FLAGOLOLET, or FLAGEOLET, a kind of little flute; or a musical instrument of the flute kind, used chiefly by shepherds and country people.

It is usually made of box, or some other hard wood, sometimes of ivory. It has six holes or stops, besides that at bottom, the mouth-piece, and that behind the neck.

The ambit of the flageolet, according to the scale exhibited by Mersennus, is two octaves from g sol re ut upwards.

FLAT, is a character in Music, expressed by a small b, of which the effect is lowering the note to which it is. affixed a semitone minor. Guido d’Arezzo having given names to six sounds of the octave of which he constituted his celebrated hexachord, left the seventh of the natural scale unprovided with any other appellation than the letter b, which is wanted in the molle hexachord, when the same sound becomes the fourth of the key of F. (See HEXACHORDS and Musical CHARAC-TERS.) Flats on keyed instruments are the nominal half notes below, that is, on the left hand of the natural notes, as sharps are on the right hand. There are two ways of using flats, the one accidental, which has no effect beyond the single bar in which it occurs; the other is the flat or flats placed at the clef, in the beginning of a movement which affect all the notes on the same line or space throughout a movement, unless accidentally discharged by a natural, &c. The placing the flats at the clef is not arbitrary, as the first necessarily is on B, the second on E, the fourth above or 5th below, &c. in the following order:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>B♭</td>
<td>E♭</td>
<td>A♭</td>
<td>D♭</td>
<td>G♭</td>
</tr>
</tbody>
</table>

For these five flats upon keyed instruments, there are five short keys; flats, however, sometimes occur in C and F; but for these the two long keys are obliged to be used of B and E natural, the two half notes below C and F natural. If it is necessary in practice to lower any sound already flat at the clef a semitone, it is done by double flats: as B b b is A ♭ ♭, E double flat D natural, &c. See SCALES, CHARAC-TERS, and TRANSPOSITIONS.

FLAT Third. See MINOR Third.
FLAT Key. See MINOR Third.
FLAT, Double,

*Editorial note: A scientific article by John Farey Sr.*

[This] is a term used where a note already flat is required to be again depressed by a half-note, and is marked thus $b\ b$ or $b\ b\*$. The quantity or exact depressing effect of which will only be constant in the equal temperament, and in all other systems of temperament will partake of all the uncertainty which we have shewn to prevail with regard to $b$. See FLAT.

Flats are a kind of additional or half-notes contrived, &c. together with sharps, to remedy the defects of musical instruments.

The natural scale of music being limited to fixed sounds, and adjusted to an instrument, the instrument will be found defective in several points; as particularly, in that we can only proceed from any note by one particular order of degrees; that for this reason we cannot find any interval required from any note or letter upwards or downwards; and that a song may be so contrived, as that if it be begun by any particular note or letter, all the intervals or other notes shall be justly found on the instrument, or in the fixed series; yet were the song begun with any
other note, we could not proceed. To remove or supply this defect, musicians have recourse to a scale proceeding by twelve degrees; that is, thirteen notes, including the extremes, to an octave, which makes the instrument so perfect that there is but little to complain of. This, therefore, is the present system of the scale for instruments, viz. between the extremes of every tone of the natural scale is put a note, which divides it into two unequal parts, called semitones; and the whole may be called the semitonic scale, containing twelve semitones between thirteen notes in the compass of the octave.

Now, to preserve the diatonic series distinct, these inserted notes either take the name of the natural note next below with a character called a sharp or they take the name of the natural note next above with a mark called flat. Thus D flat signifies a semitone below the D natural: and it is indifferent, in the main, whether the inserted note be accounted as a flat or a sharp.

The semitonic series or scale is very exactly represented by the keys of a spinet; the foremost range of keys being the natural notes, and keys behind, the artificial notes, or the flats and sharps. The flat is denoted by the letter b in the writing and printing of music, and denotes that the note to which it is prefixed is to be lowered a half-note or semi-tone, and of course made to coincide with the note immediately below, in all such instruments as have but 12 intervals in the octave; it must however be observed, that except in the Equal Temperament of the scale (which see), the flattening effect of a b is not always the same, but varies according to the magnitude of the half-notes in each different system of temperament or part of the same system, as observed under Finger-key intervals.

Writers on the theory of music are by no means agreed on the magnitude of the interval which they assign to a flat. Dr. Robert Smith (Harmonics, p. 160.) defines it to mean the minor limma of his different tempered systems which see). Mr. Maxwell, (Essay on Tune, P. 51.) fixes it to his major limma, which has a ratio of \( \frac{126}{125} = 47 + f + 4m \), and is the medius semitone (which see). Dr. Calott (Musical Grammar, p. 12.) defines it to mean his chromatic semitone, or the apotome which has a ratio of \( \frac{2^{0.48}}{2^{1.187}} = 58 + f + 5m \); in numerous other instances, we find the flat defined to mean the limma whose ratio is \( \frac{256}{255} = 46 + f + 4m \). If we examine the MSS. of Mr. Overend, we find the flat fourth of Tartini and himself, and also what he calls the greater of the flat sevenths and flat eighths are each of them depressed below their natural intervals by the minor semitone, whose ratio is \( \frac{24}{35} = 36 + f + 3m \). See Sharp.

FLUTE, an instrument of music, the simplest of all those of the wind-kind; played, by blowing it with the mouth; and the tones or notes formed and changed by stopping or opening holes disposed for that purpose all along it. Those in common use are either the flute a bec, i.e. a beaked or common English flute, and the traverse, Helvetian, or German flute, the invention of which is ascribed by Galileo and Mersenne to the Helvetians; but the antique statue of the piping faun, and a tesselated pavement of Fortuna Virilis, erected by Sylla at Rome, in which is a representation of a young man playing on a traverse pipe, with an aperture to receive his breath, shew that it is of more ancient original. The Latins call it fistula, and sometimes tibia, pipe; from the former of which some derive the word flute; though Borel will have it derived from flata, a lamprey, thus called a fluitando in flaviis, in regard the flute is long, like the lamprey, and has seven holes all along it, like that fish. Grassineau.

The ancient fistulae, or flutes, were made of reeds; afterwards they were of wood; and at length of metal. But how they were blown, whether as our flutes, or hautboys, does not appear.

Mons. Castillon apprehends that they were sounded by means of a reed; and that there were two sorts of them, in one of which the reed was visible, as in our hautboy, but concealed in the other. (Berlin Mem. 1774, vol. v.) It is plain some had holes, which at first were but few; but afterwards were increased to a great number; and some had none. Some were single pipes, and some a combination of several, particularly Pan’s syrinx, which consisted of seven reeds, joined together sideways.

These seven reeds had no holes, each giving but one note, in all seven distinct notes; but at what intervals is not known; perhaps they were the notes of the natural, or diatonic scale.

The German flute is different from the common one; it is not put into the mouth, by the end, as the
ordinary ones are; the end is stopped up with a plug or tampon, but the lower lip is applied to a hole a little way distant from it.

It is made equally big every where, and perforated with six holes, besides that of the mouth, and that opened by the key.

The flute was of such importance in antiquity, that among the Di majorum gentium, some of the female divinities laid claim to a share in musical discoveries. Of this number was Minerva, or Pallas, the daughter of Jupiter, who is sometimes called Musica, or the musician, a name she acquired from a statue made by Demetrius, in which, when the serpents of the Gorgon were struck, they resounded like a lute. She is also honoured with the invention of chariots, together with having first used trumpets, and invented the flute. The vouchers for her musical talents are Pausanias, Plutarch, and Fulgentius, among the prose writers; and Pindar, Nonnus, Ovid, Hyginus, Propertius, and Claudian, among the poets. The flute that she invented is said by Ovid to have been made of box, and by Hyginus of bone. Foramina rara, with few holes, it is natural to suppose.

Indeed the Syrinx, see plate IV. N° 6, said to have been invented by Pan, was found inconvenient. It consisted of a number of pipes of different lengths, tied together, or fastened by wax, which were played on, according to Lucretius, by blowing in them one after the other, moving the instrument sideways, for the admission of wind into the several tubes; and it was by the sagacity and penetration of Minerva, that it was found practicable to produce the same variety of tones with a single pipe, by means of ventiges or holes, which had the effect of lengthening or shortening the tube, by a quick alteration of the column of air which was forced through it.

Two other circumstances are related of Minerva with respect to the flute; she is said by Hyginus to have found herself laughed at by her mother and sister, Juno and Venus, whenever she played the flute in their presence: this suggested to her the thought of examining herself in a fountain, which serving as a mirror, convinced her that she had been justly derided for the distortion of her countenance, occasioned by swelling her cheeks in the act of blowing the flute. This is one reason given for her throwing aside that instrument, and adopting the lyre. However, a better cause, and one more worthy of her wisdom, is assigned for her throwing aside the flute, upon seeing Apollo perform on the lyre; for by having his mouth at liberty, she found that it enabled him to sing at the same time as he played, which afforded an opportunity of joining instruction to pleasure.

The invention of the flute having been given by the poets to Apollo, Mercury, Minerva, and Pan, is a proof of its high antiquity as well as importance. There are nominal flutes represented in sculpture of all forms: curved, straight, small, middle-sized, single, double, right, left, equal, unequal, &c.; these instruments were made of all kinds of wood and metal. They had different names assigned them, according to the country where they were invented, or were chiefly in use: as the curved flute was called Phrygian, or Tyrian, its name in Magna Grecia, or the Pheusion of the Egyptians, which was termed Monaulos. The flute had, indeed, so many different names in the Classics, and is applied to so many different purposes, that M. le Fevre, who had undertaken their explanation, ended his fruitless labours by a copy of Latin verses in praise of Minerva, for throwing the flute into the sea, and anathematizing those who should take it out. But far from imitating M. le Fevre, and without having the fear of Minerva before our eyes, we shall try if we cannot give some satisfactory explanation of the terms equal and unequal flutes, right and left flutes, Sarrana flutes, Phrygian, Lydian, or Tibiae pares, Tibiae impares, Tibiae sarraneae, Phrygiae, Lydiae, &c., of which mention is often made in comedies performed at Rome, we shall give what has been said, which seems most probable and ingenious on this curious subject of antiquity.

In the comedies of Terence the flute-players played on double flutes, or two flutes at the same time; that which they held in the right hand was called the right flute, and that with the left, for the same reason, the left. The first had but few holes, and produced the grave or lowest sounds; the left had many holes, and produced the acute or high notes. When the musician played the two flutes of different sounds, it was said that the piece was accompanied tibias imparibus, with unequal flutes; or tibias dextris et sinisteris, with right and left flutes; and when they played on two flutes of equal sound (or in unison)
either right or left, as often happened, it was said that
the piece was played tibiis paribus dextrais, with
right-hand equal flutes, producing two sounds; or
tibiis paribus sinistris equal left-handed flutes, pro-
ducing acute or high notes.

Donat pretends, that when the subject of a piece
was grave and serious, the right-hand or base flutes
only were used, which were called Lydian; that
when the drama was gay and playful, the left-hand
or high flutes were used, which were called Tyrian
or Sarraææ, which having high sounds were more
proper for joy; and finally, when the subject was
mixed, or as we should say, tragi-comedy, unequal
flutes were employed, that is to say, right and left,
which were called Phrygian.

At the Panathenæan games, instituted at Athens
in honour of Minerva, the patroness of that city,
premiers were given to players on the flute, an in-
strument then in the highest estimation throughout
all Greece, but in particular request at Athens; per-
haps from the legendary account of its invention by
Minerva, the protectress of that city.

Aristotle tells us, (de Laud. Sui.) that the flute,
after its first invention, was used by mean people,
and thought an ignoble instrument, unworthy of a
freeman, till after the invasion and defeat of the Per-
sians, when ease, affluence, and luxury, soon
rendered its use so common, that it was a disgrace to
a person of birth not to know how to play upon it.
Callias and Critias, celebrated Athenians, Archytas
of Tarentum, Philolaus and Epaminondas, were able
performers on the flute.

The Thebans in general piqued themselves much
on being great performers on the flute. This is mani-
fest from a passage in Dion Chrysostom. “The pre-
eminence,” says he, “which all Greece unanimously
allows to the Thebans, in this particular, has been
constantly regarded by them as a point of great im-
portance, of which I shall give an instance. After the
total ruin of their city, which has never yet been re-
built, no part of it being now inhabited but the small
quarter, called Cadmea, they gave themselves but
little trouble in restoring any of the public monu-
ments that had been thrown down or destroyed, one
statue only of Mercury excepted, which they took
great pains to dig out from among the rubbish, and
to erect again, on account of the following inscrip-
tion; Ελλας μεν Θῆβας ηιαᾳυ πρψϰριυευ αυλοι

—“Greece has declared that Thebes wins the prize
upon the flute.” So that this statue is still, standing
in the old public square, among the ruins.”

Pronomus, a Theban, according to Pausanias, in-
vented a flute, upon which he could play in three
different modes. Before his time, there was a par-
cular flute for every mode or key: and so out of tune are
the generality of modern flutes, it were almost to be
wished that the custom had still continued. The
words and music of a hymn, composed by Pron-
omus for the inhabitants of Chalcis, when they
gave, as was likewise the statue of this musi-
cian, erected by the citizens of Thebes, near that of
Epaminondas.

Pericles, who had invited Antigenides to Athens,
and who had undertaken the superintendence of the
education, of Alcibiades, his nephew, appointed An-
tigenides for his flute master. But Aulus Gallius
relates, from the History of Music, in thirty books by
Pamphila, that his scholar Alcibiades, setting up for
a fine gentleman, and taking the utmost care of his
person, was soon disgusted with his instrument, as
Minerva herself had been before; for happening to
see himself in a mirror, while he was playing, he was
so shocked at the distortion of his sweet counten-
ance, that he broke his flute in a transport of passion,
and threw it away, which brought this instrument
into great disgrace among the young people of rank
at Athens. However, this disgust did not extend to
the sound of the flute itself, since we find by Plut-
arch, that the great performers upon it continued
long after to be. much followed and admired.

Horace speaks of bands of female flute players,
which he calls “Ambubaiarum Collegia,” and of
whom there were still colleges in his time. But the
followers of this profession became so numerous
and licentious, that we find their occupation prohib-
ited in the Theodosian code; however, with little suc-
cess: for Procopius tells us that in the time of
Justinian, the sister of the empress Theodora, who
was a Tibicina, appeared on the stage without any
other dress than a slight scarf thrown loosely over
her. And these performers were become so common
in all private entertainments, as well as at public
feasts, obturating their company, and placing them-
selves at the table, frequently unasked, that, at the
latter end of this reign, their profession was regarded as infamous, and utterly abolished.

Dorion is mentioned by Plutarch as a flute player who had made several changes in the music of his time, and who was head of a sect of performers, opponents to another sect of practical musicians, of which Antigenides was the chief; a proof that these two masters were cotemporaries and rivals. Dorion, though much celebrated as a great musician and poet, by Athenaeus, is better known to posterity as a voluptuary. Both his music and poetry are lost; however, many of his pleasantry are preserved. Being at Milo, a city of Egypt, and not able to procure a lodging, he inquired of a priest who was sacrificing in a chapel, to what divinity it was dedicated, who answered, to Jupiter and to Neptune. How should I be able, says Dorion, to get a lodging in a place where the gods are forced to lie double: Supping one night with Nicocreon, in the island of Cyprus, and admiring a rich gold cup that was placed on the side-board, the goldsmith will make you just such another, says the prince, whenever you please; “he’ll obey your orders much better than mine, sir, says Dorion; so let me have that, and do you bespeak another.” The remark of Athenaeus upon this reply is, that Dorion acted against the proverb, which says, that

“To flute-players, nature gave brains there is no doubt, But alas! ‘tis in vain, for they soon blow them out.”

Upon hearing the description of a tempest, in the Nauplius of Timotheus, Dorion said, he had seen a better in a boiling cauldron.

Having lost a large shoe at a banquet, which he wore on account of his foot being violently swelled by the gout, “the only harm I wish the thief, said he, is, that my shoe may fit him.”

His wit and talents made amends for his gluttony, and he was a welcome guest wherever he went Philip of Macedon, in order to enliven his parties of pleasure, used frequently to invite him with Aristonicus the citharœdist.

The importance of the flute is manifested in innumerable passages in ancient authors; among which there is one in Pliny that is diverting and curious. In speaking of comets, he says that there were some in the shape of flutes, which were imagined to forebode some ill to music and musicians: (Tibiarum specie, musice arti portendere), and Montfaucon proves by several inscriptions from ancient marbles, that the sacrificial Tibicen at Athens was always chosen, and his name recorded with the officers of state, (Supple. tom. ii. Cap. 25.)

After speaking of so many flute players of the male sex, it is but justice to say that they did not monopolize the whole glory arising from the cultivation of that instrument; as the performing upon it was ranked, in high antiquity, among female accomplishments. Its invention was ascribed by the poets to a goddess; it was the symbol of one of the Muses; and it was never omitted in the representations of the Sirens. However, the same reason which provoked Minerva to throw it aside, has luckily inclined modern ladies to cultivate instruments, in performing upon which, their natural charms, instead of being diminished, are but rendered still more irresistible.

The most celebrated female flute-player in antiquity was Lamia. Her beauty, wit, and abilities in her profession, made her regarded as a prodigy. The honours she received, which are recorded by several authors, particularly by Plutarch and Athenæus, are sufficient testimonies of her great power over the passions of her hearers. Her claim to admiration from her personal allurements does not entirely depend, at present, upon the fidelity of historians; since an exquisite engraving of her head, upon an amethyst, with the veil and bandage of her profession, is preserved in the king of France’s collection, which, in some measure, authenticates the accounts of her beauty.

As she was a great traveller, her reputation soon became very extensive. Her first journey from Athens, the place of her birth, was into Egypt, whither she was drawn by the fame of the flute-players of that country. Her person and performance were not long unnoticed at the court of Alexandria; however, in the conflict between Ptolemy Soter, and Demetrius, for the island of Cyprus, about 312 years B. C. Ptolemy being defeated in a sea engagement, his wives, domestics, and military stores fell into the hands of Demetrius.

Plutarch, in his life of this prince, tells us, that “the celebrated Lamia was among the female captives taken in this victory. She had been universally admired, at first, on account of her talents, for she
was a wonderful performer on the flute; but afterwards her fortune became more splendid by the charms of her person, which procured her many admirers of great rank." The prince, whose captive she became, and who, though a successful warrior, was said to have vanquished as many hearts as cities, conceived so violent a passion for Lamia, that from a sovereign and a conqueror, he was instantly transformed into a slave; though her beauty was now on the decline, and Demetrius, the handsomest prince of his time, was much younger than herself.

At her instigation, he conferred such extraordinary benefits upon the Athenians, that they rendered him divine honours; and as an acknowledgment of the influence which she had exercised in their favour, they dedicated a temple to her, under the name of "Venus Lamia." The flutes of the ancients alone have furnished Bartholinus with materials for a very learned and instructive work (De Tiba Virginum), in which he has collected all the classic descriptions of the different instruments included in the class of flutes, and pointed out all the allusions to them in Greek and Roman authors, furnishing subsequent modern writers with a body of information on the subject, which has enabled them to appear very learned with very little trouble. So many different kinds of ancient wind instruments under the denomination of flutes are represented in sculpture, some plain without holes, some with two, some with three, and some with five holes, others with plugs, stopples, or as Mersennus calls them, tetines (nipples) at the sides, some double, and some so large, that they must have been an octave below the others. Horace speaks of flutes with few holes, as well as lyres with few strings:

"Tibia non ut nunc orichales vincta tubaque æmula, sed tenuis, simplexque foramine paoco."

Ovid has the same remark:

"Primatereratro per rara foramina buxo, Ut Daret effici, tibia longa sonos."

Sidonius gives the flute seven holes; but Avienus gives it a thousand.

"Foraminibus tibia mille sonat."

The learned are very discordant in their opinions and explanations of the flutes used in the comedies of Terence, nor does any one discover the least knowledge of modern practical music, sufficient to lead them to intelligible discoveries on the subject. Bianchini "De tribus generibus instrumentorum musicæ veterum organisæ," and I3onanni, in his "Gabinetto Armonico," have copied the antique representations of ancient musical instruments, but we have long seen that there is no dependance to be placed on their fidelity. Sometimes ignorance, and sometimes picturesque convenience, have occasioned blunders and deviations from truth in the original sculptors. In the supplement to the folio edit. of the Fr. Encyclopédie, it is supposed that all the ancient flutes had reeds; but of two kinds: one visible and the other invisible, like those in childrens' trumpets; the oblique flute, or flauto traversiere, commonly called the German flute, was unknown to the ancients. According to the author of this article, the ancients had no real flute à bec, or traversiere; but all were played with reeds, like the modern hautbois. The plugs, or stopples at the sides of ancient flutes, which served instead of keys, are imagined to have been used occasionally to stop certain holes which, in changing the mode, would not be wanted.

In this long article concerning flutes, or rather the hautbois, not a word is said of double flutes. Our belief however is, that the tibiae pares were two tubes in unison with each other; and that the tibiae impares were tuned all’ottava. We can conceive no other harmonical use that could be made of them, as it is now generally believed that the ancients had never cultivated counterpoint, or figurative harmony. But something must still be said in this article, long as it is already, concerning modern flutes.

The common flute, or flute à bec, from the upper end, or mouth-piece, resembling the beak of a bird, at the beginning of the last century, till the works of Corelli came over, was in far more general use as a concert instrument than the violin. Sonatas for two flutes, and a thorough base, violone or theorbo, were innumerable; with solos, duets, and concertos for the same instrument; nor was there a ballad then printed which was not transposed for the flute at the bottom of the page; as in the middle of the same century, almost every song and tune was set for the guitar. The concert flutes for which this music was composed were generally F and C. There is an imitative stop in the organ, called the flute, composed of open
wooden pipes in unison with the principal; but much more soft and tender. T. is stop is always in the choir organ. The flute is shewn by Mr. Maxwell, in his “Essay on Tune,” p. 17, to belong to the class of imperfect instruments, see PERFECT instruments.

Flute Traversiere, Fr. Flauto traversiere, Ital, horizontal.

FLUTE Allemande, or German flute, a wind instrument of wood or ivory, consisting of four pieces, or joints, inserted one in the other. In the Fr. Encyclopédie so minute a description is given of the several parts of this instrument, its joints, holes, or perforations, keys tampion, or bung at the top of the mouth-piece, that an ingenious turner who never saw a German flute would find little difficulty in making one; but we shall say no more on the mechanism of the instrument, but confine our instructions to its use.

To become a good performer on this instrument, the student must begin by acquiring a good embouchure, or by procuring a clear; full, and sweet tone; a task far more difficult than is generally imagined. Every one can produce a tone on a common flute, but few are able, without teaching, to make the German flute speak. The instrument being blown at the side, whence it has its name of traversiere, must be held parallel to the shape of the mouth, that the stream of air issuing from the breath of the performer may enter in part at the single orifice in the upper piece. Whoever can whistle in the pipe of a key, will soon produce a tone in the German flute, which will be harsh at first, but must be smoothed and refined by degrees, never forgetting in every day’s practice to make that a principal consideration. Whether sitting or standing, the performer must be erect in his carriage, the head rather above than below its usual position, and a little inclining to the left shoulder; the hands high, without raising the elbows or the shoulders; the left hand bent out, and the same arm near the body. If the player is standing, the attitude should be firm, the left foot advanced, the body resting on the right hip, and the whole person free from constraint. The greatest care should be taken not to move the head or body, as many do, in order to mark the time. The attitude should have no singularities, nothing awkward or affected to attract the attention, or prejudice the audience against the performer. With regard to the position of the hands, the left is to be at the top of the flute, which is held between the thumb of that hand, and the fore finger, which ought to stop the upper hole, marked 1 in the figure, the second hole with the middle finger, and the third by the ring finger. The right hand is to hold the lower part of the instrument; the thumb of this hand, which must be a little bent inwards, supports the flute below, and the three fingers of this hand, the fore finger, the middle finger, and ring finger, stop the holes marked 4, 5, 6; the little finger serves to press down the key at the tail piece, or lowest joint, which key opens a hole out of the reach of the fingers. The flute must be held horizontally. No instructions for the lips in blowing the flute can suit the form of all mouths; but when the student can make the instrument speak easily and freely, he must turn it in and out, by small degrees, till he gets the best tone possible: and then, beginning with the chest well filled with wind, as soft as possible to swell by minute degrees any note to its utmost power, and then to diminish it by the same degrees to a thread. We shall give among the plates a complete scale of every sound that can be produced on the instrument. Having worked upon one and the same note till a full and clear tone can be produced on a short notice, begin on the lowest sound D, to swell and diminish each note in the same manner as the first, and let alone rapid passages and execution, till certain of the tone of the instrument: as singers are obliged to solfeggiar, going no further than a hexachord for a long time; swelling each note to the utmost power of the breath and lungs, ascending and descending, to acquire steadiness in sustaining a note perfectly in tune, and free from all tremulous uncertainty during the most crude and violent accompaniment. See Musical Plate.

The tablature contains seven ranges of black and white indications of the seven holes that are to be occasionally stopped and opened on the flute. The black represent the fingers, and the white or open circles the holes unstopped. The compass of the German flute at present extends to three octaves, from the lowest D in the treble, to the octave above what used to be the highest D. [A C# or D♭ below the D natural, has lately been acquired by blowing very softly and turning the instrument inward.] It is to be observed that the higher the notes on this instrument are, the wind must be increased, and the ori-
Fondamentale, Fr. See Basse Fondamentale, where the history of this term has been given; but the abbé Feytou having prohibited the calling any base fundamental except the generator of a common chord with a sharp third, has awakened new reflections on the subject.

In teaching thorough-base, or counterpoint, the rule, that every base carrying a common chord or chord of the seventh, with a major or minor third, was the fundamental of such chord in every stage or inversion, was clear, comprehensive, and easily retained; but when a student is told that F is the fundamental base to the chord of A minor, it proves that the term fundamental, though useful in harmonics, is not admissible in practice without occasioning confusion. The term principal, as basso principale, used by the Italians, from the time of Zarlino to that of Padre Martini, would be more clear and less liable to objections, and to this use we shall continue in practice to apply the term fundamental base.

The system of la base fondamentale, which Rameau proposed in his “Nouveau Système de Musique Théorique,” in 1726, he presented to the Académie des Sciences in 1737, under the title of “Generation Harmonique.” The members of the academy appointed to examine it, report that “the work is founded on a physical hypothesis, of which the first idea was reported in the History of the Academy by M. Micran, in 1720, upon a known experiment, that every sounding body, when struck, produces, besides the principal sound, the octave, its fifth, and the tierce above the double octave,” &c. But this M. Rameau had forgotten; though that early period was more than 100 years subsequent to Galileo’s discovery.

In 1752, Rameau’s system was thought so great a discovery, that mathematicians, as well as musicians, interested themselves in its general adoption. M. d’Alembert, at the height of his fame as a geometrician, undertook to arrange and explain it; and those (says Rousseau in his Dict. de Mus. art. Système) who wish to see the system of Rameau, so obscure and diffused in his own numerous writings, exhibited with a clearness of which it was not thought susceptible, will have recourse to the “Elements de Musique” of M. d’Alembert.

In 1757, d’Alembert gave offence to Rameau, by some doubts of the validity of his system; for some
parts of which d’Alembert himself had been attacked by the great geometrician Dan. Bernouilli in the Mem. de l’Acad. de Berlin 1753. And d’Alembert, in 1762, published a new edition of his Elements, in which he pointed out several defects in Rameau’s system, changed the chord from which he had derived the minor mode, and threw out several reflections on his pretending to have demonstrated the principle of harmony. This occasioned a breach between Rameau and his commentator, that was never repaired. And at the end of his “Code de Musique,” 1760, he inserted a letter to d’Alembert, full of asperity and complaint. Upon which the great geometrician made several alterations in his Elements, which were now hostile to many of Rameau’s principles, and in the notes, defended his alterations, as well as himself, against the reflections of Rameau in the letter which he had addressed to him.

Rameau defended his system (as Fontenelle did the Tourbillons of Descartes) to the end of his life, in 1767; and had established it in France almost universally; but since his death, Italian and German music growing into favour, and by degrees superseding his operas, which had been the delight and pride of France during 30 years, the nation began to find that Gluck, Piccini, and Sacchini, could produce good music without the assistance of his basse fondamentale: his system has at present but few abettors.

Such is the history of this famous system of the fundamental base.

See BASSE FONDAMENTALE, in which article we have explained a curious discovery in natural philosophy, and the use that has been made of it in practical harmony. Though M. Rameau’s system will not alone enable a student to compose good music, it will help to facilitate his studies, give him the etymology of chords, and of innumerable passages in melody, and regulate his harmony on a sure foundation. And though it would be dull music indeed that had no other base than the fundamental, as the harmony and modulation of no music is so simple as to be wholly confined to common chords; the fundamental base will therefore teach their warrantable succession, perhaps suggest a melody, or at least guide its progress.

Nothing more seemed necessary to be said on this subject; but in looking into the Encyclopédie Methodique, we find that it has furnished matter for an article of such enormous length, as to occupy 30 4to pages, 26 of which have been scientifically filled by M. l’Abbé Feytou, with an elaborate attempt at confuting all that has been said by previous writers on the subject. We have heretofore frankly confessed, that after frequent perusals and consultations of Rameau’s theoretical works, and a long acquaintance with the writings of his learned commentator d’Alembert, and panegyrists, the Abbé Roussier, M. de la Borde, &c. if any one were to ask us to point out what was the discovery or invention upon which his system was founded, we should find it a difficult task.

The base to a common chord has been known ever since the first attempts at counterpoint; and it only seems as if Rameau had given new names to old and well-known combinations, when he calls the key-note, with \( \frac{5}{3} \), generateur, basse-fondamentale.

But the Italians, ever since the time of Zarlino, have distinguished this lowest sound by calling it the first base, 1mo. basso; and the other parts of the chord, when made the base, basso rivoltato, or 2do. basso. But Brossard, in his Musical Dictionary, published 1792, in defining Trias harmonica, or the three sounds of a common chord in its first state, calls the under-note basse, or son fondamental; and afterwards remarks that among the three sounds that compose the Triade harmonique, the gravest is called basis, or sonus fondamentalis. And what has Rameau told us more, except that the harmoniques produced by a string or pipe, which he does not pretend to have first discovered, are precisely the third and fifth in question. This is the practical Principle of the fundamental base; the theoretic was surely known, of harmonical, arithmetical, and geometrical proportion and ratios of sound, with which so many books have been ostentatiously filled ever since the time of Boethius.

The Abbé Roussier, his most learned apostle and able champion, candidly confessed in his first work, that “the system of a fundamental base ought not to be regarded as one of those principles which pre-
cedes the consequences to be deduced from it." "Le
mérite de cette découverte consiste, a avoir reduit en
un système simple, commode, et facile a saisir,
toutes les opérations des grands maîtres de Pha-
romanie." Traité des Accords, 1764.

Rameau's systems, as compressed and arranged
by d'Alambert, is perhaps the shortest, clearest, and
best digested, that is extant; and yet, from the geo-
metric precision with which it has been drawn up by
that able mathematician, many explanatory notes
and examples are wanting to render Rameau's doc-
trine intelligible to musical students, in the first
stages of their application; and even after that, the
work, to be rendered a complete theory, would re-
quire many additions of late discoveries and im-
provements, both in the theory and practice of har-
mony.

About the year 1760, the System of a Funda-
mental Base, by Rameau, gave occasion to much dis-
cussion in Germany. By some it was adopted there
as well as in Italy, by others disputed. It seems, how-
ever, as if this system, ingenious as it is, where
somewhat over-rated by French theorists, who
would persuade the world that all music not com-
posed on Rameau's principles should be thrown into
the flames — "Jusqu'à mon système," says Rameau
himself; and M. de la Borde says, that "Music, since
the revival of arts, was abandoned to the ear,
caprice, and conjecture of composers, and was
equally in want of unerring rules in theory and prac-
tice—Rameau appeared, and chaos was no more. He
was at once Descartes and Newton, having been of
as much use to music as both those great men to
philosophy." But where Corelli, Geminiani, Handel,
Bach, the Scarlattis, Leo, Caldara, Durante, Jomelli,
Perez, &c. such incorrect harmonists as to merit an-
nihilation, because they never heard of Rameau or
his system? Indeed, it may be further asked, what
good music has been composed, even in France, in
consequence of Rameau giving a new name to the
base of a common chord, or chord of the seventh
The Italians still call the lowest sound of music in
parts the base, whether fundamental or derivative;
but do the French imagine that the great composers
above-mentioned, and the little composers who
need not be mentioned, were ignorant whence every
supposed base was derived? The great harmonists
of the sixteenth century seldom used any other than
fundamental bases. And the fundamental base to the
hexachords has always been the key-note, and the
fifth above and fifth below, just as Rameau has given
it in his theoretic tracts.

The rules, however, which Rameau has given,
with d'Alambert's commentary, were tolerably clear
for composing according to his system; but are now
"explained till all men doubt them;" and the editor
of the long article, or rather treatise on the subject,
seems only to have puzzled the cause. The defini-
tions and nice distinctions in this article appear to us
more ingenious and subtle than useful, at least in
practice. The nature of our harmony, like the nature
of man, is so imperfect, that all the calculation and
reasoning which enable us to discover their imper-
fections, can never supply us with the means of cure.

If by study and labour we can somewhat dimin-
ish these imperfections, and approximate that per-
fection at which we aspire, it is all that our nature
and the nature of things will allow. We can only
counterfeit perfection, as a painter or sculptor can
counterfeit a man. On our keyed instruments we can
have but one key or mode perfectly in tune; and on
wind instruments not even that. Temperament, and
a deviation from the laws of nature, which our mod-
ulation and mixture of keys require, give our auricu-
lar organ pleasure, as it accommodates itself to the
slight bearings and imperfections in our intervals
and scales. Many think the character and beauty of
keys depend on these false intervals in the old tem-
perament.

We shall not here give our readers all the prob-
lems to solve, or metaphysics to study, on the funda-
mental base, with which the New Encyclopedie
abounds; but where it is said, p. 150, that the funda-
mental base produces the diatonic genus only as
long as it confines its movements to the octaves,
5ths, and 4ths; when it moves by 3ds it gives the
chromatic genus; and the enharmonic genus when it
moves diatonically; to the two first assumptions we
can readily subscribe, but deny the last. A funda-
mental base, moving diatonically, would only pro-
duce major 17ths to all the sounds; that is, the notes
in the stop of the organ called the tierce, moving in
the key of E major, while the base moves in C ³. See
Plate VI. Music, Nº II.

It is very perplexing to young contrapuntists to
find theory and practice so frequently at strife: they
are told that though the fundamental base may rise diatonically, that is, two bases, carrying common chords by contrary motion, it never must descend. The student, however, if he has read much music, must recollect, that in Corelli's XIIth solo, called "La Follia," on Farinel's ground, or better known by the first line of a song written to the melody, "All Joy to great Caesar," bar the 4th, the modulation is from D minor to C major; and the effect, which at first surprises, from being so uncommon, is pleasing. In the second bar of Pergolesi's " Stabat Mater," the fundamental base moves diatonically, from F to E♭. How is a tiro to reconcile these contradictions? Nature gives harmonics to every sound, which are never heard but from very low and very slow notes, and we may never to have a moving base, or an elegant passage in melody, because every sound has latent harmonics, which, though we cannot hear, (any more than with the naked eye we can see the satellites of Jupiter,) who but the utterly ignorant doubt of their existence.

Let us now forget that practical music is wholly a work of art. We are very proud to find that there subsists in nature any thing on which to build our theory. It is true that with great difficulty we can discover from the resonance of a single string, or great bell, the sounds of a common chord rise in the following succession: 8th to the principal sound, 5th to the 8th, and major 3d to the 15th or double octave, as trebles to the fundamental sound. But these are mere indications, of which none but cultivated, curious, and nice ears, can ever be convinced. The system built on these phenomena is very defective; it extends our ideas of nature, but contracts those of art. Whatever melody or harmony has been found, or may be found, that is grateful and pleasing to the ear, may surely be admitted in practice, though not consonant to mathematical demonstration, or the speculations of mere theorists. The philosopher, Euler, says that time, in music, is a silent arithmetic; and we may add, that harmonic intervals are an auricular geometry, best measured by a strong hand and good ear.

M. l'Abbé Feytou, who has furnished so many scientific articles in music to the Encyclopédie Méthodique, thinks so differently from all other writers on every musical article which he treats, that his readers have every thing to learn, which they knew tolerably well before. He neither gives the students, nor their masters, credit for knowledge of any kind. And when in the new edition of the Encyclopédie, he takes up an article after the editors who have preceded him, it is not to explain more clearly what they have advanced, but totally to overset their reasoning, and neutralize their precepts and opinions. He seems to speak like the first inventor of every thing pertaining to the musical science. Of practical music he knows but little, and seems to feel less.

He sets off, in speaking of the fundamental base of Rameau, and the third sound of Tartini (see TERZA Suona,) by saying, that "their inventors were ignorant of the nature, the product, and movements of the sounding bodies or fundamental sounds; they did not know the law of preparing, resolving, syncopating, &c.; nor the principle of measure, nor that of the pause at an harmonic phrase, nor the character of a mode or key in general, nor the distinction of different keys, nor the origin of chords, nor the formation of different parts, nor the difference between a continued and fundamental base; and that they have substituted, without necessity, numberless abstract relations to those experiments which the vibrations of the sounding body offered to their investigation." And yet these were the greatest composers of their time in France and Italy: the one for the opera, and the other for the Violin.

The Abbé F. gives some amusing experiments in harmonics in confirmation of Galileo's discovery, who is, however, never mentioned in a French book on the subject of music, except by Mersennus. The experiments given by the Abbé are ingenious and curious illustrations of Nature's propensity to give a perfect chord to every single sound; but in composing music for imperfect instruments, till better are invented, we must content ourselves with such an approximation to perfect harmony as we can acquire by tuning and perfect execution; the rest, we fear, is impracticable.

The Abbé shews the imperfection of our intervals and keys, when every fixed sound in the course of modulation most necessarily serve for two or three purposes. This had been very clearly and ingeniously done in our own country's twenty years ago, in a tract called "An Essay on Tune."
The disease has been long discovered; but where, with our present instruments, is the cure: See HARMONICS.

Still disputing the principles of Rameau and Tartini, M. Feytou clearly shews, what had been long known by speculative musicians before, that we have no true base to the scale or octave of C: but this accounts for the Italians singing in their solfeggii only the hexachords of each key. (See SOLFEGGIO and HEXACHORD.) Of the two tetrachords in C, whether we suppose the first in F, as the Abbé has done, or in C, as in practice, there still must be two fundamental bases rising diatonically, as

\[
\begin{align*}
C & E F \mid G A B C \\
D & F G A B C \\
E & F G A B C \\
F & G A B C
\end{align*}
\]

But as there is no necessity for these fundamental bases in practice, which can be avoided by innumerable expedients, why regard them as such evils? In fact, the octave, as the Abbé observes of the key of C, has three generators, or fundamental bases, F C G, or C F G. It is only the violin and its kindred that can give every sound its true intonation in all keys; as D♭ and C♯, D♯ and E♭, &c.

We are obliged to mitigate these wants by temperament, which makes all keys imperfect to a certain degree; though the suffering is not great, when the music and execution are perfect. And, till new instruments are invented, what can we do? Must we burn the old, drive music from the company of the fine arts, nor longer allow her to rank in the circle of the sciences till perfectability in all instruments is attained? which will probably be when that perfectibility of man is acquired that shall exempt him from all the infirmities “which flesh is heir to,” and enable him, “unless he choose it,” to escape death itself.

M. l’Abbé deduces every thing of importance in practical music from the fundamental base. Not only the most perfect chord in harmony, the most pleasing notes in melody, but closes, measure, genera, preparation and resolution of discords, keys, and modulation. The only thing in which he allows Rameau to be right in explaining his own system, is the terming the fundamental base the magnet, compass, sovereign guide of the ear.

The making the F. B. the regulatrix of time in music is new and fanciful; but, we fear, visionary and impracticable in the unbridled range of modern music, which is so desultory, wild, and often capricious, comic, and whimsical, as well as solemn and pathetic, that if regulated in its measures and phrasology by any new restraints, there would be an outcry against the invasion of a musician’s rights, and “la liberté de la musique:” a subject which M. d’Alembert has treated with great gravity. See d’Alembert

Besides the experiments in harmonics, we have musical problems, which manifest much ingenuity and meditation. In speaking of the genera, the learned Abbé was naturally led to the subject of Greek music. He regards the notes of the hypaton, or lowest tetrachord, B C D E, as the original four strings of the Mercurian lyre; and gives Ptolemy’s ratios of those sounds. He has nothing new on this subject, except that it is not a subject of dispute. He therefore gives the ratios of the three genera from the Greek writers in Meibomius, which others have often done before. But that the fundamental base may have a share in the honour of Greek inventions, he informs us that the scale of the conjoint tetrachord in the diatonic genus is derived from the F B of two keys, C and F, and the modern octave scale from three. (See TETRACHORDS and SCALE.) But we have long observed, that there is no ascending more than three notes gradually without a change of key.

Notwithstanding the extreme length and labour of this article in the Encycl. Méth. the Abbé F. has left many of its constituent parts where he found them, with respect to practice: such as the scale, cadences, measure, modulation, enharmonic, &c. (which see under their several heads.) He neither allows Rameau nor Tartini to know the gamut; he disputes with them the intervals of the scale, and the base to those intervals. Indeed nothing has ever been advanced by a musical writer, that has fallen in his way, of which he does not set about the refutation. To have a new gamut to learn, new technica, and to accustom the ear to new sounds, is a task to which great musicians will not submit, and the little ones will follow them, not the advice of speculative theorists, which indeed they are not likely to read.

We cannot help supposing that the ears of modern musicians are as well organized by nature, and as highly polished by art, as those of the ancients;
and that the present gamut, and laws of harmony, are as perfect and refined as the present construction of our instruments will allow: and if ever better should be invented, that they will soon be universally adopted, piano fortés being preferred now to harpsichords, as harpsichords were to spinets, and spinets to virginals. But till the improvement and refinements in our scales, intervals, and consonances are rendered practicable by new instruments or corrections of the old, music will not be bettered by these speculations, though they may point out incurable evils to the ignorant, and make them more unwilling to be pleased than before they were told of these, and which they never could have found out or suspected. And after the bold assertions concerning the ignorance of two men of such great professional abilities as Rameau and Tartini, we had a right to expect the abbé Feytou’s rules to be illustrated by examples of composition on his own principles, or at least rendered so evident, that all musicians, and the public ear would be benefited by them; but alas! after shaking the student’s faith in the rules which so long guided him to the means of delighting the musical world by what were then thought admirable productions; it appears, according to this learned Abbé, that we are all in the wrong, to be pleased; for all the music hitherto composed has proceeded from false principles: neither the scale, melody, nor harmony, with which we have been delighted, was genuine and pure; concords nor discords properly treated, accents rightly placed, nor measure correct."

The nice distinctions, refinements, and scientific parade, with which they are laid down, give them an imposing appearance; but when examined, and we consider what has been done, and is still doing without them, and that nothing has yet been achieved with them; that many are unintelligible, and others impracticable; it seems as if we had better e’en go on in explaining the old established rules upon which Corelli, Handel, Vinci, Pergolesi, Jommelli, Piccini, Sacchini, the Bachs, Haydn, and Mozart, have been formed; nor till we are sure of the effect, can we conscientiously recommend young subjects to be inoculated by matter taken from this learned and elaborate article.

FONDAMENTALIS, Sonus, Lat. is the principal sound of the harmonic triad. Walther.

FONDAMENTALS, Ital; Fondament, French; Fundamentum, Lat. is the lowest and most important note in the harmony of the common chord, the ground or foundation upon which the chords in thorough base are built. Walther. See BASSE FONDAMENTALE.

Vol 15 Food(part)-Generation (part)

FORCE, Fr. and Eng. in Music, implies energy, strength, loudness, intensity. Force not only renders sound more distinct, but audible at a greater distance: as the greater or less number of vibrations of a sonorous body renders it more acute or grave, its greater or less deviation from the line of repose constitutes loud or soft. But if this deviation is too great, and an instrument or voice is forced, the sound becomes noise, and ceases to be appreciable. To force the voice beyond its power, in order, to be better heard in a large room or theatre, destroys all its proportions, by exceeding its diapason, or scale of sounds, and becomes screaming instead of singing. Forcing the tone has the same effect on instruments, whether their sounds are produced by a bow, or by wind; and it is for this reason that the French so seldom sing in tune. Rousseau.

FORLANA, Ital. in Music, the air of a dance of the same name, very common at Venice, especially among the Gondolieri. Its time is ; played with spirit; and the dance is very gay. It is called Forlano from being invented and common in Friuli, where the inhabitants are called Forlani.

FORT, Fr. loud; temps fort, the accented part of a bar, in Music. See ACCENT, TACT, and TRINE.

FORTAMENTE, in the Italian Music, the same with forte.

Forte, Ital. loud, in Music. This term is used in the several instrumental parts of a musical composition, for enforcing the tones of a passage; to sing loud, put out the voice, produce or draw a great degree of sound from an instrument. It is likewise used to annul the effect of a preceding piano.

FORTE-PIANO, an Italian compound substantive, of the same import, in music, as chiar-oscuro in painting. Forte-piano is the art of enforcing or enfeeling sounds in imitative melody, as is done in speech, which it imitates. We not only speak with different degrees of force, when animated and impassioned, but when calm and tranquil. Music, in
immitating various accents and tones of speech, should imitate the intensity and remission, and be sometimes loud, sometimes soft, and sometimes in a whisper; and this is what the Italians in general mean by forte-piano. These two words, transposed, imply the keyed instrument, which, from its power over loud and soft, at the pleasure of the performer, is called a Piano-forte, which see, and HARPSICHORD.

FOURTEENTH, in Music,

**Editorial note:** A scientific article by John Farey Sr.

[This] is the replicate or octave of the seventh; the major fourteenth has a ratio of $\frac{4}{15} = 1167 \Sigma + 23 f + 101 m$, the greater minor fourteenth of some is $\frac{5}{18} = 1131 \Sigma + 22 f + 98 m$, and 9 the least minor fourteenth $= \frac{9}{32} = 1120 \Sigma + 22 f + 97m$.

**Editorial note:** All the following scientific articles on FOURTH are by John Farey Sr.

FOURTH, one of the harmonic intervals or concords.

The fourth is the fourth in order of the concords. It consists in the mixture of two sounds, which are in the ratio of 4 to 3; i.e. of sounds produced by chords, whose length are to each other as 4 : 3.

It is called fourth, because containing four terms, or sounds, between its extremes, and three degrees; or as being the fourth in the order of the natural scale from the fundamental.

Some modern musicians have doubted whether the fourth should be received among the number of concords, or not. The ancients expressly admitted it as such, and Andreas Papius wrote a treatise against those moderns who reject it. Mersen. Harm. lib. iv. prop. 8. Wallis, Append. Ptolem. Harm. p. 182. Indeed the ancients always regarded it as a concord of the most perfect kind. Its terms were the boundaries of all the tetrachordal systems; and though ranked as a discord by several moderns in counterpoint, it is still a mathematical consonance in the division of the mono chord; and even in counterpoint, as an inversion of the fifth $C_E$; nor can a common chord in triad be played in its first stage without a fourth in its composition $C$. When accompanied by the fifth $C$, it is certainly, a discord, and so is the third accompanied by the fourth, the fifth by the sixth, &c. Dr. Pepusch and Padre Martini class the fourth among perfect concords, and so do all theorists who have dipt into the music of the ancients, or mathematics.

N. B. Examples of the use of the fourth, in three and four parts, will be given in notation upon one of the music plates.

This is the interval which the ancients called diatessaron or tetrachord: it is the complement of the fifth, and partakes much of its sweetness of harmony; it consists of five of the half notes of keyed instruments which have 12 sounds in the octave. It is usually marked fourth in the works of those who treat of musical intervals, and it is the largest of the three concordant 3 elements: its ratio is $\frac{3}{5} = \frac{2}{\sqrt{5}}$, and in Mr. Farey’s new notation is expressed by $254 \Sigma + 5 f + 22 m$: its common logarithm is 8750612,6339, and its binary or Euler’s logarithm .415038 (wherein the octave = 1); it is 23.158110 major commas: it is also the sum of a major, a minor, and a major semitone, is equal to two tones and a limma, to a minor third and minor tone, a major third and a major semi-tone, to a major tone, two limmas, and an apotome, and is a medius semi-tone less than the tritone. Besides the above, several other intervals bear the names of fourth as FOURTH, Flat, the diminished fourth of Tartini, or diesis-excessive major third; it is less than a true fourth by the minor semi-tone, and consists of four half-notes; its ratio is $\frac{25}{32} = 218 \Sigma + 4 f + 19 = \frac{5}{2};$ its Common logarithm is .8927900,3035, and its binary log. = .356143; it contains 19.87198 major commas, and consists of a major third and an enharmonic diesis, a minor third and a major semitone, a major tone and two major semi-tones; it is the excess of a major third over a minor third and minor fourth, and of an octave over two major thirds; by either of which last it may be tuned on an organ.

FOURTH, Sharp, the superfluous or greater fourth of some, or deficient tritone, is greater than a true fourth by the minor semitone, and consists of six half-notes; is $\frac{18}{25} = \frac{12 \cdot 2}{5 \cdot 5} = 290 \Sigma + 6 f + 25 m$, its common logarithm is .8573324,9643, and its binary
log. = .473932; it contains 24.44423 major commas, and consists of a major and two minor tones; it is the difference between three major tones and two major commas, of a tritone and major comma, of a minor third and the sum of a major third and minor fourth, and of a minor third and major sixth, whence it may be tuned.

FOURTH, Greatest Sharp [1], or redundant sharp fourth, the tritone, false fourth, or tritonus of some, exceeds a true fourth by the medius semi-tone; its ratio is 301 Σ + 6 ƒ + 26 m; its common logarithm is .85 19374,6454, and its binary log. .49 851; it is 27.44423 major commas: it is equal to two major and one minor tones, to a major third and major tone, to the difference between a fifth and a major semi-tone, or three tones and a major comma; it is also the difference between a fourth, and two major and one minor third, or between a minor fourth and a fifth and major third, whence it may be tuned.

FOURTH, Greatest Sharp,[2] or double redundant sharp fourth, the tritonus of the Greek scale, or ancient, or redundant, or superfluous tritone of some, is larger than a true fourth by the apotome; its ratio is 312 Σ + 6 ƒ + 27 m; its common logarithm is .846542,3266, and its binary log. 509772; it is 28.44423 major commas, and consists of three major tones, or of three apotomes and three limmas: it is the difference between a fifth and a limma; between six fifths and three octaves, or between three fifths and major comma; its ratio is

\[
\frac{512}{725} = \frac{2^7}{3^5} = 312 \Sigma + 6 ƒ + 27 m
\]

; its common logarithm is .846542,3266, and its binary log. .509772; it is 28.44423 major commas, and consists of three major tones, or of three apotomes and three limmas: it is the difference between a fifth and a limma; between six fifths and three octaves, or between three fifths and three fourths, whence it can be tuned.

FOURTH, Lesser Flat, or deficient flat fourth, is less than a true fourth by the medius semi-tone; its ratio is \( m \frac{f}{5} \frac{5}{2} \frac{2}{7} = 207 \Sigma + 4 ƒ + 18 m \). Its common logarithm is .8981850,6224, and its binary log .338224: it is 17.87198 major commas: it is equal to a major tone and two limmas, to an apotome and three limmas; it is the difference between a major third and a schisma, also between five octaves and eight fifths, or five fourths and three fifths, whence it may be tuned.

FOURTH, Comma-deficient, the deficient fourth, or the lesser fourth of Holder, is a comma less than a true fourth, as its name imports; its ratio is \( \frac{212}{217} \frac{7}{5} \frac{5}{2} \frac{2}{7} = 243 \Sigma + 5 ƒ + 21 m \); its common logarithm is .8804562,9528, and its binary log. = .397117; it is 22.15811 major commas, and consists of two major tones and a major semitone: of a major third and a limma; and is the difference between three fourths and two minor and one major thirds, whence it can be tuned.

FOURTH, Comma-redundant, the redundant fourth, the greater fourth of Holder, and the superfluous fourth of Galileo, exceeds a true fourth by the major comma; its ratio is \( \frac{256}{259} \frac{5}{4} \frac{4}{3} = 265 \Sigma + 5 ƒ + 23 m \); its common logarithm is .8690662,3150, and its binary log. = .432958: it is 24.15811 major commas, and is equal to two major tones, and a major semitone, to a minor third and a major tone; it is the difference between two minor and one major thirds and a fourth, also between two fifths and a major sixth, whence it may be tuned.

FOURTH, Diaschisma-excessive, exceeds a true fourth by the diascisma, being the resulting fourth, or that between the bearing notes, when eleven successive perfect fourths (or 11 fifths) are tuned in an octave: Its ratio, is \( \frac{1827}{1971} \frac{27}{7} = 266 \Sigma + 5 ƒ + 23 m \); its common logarithm is .8691761,2437, and its binary = .434583; it is 24.24895 major commas, is equal to two major tones and an apotome, to three apotomes And two limmas: it is the difference between a fifth and two limmas, between 11 fifths and six octaves, between five octaves and 11 fourths, or between five fifths and six fourths; whence it may be tuned.

FOURTH, Extreme diminished, the enharmonic lesser third of some, is two minor semitones smaller than a true fourth, and an enharmonic diesis greater than a minor third; its ratio is \( \frac{65}{66} \frac{5}{4} \frac{4}{3} = 182 \Sigma + 3 ƒ + 16 m \); its common logarithm is .9105187,9731, and its binary logarithm. 297249; it is 16.58587 major commas, and is equal to three major semitones and a major comma, to a major and a minor tone and an enharmonic diesis: it is the difference between a minor fourth with two major thirds, and two minor
thirdd, or between a major twelfth and four major thirdd, and hence it may be tuned on an organ.

**FRAGMENS.** Fr. answers nearly to Pasticcio, Italian, in Music; it is a collection of airs from different ballets, brought together without the least connexion, but which, with dancing and singing between the acts, supply an evening's entertainment as long as a regular opera. The pasticcios of the Italians have been much condemned by opera critics for the liberties taken with the drama, by substituting airs that have no connexion with the recitative; but the fable of a regular drama is still preserved. The airs in Metastasio's dramas are only recapitulations and illustrations of the business of the preceding scene, which would be complete without the air; so that if the interpolated air is a good one, and well sung, it makes some amends for its want of connexion with the drama. But to put into action fragments of different dramas without any plot to interest the audience, seems no less absurd than it would be to make the performers of a miscellaneous concert mount the stage, and enact all their solos, sonatas, and concertos; and Rousseau truly says, that none but a man totally devoid of taste could have suggested such a performance, or none but a cold and insipid audience support it.

**FRAPPE.** Fr., used substantively in Music, for the first note of a bar when the hand or foot beats the time. (See THESES.) The French, in beating time, only mark the first note or accent of a bar, but indicate its other portions by different motions of the hand; as in compositions where the bar consists of four crotchets, the first, or down part is beaten, at the second, the hand is waved to the left, at the third lifted up, and at the fourth waved to the right. In triple time, if not very quick, at the first note the hand is beaten down, at the second waved to the left, and at the third lifted up. The Italians beat the two first notes of a bar in triple time, and lift the hand up, at the third. In common time of four crotchets they likewise beat the two first, and lift up the hand for the two others.

**FREDON.** Fr. in Music, an old word for a rapid passage or division. Roulade is at present used for the same purpose, with this difference, that the roulade is of longer duration, and is written, whereas the fredon was an extemporaneous flourish at a pause, ad libitum.

**FUGA,** Ital, from fugere, Latin, to fly, a movement in Music, in which the leading part or first treble is pursued by the second, the second treble by the tenor, and the tenor by the base; so that a fugue is a flight and a pursuit. This subject has been so amply treated in the article COUNTERPOINT, to which the reader is referred, that little remains to be added to it here, except to recapitulate its laws, and the doctrines of learned harmonists in support of them. Rousseau defines a fugue “a piece of music in which a trait of melody, called the subject, is treated, according to certain established rules of harmony and modulation in making it pass successively and alternately from one part to another.” The subject resembles the text of a sermon, out of which all that is said should naturally arise, and serve as a commentary and illustration. But though, for variety, or to indulge caprice, fugues and canons have been composed in all intervals, yet orthodox contrapuntists allow no fugues to be regular, but those of which the answer is made in the fifth, fourth, eighth, or unison, as then the intervals will be the same. And of the answers, the preference is given to the fifth, then to the fourth, eighth and unison; as the effect is pleasing in that order. It must be remembered that the subject itself, as of all other movements, should begin on the key note, its fifth or its eighth. Of the various rules by which a true answer to a fugue may be tried, Dr. Pepusch advises solmisation; Padre Martini the modes of the Romish church, called authentic and plagal; both good in the three hexachords and their minor relatives; but in transposed keys, in which several flats or sharps occur at the clef, there is no rule more certain and unexceptionable than giving the answer in exactly the same intervals as the subject, only remembering that if one part rises a fifth, the other will only rise a fourth, as C♯ — G♯ — G♯ — C♯ — et e contra: as G — C♯ — G♯ — G♯. See AUTHENTIC, and PLAGAL. But this is only in leading off. The rest of the answer must be in the same intervals, and characters for time, as the subject, except in prolongation, augmentation and diminution, which give the answer in longer or shorter notes than the theme. See PROLATION, AUGMENTATION, and DIMINUTION. All fugues and canons are imitations; but the term imitation is only applied to irregular fugues, when the intervals are not the same. The answer to a regular fugue may commence in the...
middle of the subject, which will unite them to-
gether, and make them reciprocally accompani-
ments to each other. It were impossible to enumerate
all the ingenious contrivances that have been used in
the works of great fughists. The following are the
most frequent.

**FUGA per Arsin et Thesin**, or fugue in contrary
motion.

**FUGA per Contrari Movimenti**.

**FUGA in Consequenza**, is sometimes used for
canon.

**FUGA Omosona**, a fugue in unison.

**FUGA Libera**, free fugue. A canon is so called.

**FUGA Legata**, and a strict fugue, a canon.

**FUGA Perpetua**, perpetual fugue.

**FUGHE**, Ital, the plural of fuga, fugues. See
DOUBLE COUNTER POINT.

During the rage for fugues, air, accent, grace, and
expression were equally unknown to the composer,
performer, and the hearer; and whatever notes of
one voice or instrument were in tune with another,
were welcome to the player, provided he found him-
self honoured from time to time with a share of the
subject, or principal melody; which happening more
frequently in canons, and fugues, than in any other
species of composition, contributed to keep them so
long in favour with performers of limited powers,
however tiresome they may have been to the hear-
ers, when constructed on dull and barren themes. It
has been said by M. Marpurg (Traité de la Fugue),
that fugues enjoy the privilege of greater longevity
than any other species of music. A good fugue is an
evergreen, and never grows old-fashioned; but then
it must be constructed on a pleasing and fertile sub-
ject, and carried on with spirit; and a fugue on a dull
and dry subject, however correct the composition, is
a monotonous and tiresome composition.

The greatest fughists, in practice on the organ,
during the last century, were, doubtless, Sebastian
Bach and Handel; but the most learned theorists and
writers on the subject of fugue, whose treatises we
have consulted and doctrines adopted, are Dr. Pe-
pusch, Padre Martini, and the late Sig. Nicolo Sala.

From the publications of these respectable authors,
we have given in the music plates, subjects and frag-
ments of fugues in 2, 3, and 4 parts, to shew in-
quirers into the art what are regarded as true an-
swers to regular fugues. But we inform the young
student, that even great fughists, bestowing no
thought on melody, besides their inattention to phras-
ology, are equally indifferent about accent; so intent
is their search after harmony and contrivance, that if
the accents of the answers are ever the same as in the
subject, it is more by accident than design. But if the
accents of the answers differ from those of the
theme, the imitation is in perfect, and the whole
composition becomes confused and unintelligible.

**FUGUE.** See **FUGA**.

There are three kinds of fugues; the **single fugue**,
**double fugue**, and **counter-fugue**.

**FUGUE, single or simple**, is some point consisting
of 4, 5, 6, or any other number of notes, begun by
one single part, and then seconded by a third,
fourth, fifth, and sixth part, if the composition con-
sists of so many, repeating the same, or such like
notes; so that the several parts follow, or come in,
one after another, in the same manner, the leading
parts still flying before those which follow.

**FUGUE, double**, is when two or more different
points move together in a fugue, and are alternately
interchanged by several parts.

For the **Counter-fugue**, see COUNTER fugue.

**FUND for the support of decayed Musicians and their
Families.** This fund, the first of the kind, has been the
model of similar establishments abroad and at
home. On the continent it has been imitated at Vi-
enna, Gottingen, Leipsic, and Hamburgh; and at
home. Mr. Garrick, when he had
quitted the stage, and only acted occasionally, estab-
lished a fund for the support of decayed actors and
actresses; and continued to perform a capital part for
its benefit, annually, to nearly the last year of his life.
For this benefit he wrote, and spoke, the most hu-
morous prologue, in a mock-heroic style, which his
fertile pen in addresses to an audience ever pro-
duced. The same laudable kind of fund for decayed
and worn out actors and their families has been es-
blished at Covent Garden.

The original fund for decayed musicians had its
be-ginning in 1738, on a small scale, by opening a
subscription among musical professors, of only half-
a-crown a quarter; forming themselves into a soci-
ety, electing 12 governors, to be renewed annually,
and agreeing to 14 resolutions, which are all inserted
in the appendix to the account of the Commemora-
tion of Handel, published in 1785, 4to.
In 1739, a compact was formed with the corporation of “the Sons of the Clergy,” by which the society engaged to furnish a band, selected from their subscribing members, for the two annual performances at St. Paul’s cathedral, in consideration of the sum of fifty pounds, which the corporation agreed to allow each year to the musical society; and this sum has been constantly thrown into the fund, and appropriated to charitable purposes.

Besides the casual and fluctuating income arising from subscriptions and benefits, the society has been honoured with a few benefactions in the way of legacies, of which the following is an account:

In 1738, 100 l. by Mr. Rojere, one of its professional members.

In 1760, 50 l. by Mr. Waldron, do.

In 1782, 50 l. by Mr. James Mathias, an honorary subscriber, with an excellent bass voice; whose performance as a dilettanti at the Crown and Anchor concerts was long admired.

But the most considerable legacy which the society ever received was from the admirable and benevolent Mr. Handel; who bequeathed to the establishment 1000 l.

From the performances at the commemoration of this great and illustrious musician, whose works had been the chief attractions at their annual benefits, the fund received an addition to their capital from the subscribers and benefactors who planned and directed this extraordinary celebration, 6000 l.

At their annual benefits, the principal professional subscribers to the charity, who are not employed in the orchestra, are appointed to attend at the several doors and offices of the theatre; the whole business being transacted by themselves, as ordered and regulated by a committee for the concert, or whatever the performance may be; and it seems as if no charitable institution could be more out of the reach of abuse, embezzlement, or partiality; regulated with more care, integrity, and economy; or have its income so immediately derived from the activity and talents of its own members.

Except a small salary to the secretary, and another to the collector, there is no lucrative employment belonging to the institution: so that the whole produce of benefits and subscriptions is nett, and clear of all deduction or drawback.

Though the first subscription from professional members was only half a crown a quarter, in 1766 the sum of 20 shillings per annum was required of all new members instead of ten. And the old members then agreed, almost unanimously, to pay the same sum. Since that period, the annual demand on the professional subscribers has been settled at one pound two shillings, and the benefit tickets have the same price as at the Commemoration; that is to say, a guinea each, so that the subscription of honorary members has been doubled.

Mr. Michael Christian Festing, and doctor Maurice Green, took the lead at the time of instituting this society, and for twelve or fourteen years afterwards. Since their decease, other musicians, who were high in the profession, and of whose probity and honour their brethren had a good opinion, were placed alternately in the chair, and now, by the great accession to the fund from the profits of the ever memorabile Commemoration, its capital becomes a serious and weighty concern, amounting to upwards of 22,000 l. in South-sea annuities and three per cents, which realizes and ascertains an income of 678 l. a year, exclusive of benefits or subscriptions.

The path therefore which the governors and court of assistants have now to pursue is perfectly plain and pleasant. The power of alleviating distress and misery, of feeding the hungry, clothing the naked, and administering comfort to age and infirmities, is placed in their hands without the trouble of providing the means.

FUNDAMENTAL, in Music, denotes the principal note of a song or composition, to which all the rest are in some measure adapted, and by which they are swayed; called also the key of the song.

FUNDAMENTAL Bass. See BASSE Fondamentale, and FONDAMENTALE.

FUNDAMENTAL Concors are of three kinds; viz. the perfect concord, the concord of the sixth, and the concord of the seventh. The first or perfect concord is greater or less, according as the third is greater or less. The second is of three sorts: in the two first sorts the sixth is always greater, and the third greater or less, as the mode is greater or less. These two concords differ only by their third. Between these two there is another concord, which on many occasions produces a very good effect, and is particularly used by the Italians; whence it is
called the concord of the superfluous sixth, or of the Italian sixth. It is composed of a greater third, or superfluous fourth, or tritone, and a greater third, as fa la si re ♯. There are several kinds of the fundamental seventh: the first is formed of a greater third, and two lesser thirds, as sol si re ♯ fa; the second is formed of a lesser third, a greater third, and a lesser third, as re sa la ut; the third is formed of two lesser thirds, and a greater third, as si re fa la; the fourth is formed of one greater third, one lesser, and one greater, as ut mi sol fi; the fifth is called the concord of the diminished seventh, and formed of three lesser thirds, so fat si re fa. See CONCORD.

FUNDAMENTO, in the Italian Music, is in general every part that plays or sings the bass; but the thorough bass is more particularly so called because it is the basis or foundation of all harmony.

G, in Music, is the lowest sound of the scale of Guido, in which it is called Gammut; which see. The octave above gammut, in the same scale, is called ut, or G sol-re-ut. It is called ut, or do, as the first note of the durum hexachord. (See HEXACHORD.) It is called sol, as 5th of the natural hexachord of C; and re, as the 2d of the molle hexachord of F. G. gives a name to the clef in which almost all treble parts are written for instruments; as the violin, flute, clarinet, and hautbois: it is called by the Italians chiave di violino, and is placed on the second line thus:

During the 17th century and part of the last, the French placed this clef on the first line, and used no other treble clef; whence it was called the French clef. Geminiani, in his first book of solos, has used it, to save leger lines, in very high passages.

GAGLIARDA, Ital. GAILLARDE, Fr. a gay, frolicsome, and riotous old dance; which, like the modern Waltz, is almost always in triple time. Galliarda, quasi galiarda, from the Latin validus, strong, stout, powerful, brisk, lively.

This dance has been long out of use; but there was a time when the galliarda was a favourite movement, not only with dancers, but with performers on the virginal; as in queen Elizabeth’s Virginal book, in that of Lady Nevil, and in Parthenia, the galliarda generally serves as an allegro to Pavana, a slow and stately dance, in almost every suit of lessons in the three collections by Dr. Bull, Bird, Giles Farnabie, Morley, and others. See PAVANA and PARTHENIA.

GALILEO’S Temperament of the Musical Scale.

Editorial note: A scientific article by John Farey Sr

According to Mr. Overend’s MS. in the library of the Royal Institution, vol. i. p. 135, this scale had the fifth tempered 2/7ths of a major comma flat, and the fourth as much sharp: the major third was 6/7ths of a comma flat, and the minor sixth the same quantity sharp: the minor third 6/7ths of a comma sharp, and the major sixth as much flat; the major second or greater tone 4/7ths of a comma flat, and the major seventh 10/7ths of a comma flat. Such a system as this seems very inapplicable to practice, to which perhaps it never was submitted, like numerous modern tuning schemes.

GALLIARD, or Gagliarda, in Music and Dancing, a sort of dance, anciently in great request; consisting of very different motions and actions, sometimes proceeding terra à terra, or smoothly along; sometimes capering; sometimes along the room, and sometimes across.

The word is French, galliard, or rather Italian: and literally signifies gay, merry, sprightly. This dance was also called Ramonesque, because brought from Rome.

Thoinot Arbeau, in his Orchesography, describes it as consisting of five steps, and five positions of the feet; which the dancers performed before each other, and whereof he gives us the score, or tablature, which is of six minims, and two triple times.

GALLIARDA, in the Italian Music, the name of a tune that belongs to a dance called a galliard. The air of it is lively in triple time.

GAMES, Musical, in the Greek Antiquity, games in almost all which there were musical contentions, and honours and prizes conferred on superior merit. At all the four principal public games in Greece, it appears that poetry, and music had their heroes. Indeed musical contentions for superiority, both vocal and instrumental, are of such high antiquity, as to have preceded the regular establishment of public games. The singing was sometimes alone, and sometimes accompanied by instruments, and particularly by stringed instruments; as poets who composed
verses for music were called lyrics, that is, such as accompanied themselves on the lyre. (See Pausanias Messenic. cap.83.) But the instruments which usually accompanied the voice, were the cithara, the lyre, the flute, trumpet, and buccina. As all ancient poetry was sung, poets repeating their verses without instrumental accompaniments, always did it to vocal melody, not in the indeterminate tones of common speech, but in such sounds as belonged to the Μελος or Μελοποεια. We should suppose that when any voice, except that of Stentor himself, was accompanied by a trumpet or buccina, it must have been in ritornels, or repetitions of portions of the same melody, as had been previously sung, in order to afford the singer time to breathe.

From Plutarch we learn that occasional musical con-tests preceded the regular establishment of any of the public games. (Quæst. Conviv.) The same author(de Musica) after enumerating the airs which Terpander had composed, and to which he had given names, continues to speak of his other compositions, among which he describes the poems, or hymns for the cithara, in heroic verse. These were used in after times, by the rhapsodists, as prologues, or introductions to the poems of Homer, and other ancient writers. But Terpander rendered his name illustrious, no less by his performance, both upon the flute and cithara, than by his compositions. This appears by the marbles; by a passage in Athenæus, from the historian Hellanicus, which informs us that he obtained the first prize in the musical contests at the Carnean games; and by the testimony of Plutarch, who says, that “no other proof need be urged of the excellence of Terpander, in the art of playing upon the cithara, than what is given by the register of the Pythic games, from which it appears that he gained four prizes, successively, at those solemnities.”

After speaking of the victories obtained by this venerable bard, at the public games, it seems necessary to be somewhat minute in describing these memorable institutions, as far as they concern music. And, in order to convey to the reader as clear an idea as we are able, of the rank which music and musicians held at these assemblies, we shall give some account of each of the four principal or sacred games, separately; and first, of the Olympic games.

Thucydides tells us that in very remote antiquity there were “games of bodily exercise, and of music, in which cities exhibited their respective choruses;” and, in testimony of this, he quotes the following verses from Homer’s hymn to Apollo:

“To thee, O Phœbus, most the Delian isle
Gives cordial joy, excites the pleasing smile;
When gay Ionians flock around thy fane;
Men, women, children, a resplendent train,
Whose flowing garments sweep the sacred pile,
Whose grateful concourse gladdens all the isle,
Where champions fight, where dancers beat the ground, *
Where cheerful music echoes all around, *
Thy feast to honour and thy praise to sound.” *

* Editorial note: These three lines are linked by this brace }

That there was also, continues Thucydides, a musical game, to which artists resorted to make trials of skill, Homer fully shews in other verses to be found in the same hymn: for having sung the Delian chorus of females, he closes their praise with these lines, in which he makes some mention of himself;

“Hail! great Apollo, radiant god of day!
Hail Cynthia, goddess of the lunar sway!
Henceforth on me propitious smile! and you,
Ye blooming beauties of the isle, adieu!
When future guests shall reach your happy shore,
And, refug’d here from toils, lament no more;
When social talk the mind unbending cheers,
And this demand shall greet your friendly ears—
Who was the bard, e’er landed on your coast,
That sung the sweetest, and that pleased you most?—
With voice united, all ye blooming fair,
Join-in your answer, and for me declare;
Say—the blind bard the sweetest notes may boast,
He lives at Chios, and he pleas’d us most.”

Smith’s Thucydides.

We cannot help pointing out another circumstance in this hymn, which is really curious, as it implies the cultivation of a talent for imitation, at a time when simplicity and original genius seem most likely to have subsisted, pure and untainted, by ludicrous similitudes.

Homer, in verse 162, describing the employment of the Delian priestesses, or nuns of the order of Saint Apollo of Delos, tells us, that they were great
adepts in the art of mimicry; and that part of the entertainment which they afforded to the numerous people of different nations, who formed their congregation, was, as the Poet expresses it, from their being skilled to imitate the voices and the pulsation, or measure, of all nations: and so exactly was their song adapted, that every man would think he himself was singing.

Homer seems to sketch out the order of the performance in these old Pagan conservatorios, v. 158: first they sung a hymn in praise of Apollo: then another in praise of Latona and Diana: then they descended to the celebration of human heroes and heroines of ancient times; and it seems to have been in this part of their performance that they exerted their mimetic powers, and charmed the nations.

Though Mr. West, in his “Dissertation on the Olympic Games,” published with some of the odes of Pindar, tells us, that these assemblies were frequent by persons of the greatest eminence in all the arts of peace, such as historians, orators, philosophers, poets, and painters; who perceiving that the most compendious way to fame lay through Olympia, were there induced to exhibit their best performances, at the time of the celebration of the Olympic games; yet he has wholly omitted to mention poetical and musical contests, though both can be proved to have had frequent admission there. Indeed these were not the principal contentions at Olympia, as they were at Delphos, and in some other public games; being subordinate to the athletic and gymnastic exercises, and no part of the pentathlon, or five bodily exercises, of leaping, running, throwing the quoit or dart, boxing and wrestling; though even these were accompanied by the flute; for Pausanias says that Pythocritus of Sicyon played six times upon the flute during the exercise of the pentathlon at Olympia; and in testimony of the skill and abilities which he manifested in his art, a pillar and statue were erected to him with this inscription:

ΠΥΘΟΚΡΙΤΟΥ
ΚΑΛΛΙΝΙΚΟΥ
ΜΝΑΜΑΤΑ
ΑΥΑΗΤΑ

“To the memory of Pythocritus, victor upon the flute.” We have the same authority for the horse-race being accompanied by the trumpet; and many ancient writers tell us that the chariot-race was likewise accompanied by the flute.

Pausanias also remarks, that there was a Gymnasium near Olympia, called Lolichium, which was open at all times to those who were desirous of trying their powers in literary combats of every kind, where music, as the constant companion of poetry, could not have been excluded.

Ælian tells us likewise, that, in the 91st Olympiad, 416 B.C., Xenocles and Euripides disputed the prize of dramatic poetry at the Olympic games. Now dramatic poetry was at this time always set to music, sung, and accompanied by instruments, when performed on the stage; it is probable, therefore, that the case was the same at a public recital; at least with respect to the lyric parts of the drama.

In the 96th Olympiad, 396 B.C. a prize was instituted at the Olympic games for the best performer on the trumpet. The first performer on this instrument, who gained a prize at these celebrations, was Timæus of Elis (Ἀυαγραϕ, Olym. ad Calc. Chron. Euseb.). His countryman Crates obtained one there the same year, on the cornet, or horn. Archias of Hybla, in Sicily, was victor on the trumpet at three several Olympiads, after this period. These premiums seem not to have been temporary, but to have been continued long after their first establishment; for Athenæus informs us, that the famous trumpeter, Herodorus of Megara, was victor at the Olympic games ten several times. Jul. Pollux says fifteen. These writers must mean that he obtained so many prizes at the different games of Greece; as Athenæus informs us, that he was victor in the whole circle of sacred games, having been crowned at the Olympic, Pythian, Nemean, and Isthmian, by turns.

These performers on the trumpet appear to have been heralds and public cryers; who not only gave the signals at the games for the combatants to engage, and announced their success, but proclaimed peace and war, and sounded signals of sacrifice and silence, at religious ceremonies. -

As Herodorus is allowed to have been contemporary with Demetrius Polidretes, he may be placed about the 120th Olymp. 300 B. C. According to the authors already cited, he was as remarkable for his gigantic figure and enormous appetite, as for
the strength of his lungs, which were so powerful in blowing the trumpet, that he could not be heard with safety, unless at a great distance. But, upon these occasions, the danger was not always confined to the hearers; the performers themselves, sometimes, seem to have exulted, and to have been very thankful that they found themselves alive and well, when their solos were ended. An epigram of Archias, the Hyblean trumpeter, is preserved in Jul. Pollux, in which he dedicates, statue to Apollo, in gratitude for his having been enabled to proclaim the Olympic games with his trumpet, three times, without bursting his cheeks, or a blood-vessel, though he sounded with all his force, and without a capistrum, or muzzle.

Even the flute had its dangers, if Lucian may be credited, who relates, with the appearance of great gravity, that, Harmonides, a young flute-player, and scholar of Timotheus, at his first public performance, in order to astonish his hearers, began his solo with so violent a blast, that he breathed his last breath into his flute, and died upon the spot.

This account is so extraordinary, that it seems to require the testimony of the author's own words: ευαπεπυευσετῳ αυλῳ, breathed his last breath into the flute; and ευ τα σϰῃυῃ απιθαυε, he died upon the stage.

Plutarch, and several ancient writers, speak of a kind of pasticcio performance at the public games among the rhapsodists, who used to collect together favourite passages of poetry and music of different styles and masters, and sing them to the cithara. Cleomenes the rhapsodist, however, according to Athenæus, sung by memory at the Olympic games an entire poem, called the expiations, composed by Empedocles. See RHAPSODIST.

As a further proof of musical contests forming a part of the Olympic games, we shall only observe that the emperor Nero, who regarded every great musician as his rival, disputed the prize in music there, in all its forms: first, entering his name with the common candidates, and submitting to all the usual preparatory discipline, as well as to the rigour of the theatrical laws, during performance; and, afterwards, supplicating the favour of the nomodictai, or umpires, by all the seeming submission and anxiety of a professed musician; as if an emperor, and such an emperor, had any thing to fear from the severity of his judges.

The victors in every species of combat were distinguished upon all occasions, and had every where the most honourable reception: poets and musicians of the greatest eminence were ambitious of celebrating their praise; and it is to their triumphs that we owe the odes of Pindar. Other panegyrics of this kind have not come down to us, though every successful hero had a hard to record his victory, and to chant his virtues. Both Simonides and Bacchylides composed hymns in honour of king Hiero, as well as Pindar; but we shall give sufficient testimony hereafter of innumerable compositions of the like species having been produced, and sung upon similar occasions, by the greatest poets and musicians of antiquity.

The Pythic games, Pausanias informs us, consisted, in ancient times, of the poetical and musical contests, and the prize was given to him who had written and sung the best hymn in honour of Apollo. At their first celebration, Chrysothemis of Crete, who purified Apollo, after he had killed the Python, was victor. After him Philammon, the son of Chrysothemis, won the prize; and the next who was crowned, was Thamyris, the son of Philammon. Eleutherus is recorded to have gained the prize there by the power and sweetness of his voice; though the hymn which he sung was the composition of another. It is said, likewise, that Hesiod was refused admission among the candidates, on account of his not having been able to accompany himself upon the lyre; and that Homer, though he went to Delphos to consult the oracle, yet, on account of his blindness and infirmities, he made but little use of his talent of singing and playing upon the lyre at the same time.

Hence it appears, that though musical contests were, perhaps, not ranked among the regular and established exercises of the Olympic games, yet all antiquity agrees, that no others were admitted into the Pythic during the first ages of their celebration.

It was at the close of the long and bloody war with the sacrilegious Crissæans, 591 years B. C. that Eurylochus, the general of the Amphictyons, who from his valour, and the length of the siege of Crissa, was called the New Achilles, instituted the several kinds of Pythic combats at Delphos, which were af-
terwards constantly repeated on the second year of each Olympiad.

Pausanias, in his enumeration of the musical contests that were added to the ancient Pythic games, at the close of the Crissaean war, tells us, that the Amphictyons proposed prizes, not only for those musicians who sung best to the accompaniment of the cithara, the only combat at the first institution of these games, but others, both to such as should sing best to the accompaniment of the flute, and to those who, with the greatest precision and taste, played on that instrument alone, without singing. Here began the separation of music and poetry. All the trials of skill, all the performances at banquets, festivals, and sacrifices, had hitherto been confined to vocal music, accompanied by instruments indeed, but where poetry had an important concern; at least, no instrumental music, without vocal, since the contest between Apollo and Marsyas, is mentioned in ancient authors, before this time, except that of the trumpet; the lyre and flute having, in public exhibitions, been mere attendants on the voice, and on poetry.

This was soon after the time when Sacadas is recorded to have played his Pythic air on the flute at Delphos, which reconciled Apollo (or his priest) to that instrument; who, till then, was said to have had it in abhorrence ever since the contest with Marsyas. This musician was not crowned the first time he played at the Pythic games, but in the two subsequent Pythiads he obtained the prize, which furnishes a proof that instrumental music, separated from vocal, began now to be successfully cultivated among the Greeks.

After this, the same games and combats were established at Delphos as at Olympia. The Amphictyons retrenched the flute accompaniment, on account of that instrument being too plaintive, and fit only for lamentations and elegies, to which it was chiefly appropriated. A proof of this, says Pausanias, is given in the offering which Echembrotus made to Hercules of a bronze tripod, with this inscription:

“Echembrotus, the Arcadian, dedicated this tripod to Hercules, after obtaining the prize at the games of the Amphictyons, where he accompanied the elegies that were sung in the assembly of the Greeks, with the flute.”

At the eighth Pythiad, 559 years B.C. a crown was given to players upon stringed instruments, without singing, which was won by Agelaus of Tegea.

The prize given to the victors at the Pythic games consisted either of apples, consecrated to Apollo, or, as Pindar informs us, of laurel crowns, which, according to Pausanias, were peculiar to the Pythic games, in allusion to Apollo’s passion for Daphne.

Strabo, speaking of the different kinds of contests established by the Amphictyons, at the first Pythic games, after the Chrisseans were subdued, mentions a particular species of composition, which was sung to the hymn in praise of Apollo, and accompanied by instruments. It was called the Pythian nome; and was a kind of long cantata, consisting of five parts, or movements, all alluding to the victory obtained by the god over the serpent Python. The first part was called the Prelude, or preparation for the fight; the second, the Onset, or beginning of the combat; the third, the Heat of the Battle; the fourth, the Song of Victory, or the insults of Apollo over the serpent Python, composed of iambics and dactyls; and the fifth, the Hissing of the dying Monster.

This air, Pausanias tells us, was composed, and first played at Delphos, by Sacadas, who, according to Plutarch, was an excellent poet as well as musician, and author of lyric poems, of elegies, and of a composition consisting of three strophes or couplets, performed successively in the three modes chiefly used in his time, the Dorian, Phrygian, and Lydian; and this air was called timeleus, on account of its changes of modulation. Both Plutarch and Pausanias mention his having been celebrated by Pindar; but as we are not in possession of all that poet’s works, this honourable testimony cannot be found at present. The reputation of Sacadas must doubtless have been very great, for Plutarch says, that his name was inserted in the Pythic list of good poets; and Pausanias, that he found his statue, with a flute in his hand, on mount Helicon, and his tomb at Argos.

We are the more minute in speaking of this personage, as he is the first upon record who detached music from poetry, and who, though a good poet himself, engaged the public attention in favour of mere instrumental music; a schism that has been as severely censured as any one in the church. The cen-
surers, however, have forgotten that such schisms, in
the arts, are as much to be desired, as those of reli-

gion are to be avoided; since it is by such separations
only that the different arts, and different branches of
the same art, becoming the objects of separate and
exclusive cultivation, are brought to their last refine-
ment and perfection.

After Sacadas had pointed out the road to fame,
by means of instrumental music, it was so success-
fully pursued by Pythocritus of Sicyon, whose statue
was erected at Olympia, that he gained the prize at
Delphos, as a solo player on the flute, six different
times.

After their regular celebration was established, a
catalogue of more than twenty of the most illustri-
ous poets and musicians of antiquity, who by the en-
couragement of the Pythic games brought music and
poetry to the highest perfection in Greece, has been
collected by sir Isaac Newton in his Chronology;
these were Archilochus, Eumelus Corinthiæs,
Polymnestus, Thaletas, Xenodemos, Xenocritus,
Sacadas, Stesichcrus, Tyrtæus, Tlesilla, Rhianus, Alc-
man, Arion, Mimmermus, Alcæus, Sappho, Theog-
nis, Anacreon, Ibycus, Simonides,Æschylus, and
Pindar.

At the Nemean games, though the exercises were
nearly the same as at the Olympic, as we learn from
the subjects of the Nemean odes of Pindar; yet that
musical performances usually constituted a part of
the exercises and amusements at this solemnity, is a
fact so fully ascertained by a passage in Plutarch’s
life of Philopœmen, and corroborated by Pausianias,
that we shall give the narration entire, and leave it to
speak for itself.

“Philopœmen being elected a second time gen-
eral of the Achæans, soon after he had gained the
celebrated battle of Mantinca, entered the theatre at
the Nemean games, while the musicians were dis-
puting the musical prize. At the moment that
Philopœmen entered, the musician Pylades, of Me-
galopolis, happened to be singing to the lyre, the be-
ginning of a song composed by Timotheus, called
“the Persians:”

“ Behold the hero, from whose glorious deeds
Our greatest blessing, liberty, proceeds!”

The subject of the verse, the energy with which it
was uttered, and the beauty of the singer’s voice,
struck the whole assembly. They instantly cast their
eyes on Philopœmen, and, with the most violent ap-
pause and acclamation, animated with the hopes of
recovering their former dignity, they assumed their
ancient spirit and confidence of victory. Pausianias
adds, that they unanimously cried out, that nothing
could be more applicable than this poem was to the
brave general, who had undertaken to command
their army.”

At the Isthmian games, the same trials of skill were
exhibited as at the other three sacred games, and
particularly those of poetry and music.

Livy relates a very interesting event, which
happened during the celebration of these games,
after the Romans had defeated Philip king of Mace-
don, one of the successors of Alexander the Great,
who had been in possession of the chief part of
Greece.

The time, says this author, for celebrating the
Isthmian games was now come. There was always a
great concourse of people at them, from the natural
curiosity of the Greeks, who delighted in seeing all
kinds of combats and bodily exercises, as well as
from the convenience of the situation, between two
seas, for the inhabitants of different provinces to as-
semble. But being at this time anxious to know their
own fate, and that of their country, all Greece
flocked thither, the greater part silently foreboding
the worst, and some not scrupling openly to express
their fears. At length the Romans took their places at
the games, and a herald, with a trumpet, in the usual
manner, advanced into the middle of the Arena, as if
silence was ordered, he proclaimed, “ that the Ro-
man senate and people, and T. Quinctius Flamininus
their general, after vanquishing Philip and his Meco-
donians, declared the Corinthians, Phocæans, all the
Locrians, the island Eubœa, the Magnesians, Thessa-
lonians, Perrhaebi, Achæans, and Phthiotes, all
which states had been possessed by Philip, free, in-
dependent, and subject only to their own laws.” The
joy which this proclamation occasioned in the as-
sembly was, at first, too great to be expressed. The
spectators could scarce credit what they heard; they
regarded each other with astonishment, as if they
had waked out of a dream. Each, diffident of his
own ears, with respect to what particularly con-
cerned himself and his own country, asked his
neighbour what had been said. The herald was even called again, so strong a desire had they all, not only to hear, but to see the messenger of their liberty, and they had the satisfaction of hearing him repeat the decree. When their joy was fully confirmed, they expressed it in such lou and reiterated shouts of applause, that it was evident liberty was dearer to them than all the other advantages of life. After this the games were celebrated, but with the greatest hurry and confusion; no one had eyes or attention for the spectacle; every avenue of inferior pleasure was obstructed by joy.

These games, in which the victors were only rewarded with garlands of pine-leaves, were celebrated with great magnificence and splendor, as long as paganism continued to be the established religion of Greece; nor were they omitted even when Corinth was sacked and burned by Mummius, the Roman general, at which time the care of them was transferred to the Sicyonians, but was restored again to the inhabitants of Corinth, when that city was rebuilt.

Besides the four games called sacred, at which poets and musicians contended for pre-eminence, there were many others of less celebrity, the principal of which, however, were the Panathenæan games in honour of Minerva, instituted by the Athenians, the most elegant, refined, and voluptuous, people of Greece.

There were two solemn festivals under this denomination at Athens, where prizes were established for three different kinds of combat: the first consisted of foot and horse races; the second, of athletic exercises; and the third of poetical and musical contests. These last are said to have been instituted by Pericles: and that great patron of arts and literature may have been the first who excited emulation in poets and musicians, at this festival, by bestowing rewards upon the most excellent; but, according to Plutarch, who had consulted the Panathenæan register, musical performances were of much earlier date there than the time of Pericles. Rhapsodists were appointed to sing the verses of Homer at these games, by Hipparchus, the son of Pisistratus.

Singers of the first class, accompanied by performers on the flute and cithara, exercised their talents here upon subjects prescribed by the directors of these exhibitions. And while the Athenian state was free and independent, the noble and generous actions of Harmodius and Aristogiton, who had opposed the power of the Pisistratidæ, and of Aristobulus, who had delivered the Athenians from the oppression of the thirty tyrants, imposed upon them by the Lacedæmonians, were celebrated in these songs.

GAMME, Fr. Gammut, Engl, or Gamma-ut, is a title given to the musical alphabet, or series of sounds used in practical melody and harmony, ascending or descending in what the Greeks call the Diatonic genus, and the moderns the scale of Guido; that is, by tones and semitones. Rousseau, who never saw the Micrologus of Guido or any of that ingenious and celebrated monk’s original writings, has given the clearest and best definition of this technical term (gammut) according to the generally received opinion.

He says “the gamnut is a table or scale invented by Guido d’Arezzo, by which musical students learn to name and sound correctly the intervals of the octave by the six syllables ut, re, mi, fa, sol, la, according to all the arrangements that can be given them; which is called solmisation,” and which, like the changes on six bells, admit of 720 varieties.

The gammut has also been called la mano armonica, or the harmonic hand, from Guido having drawn the figure of a hand, upon the fingers of which he has arranged the notes, to shew the relation which the hexachords bear to the five tetra-chords of the Greeks. This hand appears in almost all the old musical treatises in Latin and Italian, till the invention of si in France, for the seventh of the key of C, which has abolished, in that kingdom, the mutations, and, consequently, the harmonic hand, which taught them. See HARMONIC hand.

Guido, according to the common opinion, having added a tetrachord in the acute to the diagram of the Greeks, and a sound at the bottom, or rather, according to Meibomius, having by these additions restored the ancient diagram to its former extent, called this grave sound (which answers to G on the first line in the base) hypofiroslambanomenos, and marked it by r, or gamma, the third letter of the Greek alphabet; and this letter being found at the beginning of the scale, for what reason does not clearly appear, gave birth to the barbarous name of gammut.
In the primitive state of the gammut of Guido he expressed the sounds by letters of the alphabet, without lines and spaces, or musical characters for time; beginning with capitals for the first octave, minuscules for the second, and double letters for the third: as St. Gregory had done in naming the notes called Gregorian. In modern notation, the scale of Guido would have the following appearance, with the assistance of two different clefs, the base and the treble.

This gammut, in its whole compass, was composed of 20 sounds or notes, that is, of two octaves and a major sixth.

As to the syllables for naming the notes in singing, invented by Guido (see SOLMISATION and HEXACHORDS), as he has provided only for six of the sounds, it was necessary to make the same notes serve for different purposes, according to the progress of the melody; and these changes were called mutations; which see.

But as to the syllables ut, re, mi, fa, sol, la, taken from a hymn to St. John the Baptist (see HYMN), they are only used in singing. See HEXACHORDS.

In consulting the best elementary writers on music for a model of such a gammut as could be understood without a master; or, at least, be soonest learned with his assistance, we were unable to find one that would not discourage an insipient student by its form and insertion of the tenor clef.

The gammut which Grassineau calls Guido’s, and Rousseau the Italian gammut, is spread upon 10 lines and spaces, in such a manner as a musical student, far advanced, will never find in a music-book, and will perplex him as much as a first lesson, or as it would a young arithmetician by giving him a sum in the rule of three before he had learned addition.

We shall give the following elements on a plate in the order which long experience has found to be the most useful and easily comprehended in the first stages of practical music.

1. The regular series of natural sounds, from the bottom of the piano forte to the top, that are comprised within the staff from gammut, or G on the first line in the base, to g, fifth space in the treble, in the two most common and necessary clefs, the base and treble. See CLEFS.
2. The notes below and above the staff, or regular lines.
3. Flats, sharps, and naturals.
4. The time-table.
5. Characters of expression; as the slur, different kinds of bowing.
6. Graces; as the shake, beat, and trill.
7. Tenor clefs, with the baritono clef, or base clef on the third line, and the French clef, or G clef on the first line.

In the biographical article assigned to Guido, we shall enter more at large into the history of the gammut, and inquire into the validity of the ingenious monk of Arezzo’s claims to many other musical inventions of which tradition has graciously made him a present. See GUIDO and MICROLOGUS.

GAMMUT. See GAMME.

GAVOTTA, or GAVOTTE, derived from the Ga-vots, a people inhabiting a mountainous district in France, called Gap, in Italian Music, is a kind of dance, the air of which has two strains, brisk and lively, and in common time: each of its strains are played twice over; the first has usually four or eight bars, and the second contains eight, twelve, or more. The time begins with a minim, or two crotchets, or notes of equal value, and the hand rising; and ends with the fall of the hand upon the dominant, or mediant of the mode, never upon the final, unless it be a rondeau. And the last begins with the rise of the hand, and ends with the fall upon the final of the mode.

The Gavots of Corelli, Albinoni, Vivaldi and others of the Italians, correspond with these rules as far as they relate to the measure, the number of bars in each strain, and the cadences; but in respect to the initial notes of the air they deviate from it; for they sometimes begin with a whole bar, and sometimes with an odd quaver. Cotgrave, in his Dictionary, defines Gavote a kind of Brawle, danced commonly by one alone.

GAVOTTA, Tempo di, is when only the time or movement of a gavotte is imitated, without any regard had to the measure or number of bars, or strains. We often find parts of sonatas which have this phrase to regulate their motions.
GAYMENT, Fr. has been said to be equal to Allegro, Ital. cheerful, lively, quick; but the French word, as Rousseau has well observed, is not so extensive in its signification, being confined to cheerful, light, airy strains alone; whereas allegro extends to quick movements of all kinds of character and expression.

GENERALA, in Ancient Greek Music, implied, according to Euclid, the different divisions and dispositions of the tetrachord or fourth, as to the intervals of the four sounds of which it is composed.

Plutarch (de Musica) says, that it is not sufficient for a musician to know what kind of music should be set to any particular poem; he should likewise know how to write it down in all the genera, that is to say, in the diatonic or natural scale, consisting of tones and semitones, as at present; in the chromatic, in which the scale was divided into semitones and minor thirds; and in the enharmonic genus, moving by quarter tones, and major thirds.

In modern music the genera are but two; diatonic and chromatic. These consist in the manner of arranging the tones and semitones of which melody is composed.

When no more than two semitones occur in the course of an octave, the melody may properly be styled genuine diatonic.

Indeed the chromatic in use at present can hardly be compared with that of the ancients; for with them every accidental flat or sharp which led to a new mode or key, would have been called a change of genus. With us, however, a mere change of modulation, though it occasions a change of key, is not a change of genus; for while the sounds made use of in harmony and melody can be referred to any one key, the diatonic genus is supposed to be preserved: it is only a regular succession of two or more semitones, ascending or descending, that constitutes modern chromatic.

In ancient music, not only the tone was divided into two, as with us, but the semitone by a diesis or quarter-tone. These three kinds of interval, the tone, semitone, and diesis, constituted the difference of the three genera.

The fourth being the constant boundary of sounds in the music of the ancients, as the octave in modern music admits of no change, but is tuned as perfect as possible, so the fourths in ancient music were never allowed to deviate from perfection.

The different genera were therefore characterized by the changes made in the two middle sounds of the tetrachords, that were stiled mobiles, mutable.

In the diatonic genus, the melody proceeded by a semitone, and two tones, as

\[ \text{B C D E} \]

and it was from the succession of two tones, that this genus acquired the name of Diatonic. As the term is derived from δια, by, and τόνος, tone; that is, passing from one tone to another; which, in the Greek music, was never done but in the diatonic genus.

The Chromatic proceeded by two successive semitones, and a hemiditone, or minor third, as

\[ \text{B C B E} \]

This modulation holding the middle place between the diatonic and enharmonic, has been supposed by Martianus Capella and Bryennius, to derive its name from χρώμα, colour; for as the gradations between black and white are called colours; so this genus, being placed between the diatonic and enharmonic, is called chromatic. M. Rousseau tells us, in his Dictionary, that this genus used to be written in coloured notes, but without giving any authority in support of this opinion.

The Enharmonic tetrachord proceeded by two quarter tones, and a major third,

\[ \text{B B C E} \]

This genus is often called by Aristoxenus, and others, simply ἀκομίωνα, harmonia, that is, well arranged and ordered.

Aristoxenus tells us, that the divisions and bounds of the genera were not accurately fixed till his time; and Aristides Quintilianus speaks of several genera, or species of intervals, which were of the highest antiquity; yet so wild and irregular, that after the art of music was brought to a greater degree of perfection, and the laws of the three principal genera were settled, they had been totally diffused by the best musicians. The same author asserts, that it is of these barbarous divisions of the scale, or old harmonies, as they were called, and not
the common modes of the same names, that Plato speaks in his Republic, where he admits some of them, and rejects others.

The ancients attributed peculiar effects to each genus, and speak of many characteristic distinctions of genera, which now appear to be wholly fanciful and imaginary. These, if they ever had existence, were, perhaps, destroyed by modern harmony. Aristides Quintilianus, p. II 1, tells us, that

The diatonic is manly and austere;
The chromatic sweet and pathetic; and
The enharmonic animating and mild.

Vitruvius, speaking of the enharmonic, says, that it is in a particular manner grave and majestic. "Cantus ejus maximè gravem, et egregiam habet auctoritatem."

Perhaps the idea of a major-key, which the enharmonic ditone must impress upon the ear, may have contributed to the notion of music in that genus being animating; but how it could be at the same time grave and soothing, animating and mild, is not easy to conceive. This genus was never known to the Romans, having been lost before they attempted the polite arts.

And Plutarch, in his first Essay against Colotes, the Epicurean, asks, "Why does the chromatic genus melt and dissolve, and the enharmonic brace the nerves, and compose the mind, after being disturbed?"

Aristides Quintilianus, in another place, (p. 19. Edit. Meibom.) says of the genera, that the diatonic is the most natural, because all who have ears, though uninstructed in music, are capable of singing it.

The chromatic is more artificial, for it can be sung only by such as are adepts in music.

The enharmonic is the most refined and difficult of all, and has been received and practised only by the greatest artists. See ENHARMONIC and MUSIC of the Ancients.

GENERATE, in Music, is used to signify the operation of that mechanical power in nature, which every sound has in producing one or more different sounds. Thus, any given sound, however simple, produces, together with itself, its octave, and two other sounds, extremely sharp, viz. its twelfth above, i.e. the octave of its fifth, and the other the seventeenth above, or the double octave of its third major. Whether we suppose this procreation of sounds to result from an aptitude in the texture and magnitude of certain particles in the air, for conveying to one's ears vibrations that bear those proportions to one another, as being determined at once by the partial and total oscillations of any musical string; or from whatever economy of nature we choose to trace it; the power of one sound thus to produce another, when in action, is said to "generate." The same word is applied by Tartini and his followers to any two sounds, which, simultaneously heard, produce a third. See GENERATOR.

Vol 16 Generation (part)Gretna

GENERATOR, in Music, signifies the principal sound or sounds by which others are produced. (See GENERATE) Thus, the lowest C for the treble of the harpsichord, besides its octave, will strike an attentive ear with its twelfth above or G in alt, and with its seventeenth above, or E in alt. The C, therefore, is called their "generator," and the G and E its products or harmonies. But in the approximation of chords for G its octave below is substituted, which constitutes a fifth from the generator, or lowest C; and for E is likewise substituted its fifteenth below, which, with the above-mentioned C, forms a third major. To the lowest notes, therefore, exchanged for those in alt, by substitution, the denominations of products or harmonies are likewise given, whilst the C retains the name of their "generator." But still, according to the system of Tartini, two notes in concord, which, when sounded, produce a third, may be termed the "concurring generators" of that third.

GENIUS, is not a musical term, nor does it pertain to one of the polite arts more than another; but Rousseau (Dict. de Mus.) has volunteered an article for it among musical terms, and has written it with peculiar eloquence and enthusiasm.

Rousseau, paradoxical on almost all other subjects, is sometimes not only capricious, but mischievous; yet his bitterest enemies admit, that music is his bright side; and though he is not allowed by the present French musical critics to be a profound contrapunctist, yet his taste in music and poetry was refined, and of the highest class; and his views con-
cerning dramatic music were enlarged, rational, ingenious, and free from all caprice and paradox.

GENUS, in music. See GENERA.

GERMAN SCHOOL OF MUSIC. Though the language and national style of singing in Germany are much inferior to those of Italy, the instrumental music of that country is indisputably the first in the world. It is true that the violin is infinitely obliged to Corelli, Geminiani, Samis, Tartini, and Boccherini; but for symphonies, and the union of wind-instruments with those of the bow, the Italians have nothing at present, equal to the full pieces of the elder Stamitz, Vanhal, Haydn, and Mozart; nor on keyed-instruments have they any compositions equal to those of Emanuel Bach, Haydn, Mozart, and several other great clavecinistes. And though the best German singers are, in general, inferior to the piazza, or street singers of Italy; yet Germany has, now and then, furnished a vocal performer equal to the best of Italy; such as Raaf, the Mingotti, the Taiber, the Tosi, Mara, &c.

M. Suard, ci-devant member de l’Academie Françoise, an extremely severe and fastidious critic of the dramatic music of Italy, and a determined Gluckist, begins a long article in the Encyclopédie Méthodique on the history of music in Germany; but though the article consists of twelve quarto pages, only four or five of them are bestowed on German music in general, before the author hastens to his hero Gluck, whose life he gives, and an ample list of his works, since he quitted the Italian style of composition for that of France. All this is minutely and ably done, and would be satisfactory to all musical readers, if the author’s zeal for Gluck, and his style were not exclusive, and his censures so severe, of all that has been admired in Italy, both in composition and performance, by all the rest of Europe, except France. No vocal compositions but those of Gluck escape condemnation. Metastasio’s dramas, are not written to his mind. The composers are too florid, and the singing too important.

If M. Suard had confessed that the style of singing in France was bad, and that its native public singers were unable to execute such songs as the great Italian masters have composed; and therefore that it was most prudent to have as little singing as possible; the airs very short and simple; no introductory symphonies, or ritornels to impede the progress of the drama; to set the poet above the composer, and the actor above the singer: with these concessions all Europe would have admitted his reasoning to be just; but when M. Suard insists on all Europe implicitly following the French model in musical dramas; that where great opera composers and refined singers abound, they are not to be employed, but that the melo-drama, to render it interesting, should never admit an air superior to an elegant ballad, is what lovers of dramatic music, and judges of good composition and good singing, will never subscribe to.

But though M. Suard is so determined a foe to all opera music but that of Gluck, and singing, except that of the natives of his own country, when he speaks of the instrumental music of Germany, he is very just, and celebrates the schools of Vienna, Coblentz, Manheim, Munich, and Stuttgart; which have produced the Stamitzes, the Touchis, Canabichs, Schroeters, Haydns, and innumerable other symphonists, whose compositions are known to all lovers of music. All these different symphonists (says with great truth M. Suard) have a peculiar character and style of their own; yet, continues he, “It must be allowed that all give way to the inexhaustible Haydn for invention and originality. He unites all the resources of science to the charms of good taste: he is noble and gay, full of grace and force; simple with infinite variety; and unites to movements the most sweet and captivating in melody, the greatest orchestral effects.”

This character is written with such truth, intelligence, and feeling, that we forgive the elegant and refined writer much of his bigotry for Gluck, and intolerance for all dramatic music, except that of France. No praise is too strong for the instrumental music of Germany in general by the composers so justly celebrated by M. Suard; but when to these we join Emanuel Bach, and the admirable Mozart, and his scholar Beethoven, it seems as if instrumental music, at least, was arrived at its acme of perfection. This extensive empire has likewise produced masters who have even equalled the most eminent Italian dramatic composers of the last century; such as Handel, Hasse, Graun, J. C. Bach, Mistewecce, Gluck, Naumann, &c. without mentioning the operas, oratories, and masses of Haydn, and the dramatic music of Mozart, perhaps the best of its kind.
So that Germany may be said frequently to vie with Italy itself in its own best style of composition.

GIGA, Ital: GIGUE, Fr: a jig, the name of a gay dance, and of its tune. The Crusca Dict, defines this word from Dante, par. 14, *strumento musicale di corde*; a musical instrument with strings. The Crusca, likewise says, that it is an instrumental movement, so called.—Walther’s derivation from Geige, Germ. a violin, or fiddle, comprehends both the tune and the instrument upon which, originally, it was most frequently played. The time of the *gsgia*, or *jig*, is always quick, and in triplets of \( \frac{6}{4} \), \( \frac{9}{4} \), or \( \frac{12}{4} \). Corelli’s jigs were long in favour; but, being in the same time as most of our old country-dances, they are almost all become vulgar, except the gighe in his 5th solo, and 11th sonata, op.ii⁴⁸.

Rousseau says that jigos are now wholly out of fashion in Italy and France; but the movement is only improved by new and more elegant passages: for, whatever is played quick, in triplets of 6,9, or 12 quavers in a bar, is still a *giga*, or *jig*.

GIGG, GIGA, or Jig, in Music and Dancing. See GIGA.

GINGROS, and GINGRIAS, Musical Instruments of the Ancients. The Phœnicians, according to Athenæus, had flutes of only a palm in length, which produced acute, but plaintive sounds. The Carians made use of them in their funerals: perhaps by Carins the Phœnicians are meant here, as in Corinna and Bathyllides. Those flutes derive their names from the lamentations of the Phœnicians at the death of Adonis, whom they called *Gingres*. Encycl. Suppl.

GLEE, a musical term derived by Skinner, Junius, Johnson, and all the etymologists, from *gigg*, Saxon, *joy, mirth, short*.

His merry men commaunded he
To maken him both game and glee
Chaucer, Rim. Sr. Tap. v. 126.

The term, we believe, is not to be found in music-books, or musical writers, before the middle of the 17th century. The first time it appears in the title of a collection of canons, rounds, and catches, is in a publication by John Playford, 1667, under the title of “Dialogues, Glees, Ayres, and Ballads, of two, three, and four Voyces.”

A glee in music implies nothing more in its original sense, in our printed music-books, than “a song of three or more parts, upon a gay or merry subject, in which all the voices begin and end together, singing the same words.” When subjects of fugue or imitation occur, and the composition is more artificial than simple counterpoint, it less resembles a glee than a madrigal, which it might, with more propriety, be called, if the words are serious: for a serious glee seems a solecism, and a direct contradiction in terms; the word glee, in Saxon, German, and English dictionaries, ancient and modern, implying *mirth, merriment*, and in Chaucer and other old authors, *music* itself.

GLOTTIS, from γλωττα, the tongue.

Editorial note: The first paragraph of this article describes the physiological feature.

Julius Pollax makes the glottis a joint or part of a flute, and Hesychius says that the glot were little tongues, acted upon by the breath of the player. This description of Hesychius seems to confirm the idea of the ancient nominal flutes as being kind of haut-boys.

GONG, a Chinese metalline, musical instrument of percussion, in the form of a flat bason, with a ridge round it, and beaten by a mallet covered with several folds of woollen cloth. It is carried on a pole by two men, and beaten by the hindmost. In the march of an army, it is used as a military instrument to regulate the steps of the soldiers; when struck with great force, it is sufficiently loud to be heard at a mile’s distance; but so confused is the sound, that no distinct tone can be ascertained. Yet by reiterated gentle strokes on the same part of the bottom of the bason a musical tone may be produced; but different parts of the circle produce tones of different gravity and acuteness.

It is used in processions, and at court on days of ceremony and festivals, in concert with other instruments, as a double drum. On the water, in vessels that are rowed, this instrument regulates the strokes of the oars.

It is formed of brass or bronze, and called Lu by the Chinese, who, from hearing it only on great occasions, regard it with reverence.

GONGONG, is an instrument used by the Hottentots, and all the negroes on the western coast of Africa. Of this kind there are two sorts, the large gongong and the small. In the supplement to the
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by Dr Charles Burney, John Farey Sr, & John Farey Jr
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first edition of the French Encyclopédie, a description of this instrument has been attempted that seems totally unintelligible.

“The small gongon (say the editors) is an iron or holly bow, of which the string is the sinew of a sheep dried in the sun, or a bowel string; at the extremity of the bow is placed, on one side, the pipe of a split quill, in the hollow of which the string of the bow is lodged. The performer holds this quill in his mouth when he is playing, and the different tones of the gongon proceed from the different modulations of his breath.

“The great gongon only differs from the small by the shell of a cocoa-nut, of which the upper part has been cut off, and the string of the bow, before its tension, passed through it on each side. In touching the instrument the cocoa-shell is moved to and from the quill according to the tone which is to be produced.”

We hope our readers will comprehend this description, by which we frankly own ourselves not to be much enlightened; nor can we well conceive how the motion of the split quill, or the section of the cocoa-nut, can produce different tones. Nothing that answers to this description is to be found on the plate referred to (fig. 3. Pl. II.) but in Pl. III. fig. 9. Mus. Inst. there is, we think, a very unsatisfactory representation of it. And in the rude state in which the European arts in gene. ral have been found in such parts of Africa as have already been explored, we have little reason to lament our ignorance of the construction and use of the gongong.

GOTHIC music. When sig. Eximeno calls fugues and canons Gothic compositions, he does not disgrace their structure any more than he would our cathedrals, by calling them Gothic buildings. Let fugues be banished from the theatre and private concerts, if he pleases, but let them remain in the church as a distinct species of composition, where they were first generated, and where they can never become vulgar or obsolete. The style is naturally grave, requires musical learning, and will, by the solemnity of the words and place of performance, continue to be reverenced and respected. It is allowed that variety is more wanted in music than in any other art, and, by totally excommunicating canons and fugues from the church, the art would lose one capital source of variety, as well as ingenuity; and intelligent hearers be bereaved of a solemn style of music, to be heard no where else.

GRAVE, in Music,

Editorial note: All the following articles GRAVE are by John Farey Sr.

[This] is applied to a sound which is in a low or deep tone.

The thicker the chord or string, the more grave the tone or note, and the smaller the acuter.

Notes are supposed to be the more grave, in proportion as the vibrations of the chord are less quick. See GRAVITY, in Music.

GRAVE, Ital. (pronounced graa-vay) an adverb applied to slow movements in the second degree, more quick than adagio, and more slow than largo. In adagio movements, the time is usually counted by quavers, in grave, by crotchets. Grave, Ital. and grave-ment, French, not only imply a slow time, but a certain gravity in the execution.

GRAVE Harmonic, in Music,

Editorial note: All the following science articles GRAVE are by John Farey Sr.

[This] is a phenomenon thus described by the late Dr. Robison: “The reinforcements of sound, which are called beatings, are noises. If any noise whatever be repeated with sufficient frequency, at equal intervals, it becomes a musical note of a certain determinate pitch. If it recurs 60 times in a second, it becomes the note C-fa-ut, or the double octave below the middle c of our harpsichords, or the note of an open pipe eight feet long. Now there is a similar (we may call it the very same) reinforcement of sound in every concord. Where the pulse of one sound of the concord bisects the pulse of the other, the two sounds are more uniformly spread; but where they coincide, or almost coincide, the condensation of one undulation combines with that of the other, and there comes on the ear a stronger condensation, and a louder sound. This may be called a noise; and the equal and frequent recurrence of this noise should produce a musical note. If, for instance, c and a are soundd together; there is this noise at every third pulse of c, and every fifth pulse of a; that is, 80 times in a second. This should produce a note which is a 12th below c and a 17th below a; that is, the double octave below f, which makes 320 vibrations in a
second. That is to say, along with the two notes c and a of the concord, and the compound sound which we call the concord of the VIth, we should hear a third note FF in the bass. Now this is known to be a fact, and it is the grave harmonic observed by Rameau and Tartini about the year 1754, and verified by all musicians since that time.”

Mr. John Gough gives the following account of grave harmonics. “When two sounds are heard in concert, the vibrations producing them are arranged in cycles, no one of which continues for a longer or shorter time than the rest; and their effect is perceived by the ear, which becomes sensible, of their presence. For when each cycle of a series, separately considered, exceeds the twelfth part of a second, the sense of hearing recognizes each point of division made by the coincidence of the vibrations which separate the contiguous cycles; this circumstance enables the sense to contemplate these periods apart, and comprehend their origin. On the contrary, when the duration of a cycle belonging to a compound series does not exceed the twelfth part of a second, the interval proves too small to be measured by the ear: it therefore escapes notice in a separate state; for the points of division recur too frequently to be observed. When the auditory organ finds itself in circumstances answering to the preceding description, it has but one method to pursue; which is, to treat these derivative intervals in the same manner it treats all periods, which are singly too small for its comprehension; it therefore reduces them to a simple musical sound, corresponding in pitch to a string which vibrates once in the time of each successive cycle. A grave harmonic is on this account always a lower note than any of its constituents, seeing the time of a cycle exceeds the greatest vibration that enters into the composition of it. The strength of a grave harmonic is also weak, when compared with the notes composing it, because these secondary sounds, being nothing more than certain unavoidable efforts of the imagination, they assume the character of a feeble sound, which is just strong enough to be heard in the company of one or more louder tones; for the power of the imagination is always inferior to external impressions, except in fits of insanity, when the organs of sense appear to be blunted by physical causes. The grave harmonics always keep the direction of the ears, let the position of

the head be changed as often as you please, resembling in this circumstance a shrill piping note, called the ringing of the ears; which every one ascribes to a slight affection of the auditory duct, because it differs from external sounds, in having no fixed direction. The grave harmonics agree with the ringing of the ears in this remarkable particular; which is a strong proof that their immediate cause is seated in the person of the hearer; and it is evident from the nature of things, that this cause originates in the mind.” Nicholson’s Journal, 8vo. vol. iv. p. 2.

We have been thus particular in quoting from two very able writers on the subject of the grave harmonics, or Tartinian sounds, in order to shew the foundation of the rules which we shall here give, for determining the grave harmonic of any given perfect consonance, viz.

1st. Find the number of vibrations made in one second of time by each of the given sounds: which, supposing C-sol-fa-ut, or c of the German tablature, or that on which the tenor cliff is placed, to make two hundred and forty complete vibrations, is obtained, by multiplying this number by the larger term of the ratio of the given sounds to C, and dividing the product by the smaller term of that ratio, if the given sounds lie above C, or the reverse if below it.

2d. Having thus obtained the vibrations of the given consonance, divide the larger number of them, by the larger term of the given consonance, and the smaller number by the smaller term, each of which, if the operation be rightly performed, will give the same result, and shew the number of coincidences of the pulses of the two given sounds in one second, and also the vibrations in that same period, of the grave harmonic sought.

3d. Compare the number of vibrations last found with each of the vibrations of the given consonance, and reduce their ratios to the lowest terms, which will then express the intervals or distances of the grave harmonic, below each of the given sounds.

By way of examples of these rules, we subjoin the following table shewing the grave harmonic, and several other useful particulars, of the principal consonances in the octave C-sol-fa-ut.
The experiments of M. Tartini, the discoverer of these sounds, extended to ten of the consonances in our table above, viz. the V, 4th, III, 6th, 3d, VI, II, 1st (second minor) 2d. (greater semitone,) and minor semitone \( \frac{24}{27} \), but in all of which he seems to have mistaken an octave, in assigning the place of the harmonic in the scale, and has mentioned each of them as being higher by an octave than in our table. Mr. John Holden, the author of “An Essay towards a rational System of Music,” printed at Edinburgh in 1807, p. 352, seems to have been aware of this latter circumstance, but in page 850, lays down an inapplicable and false rule for calculating the place of the harmonic, or implied sound, as he calls it; viz. “when two different sounds are heard together, their combination always either really produces, or essentially implies, a third sound, whose vibrations are equal to the difference of the vibrations of the two sounds in the same time.” Thus C 240, heard together with G 360, produces 120; which is c an octave below C, &c. Now it is observable, that this empirical rule will give the same results as ours above, only in such cases where the least terms of the ratio (in column 3) differs by unity; which is the case in eight of Tartini’s examples out of the ten, but not with the VI or the 6th: which, according to Holden’s rule, stand thus, 400–240 = 160, and \( \frac{160}{240} = \frac{2}{3} \), or the fifth below the key, instead of the XIth (as Dr. Robison and we have calculated it above); also, 384 – 240 = 144, and \( \frac{144}{384} = \frac{1}{2} \) or the octave and fourth, or eleventh, below the upper note, instead of the XXII. It is not a little surprising that Mr. H. should have overlooked these glaring inconsistencies of his rule, with Tartini’s experiments, on which he professes to have founded it; acknowledging, however, (p. 351.) that he is unable to discover any philosophical principles on which these phenomena can be explained, and of course unacquainted with the writings of the two authors, from whence we have extracted as above. We should not perhaps have thus adverted to Mr. Holden’s essay, had it not been in other respects a most respectable work, and one through which these errors are likely to be widely disseminated among musicians, and were not the fanciful system of harmony, which he builds solely upon them, calculated to bewilder still further the musical student, who may happen to have but a slight knowledge of mathematics. Among the novelties of Mr. Holden’s system, he pretends to prove, by means of the implied sounds, (calculated by his rule,) that the minor third, \( \frac{1}{6} \), is a “super-structured third,” and not the fundamental less third of the scale, which he says is expressed by the ratio \( \frac{25}{32} \) (though conceived probably, as he says, p. 371, by the ratio \( \frac{16}{19} \), on which account we have introduced this comma-deficient minor third into our table, and when its harmonic is shewn to be \( \text{be}, \text{five octaves below} \) the upper note of the consonance, instead of \( \frac{284}{240} = 44\frac{4}{7} \), and \( \frac{44\frac{4}{7} + 284\frac{4}{7} = \frac{5}{7}}{2} \), which expresses 2 VIII + 6th, or a minor twentieth below the upper note, as Mr. H.’s rule would have given it: whereas, had he used the true method of assigning the place of this harmonic or implied sound, his boasted fundamental less third, (besides proving less agreeable to the ear on trial, p. 384, than \( \frac{2}{7} \), must have been degraded from the rank of concords, as having an implied sound more than three octaves below the lowest of its notes, which is one of the essential properties of concords, according to their new conceits.

Another result of these false principles in the Essay is, the admission of the integer 7 among harmonic ratios (though to the exclusion of \( 5 \times 7, 7^7, 7^3 \times 7, \&c. \) page 341, and also of page 305, although 7, 11, 13, 19, &c. have real places in the false notes of the trumpet, horn, &c.), and the consequent introduction of what the author calls a GRAVE fourth (see that article), in his descending scale, page 316. According to which also, the acute or comma-redundant major sixth \( \left( \frac{55}{67} \right) \), belongs ess-entially to the scale, instead of the true concord \( \frac{5}{7} \) ! We trust that we shall have performed an acceptable piece of service to the well-wishers to the harmonic science,
in pointing out the source of such in-congruous absurdities as the above; and hope, that in a second edition of this useful work nearly all which follows page 349 will be expunged, and consigned to its merited oblivion.

The grave harmonics found by the rules and table above, are occasioned by the coincidences of the vibrations of perfect consonances, or the beats of Mr. Sauveur, but since the beats of Dr. Robert Smith also, or those made by imperfect concords, when they occur oftener than 12 or 13 in a second, occasion a grave harmonic note to be perceived, and no theorems for calculating such beats, except that of Dr. Smith from the fractions of a comma of temperament, and Mr. Emerson’s from the lengths of strings, having to our knowledge been published, we shall here supply that defect in our article BEATS, and give theorems for calculating the beats made by imperfect or tempered concords whose vibrations per second are given, viz.

Let N and M be the number of complete vibrations made in one second, by the grave and acute notes respectively, of the tempered concord whose perfect ratio is $\frac{n}{m}$ in being the least term, in its lowest number), and let b be the number of beats in one second of time.

Then, if the temperament be sharp, $b = nM - mN$, the beats required.

Or, if the temperament be flat, $b = mN - nM$, the beats required.

Take for example, the 3d in our table above, and we have $N = 240$, $M = 284\frac{4}{5}$, $n = 5$, and $m = 6$; and by the second theorem above $6 \times 240 - 5 \times 284\frac{4}{5} = 17\frac{1}{5}$ the beats in one second: which are, it will be observed, just double the vibrations in column five of the table, and therefore the grave harmonic thus occasioned, is four octaves below the upper note of this comma deficient minor third. The above theorems for beats will be found of like easy application, in almost every instance of musical calculations.

GRAVE Intervals is a term applied by Mr. Maxwell and several other correct writers, to such consonances as are flattened or lowered by a major comma (see that article) and it is usual with them to distinguish, such intervals by the grave accent thus, II', III', IV', V', VI', &c.; and on the contrary, to apply the acute accent to such as are sharpened or raised a major comma, as II', III', 4', &c. and to call such acute intervals or comma redundant intervals, while those as much flattened are called comma deficient intervals, which see. Mr. Holden, a modern writer, has, however, applied this term to intervals lowered by what he calls a bearing, whose ratio is $\frac{63}{64} = 11.94709 \Sigma + m$. See GRAVE fourth, &c.

GRAVE fourth, according to Mr. Holden’s system lately published, is an interval less than a perfect fourth, by what he calls a bearing (which is $\frac{63}{64} = 13.94709 \Sigma + m$ having the ratio of $\frac{61}{21} = 240.05291 \Sigma + 5f + 21m$ in Mr. Farey’s new notation; its common logarithm is .881906, 8792, its Euler’s logarithm or decimal value of the octave is .3923.175, and it contains $21.8903.9$ major commas.

GRAVE proper semitone, is an interval in Mr. Holden’s System of Music, whose ratio is $\frac{20}{21} = 43.05291 \Sigma + f + 4m$; its common logarithm is 9788107, 1, and Euler’s logarithm or .070389, and the number of major commas $3.92754$ which it contains.

GRAVITY, in Music, is an affection of sound by which it is denominated grave, low or flat.

Gravity stands in opposition to acuteness, which is that affection of sound by which it is denominated acute, sharp, or high.

The relation of gravity and acuteness, is the principal property on which music depends; and it is the distinct, fixed, and determinate quality of this relation which entitles sound to the denomination of melodious, harmonical, or musical.

Gravity is, therefore, that modification of sound by which it is considered as grave or low, with respect to, or compared with, other sounds, that are acute or high. See ACUTE.

The degrees of gravity, &c. depend on the nature of the sonorous body itself, and the particular figure and quantity thereof; though, in some cases, they likewise depend on the part of the body where it is struck. Thus, e. gr. the sounds of two bells of different metals, and the same shape and dimensions, being struck in the same place, will differ as to acuteness and gravity; and two bells of the same metal will differ in acuteness, if they differ in shape or magnitude, or be struck in different parts.

So in chords, all other things being equal, if they differ either in matter, or dimension, or tension, they will also differ in gravity.
Thus again, the sound of a piece of gold is much graver than that of a piece of silver of the same shape and dimensions; and in this case the tones are, ceteris paribus, proportional to the specific gravities: so a solid sphere of brass, two foot in diameter, will sound graver than another of one foot diameter; and here the tones are proportional to the quantities of matter, or the absolute weights.

But it must be observed, that acuteness and gravity, as also loudness and lowness, are but relative things. We commonly call a sound acute and loud, in respect to another which is grave, or low with respect to the former; so that the same sound may be both grave and acute, and also loud and low, in different comparisons.

The degrees of acuteness and gravity make the different tones or tunes, of voice, or sound; so we say one sound is in tune with another, when they are in the same degree of gravity.

The immediate cause or means of this diversity of tones lies very deep. Mathematicians express the proportion of sound to sound, by the ratio of numbers. The moderns fix it on the different velocity of the vibrations of the sonorous body; in which sense gravity may be defined, a relative property of sound, which, with respect to some other, is the effect of a lesser number of vibrations accomplished in the same time, or of vibrations of a longer duration. In which sense also, acuteness is the effect of a greater number of vibrations, or vibrations of a shorter duration.

If the vibrations be isochronous, the sound is called musical, and is said to continue at the same pitch. See CHORD and STRING, in Music.

If two or more sounds be compared in the relation of gravity, &c. they are either equal or unequal, in the degree of tune. Such as are equal, or produced by isochronous vibrations, are called unisons.

The unequal including, as it were, a distance between each other, constitute that we call an interval in music; which is properly the difference, in point of gravity, between two sounds.

Upon this inequality, or difference, does the whole effect depend; and in respect of this it is, that these intervals are divided into concords and discords. See HARMONICS and RATIO.

As the gravity of sounds depends on the thickness, length, and tension, of the strings, or on the length and diameter of the pipes, and, in general, on the volume or mass of the sonorous bodies; the increase of any of these qualities (except tension) augments the gravity of sound. But there is no absolute point of gravity in nature, and no sound is grave or acute, but by comparison.

GRAZIOSO, Ital. Gracieusement, Fr. graceful, are terms in Music, addressed to the performer; but if the composition is devoid of grace, the term can convey no instruction to the performer. It is in vain for the composer to sit down with a resolution to compose a graceful movement; it must come unsought, and insensibly.

Marmontel has defined grace in poetry, grace in attitudes, grace in motion, grace in the arrangement of words in prose, of figures in painting, as a polish, a lacquer, a varnish, a gilding to every human action; without which we may be surprised and entertained, but never perfectly pleased.

No poet, perhaps, abounds in grace and facility so much as Metastasio; for examples, see his cantatas.

Among musical composers, perhaps, none have been more gifted with this charm than Pergolesi, Sacchini, and Cimarosa.

The time of a grazioso movement is nearly the same as andante; smooth, gentle, and inclined to piano; no coarse strokes of the bow on the violin, or dry coupe de langue on the G flute, except, to vary the expression and effect, the composer indicates the contrary.

GREAT Intervals, in Music, signify the same, with Holden and some other writers, as greater and major do with the generality of musicians, and is applied to the intervals marked with Roman capitals, as II, III, V, VI, VII, &c. See GREATER.

GREAT Octave, in Music, is applied by the Germans, according to their tablature, or notation of musical notes, to the octave, or rather septave, beginning with C on the second leger line below the bass stave, and ending with B on the second line, or mi of Guido, and to which they exclusively apply the Roman capitals C, D, E, F, G, A, B. See Dr. Callcott's Musical Grammar, art. 34. See also SMALL Octave, ONCE-MARKED Octave, and TWICE-MARKED Octave.
The object of this tablature is, to enable musical notes to be written or printed without clefs or lines and spaces in a stave.

Editorial note: All the articles GREAT and GREATER are by John Farey Sr.

GREAT Scale, in Music. The late sir Marmaduke Overend, after a life almost spent in researches into the nature and proportion of musical intervals, succeeded, to the satisfaction of Dr. Boyce, his intimate friend, to whom his labours were submitted, in unravelling the mysteries of the Greek scales of music, as he says, in a paper on the great scale, in his quarto manuscripts, vol. ii. page 113 to 133, now in the library of the Royal Institution, which is thus entitled, viz. “All the Greek scales of music combined, with the diatonic intense, extended in the acumen and gravitas, with their remissions and intensions to double flats and double sharps in each; first restored, elucidated, and calculated, by Marmaduke Overend, Islewroth 1779.” In pages 143 to 149 of the same volume of MS. we find also the several ratios of this scale in their least terms, and the indices of the component primes, of one octave of the acumen and the gravitas with the synemmenons, the remissions, &c. This scale, which contains 86 notes within the octave, is a great musical curiosity, which we are sorry that our limits will not admit of inserting: by the notice here taken of it, the curious may resort to the manuscripts themselves for further satisfaction. See Greek SCALE.

GREAT Sixth, Redundant, in Music, or redundant great sixth, according to Holden, is the inversion of the deficient less third of his scales \( \left( \frac{5}{6} \right) \), and has a ratio of \( \frac{7}{12} = 475.94709 \Sigma + 9f + 41m \) in Farey’s notation, its common logarithm being .7659167.9396, its Euler’s log. or decimal of the octave = .7776075, and it contains 43.38868 major commas. This interval does not belong to the received or diatonic system, having the number 7 in its ratio.

GREAT Third, in Music, probable, according to Holden’s new and fanciful system, is the ratio which the mind “probably” conceives (page 371 of his “Essay”) as pertaining to the major third in the common chord minor, and to which he assigns the numbers \( \frac{19}{12} = 206.270982 \Sigma + 4f + 18m \) in the new notation: its common logarithm is .8985423.5924 and that of Euler, .3370350, it also contains 18.80576 major commas; it is far removed from the received or diatonic system of intervals, as involving the prime number 19, and yet it is one of those which result from earl Stanhope’s directions for tuning; it is the lesser equal-beating biequal third of his lordship, see EQUAL BEATING. Mr. Holden, at page 384 of his essay, relates an experiment in which this third proved an “intolerable discord,” which is more than might be expected, from the temperament of rather more than \( \frac{9}{11} \) ths of a comma, which it has.

GREATER Enharmonical diesis. See DIESIS.

GREATER Hexachord. See HEXACHORD.

GREATER, in Music, is applied to distinguish several intervals, whereof there are two of the same name, as greater second, lesser second; greater third; lesser third; &c. Major interval is as often applied to these, and by some few writers they are called great intervals. The semitone or difference between the greater and the lesser intervals of the same names, are not all equal, but of two different magnitudes, viz. the semitone minor \( \left( \frac{4}{15} = 36 \Sigma + f + 3m \right) \), which occurs between the thirds and the sixths major and minor, and the semitone medius \( \left( \frac{128}{135} = 47 \Sigma + f + 4m \right) \), which occurs between the seconds, fourths, fifths, and sevenths, major and minor: the difference of these semitones being the major comma \( \frac{80}{81} = 11 \Sigma + m \).

GREEK Church, Music of the. The schism between the Greek and Roman churches, which happened in the, ninth century, prevented such changes as were made in the Roman ritual, after that period, from being adopted by the Greeks; and the notation used before seems long to have continued in the East. In Russia, however, all the rituals were called in at the beginning of the last century; and a uniform liturgy was established, in which the modern method of writing music was received. But in the Greek isles a notation peculiar to its inhabitants is still in use, which is not only as different from our’s as their alphabet, but totally unlike that in the ancient missals.

In examining the most ancient of these in the Vatican library, which were written in capitals, the first notation which we could discover, consisted chiefly of accents; and when small letters were afterwards used, these accents were only somewhat lengthened. In the tenth and eleventh centuries, they very much
resemble the characters to be found in contemporary Latin missals. However, the melodies in the lower ages became more elaborate, and the notes more numerous than in those of higher antiquity.

St. John Demascenus, who lived in the eighth century, is celebrated by the writers of his life, and by ecclesiastical historians, as the compiler and reformer of chants in the Greek church, in the same manner as St. Gregory in the Roman. And Leo Alattius (De Libris Eccles. Græcorum) under the title “Octœchus” (Octoechos; eight tones), tells us they were composed by J. Damascenus. Zarlin goes still farther, and informs us (Instit. Harm. 4to. parte. cap. viii.) that in the first ages of Christianity the ancient Greek notation by letters having been thrown aside, John Damascenus invented new characters, which he accommodated to the Greek ecclesiastical tones; and that these characters did not, like our’s, merely express single sounds, but all the intervals used in melody; as a semitone, third minor, third major, &c. ascending and descending, with their different duration. This resembles, in many particulars, the notation in the ecclesiastical books of the Roman church, before the time-table, and characters in present use were invented, or, at least, generally received.

The abate Martini of Venice (see “Present State of Music in France and Italy”) having visited the Greek isles in hopes of acquiring such a knowledge of the music practised there at present, as would enable him to judge whether any of the miraculous powers attributed to it by their ancestors still remained, as well as to compare its excellence with that of his own country; and as this learned and sagacious enquirer confided to us his papers on that subject, we shall communicate to our readers a sketch of their contents.

The system of modern Greek notation seems much more complicated and obscure than the ancient. The characters convey nothing to the mind either by their form or names, the greatest part of which cannot be construed; and the rest are construed to no purpose. Their signification, as words, does not point out their meaning as musical characters; and all that we can discover is, that some of them seem descriptive of gesticulations; such as συρανυσια, which, perhaps, directed the priest to look up, or stretch his hands towards heaven. Οταυο, which might direct him to make the sign of the cross, or to carry the cross. Λυγτιμο, flexio, contortio. Indeed, it is said in the papers, that some of these characters are for the χειρουομα, or legerdemain, and not δια φωςη, for the voice. This is the more likely, as the Greek service abounds in gesticulations and manual dexterity.

The abate was informed, that though the oriental Greeks have signs for musical sounds equivalent to our’s, they sing more by tradition than science. However, the distinctions for the duration of sounds, such as our time-table furnishes, are still wanting. The abate procured an extract from a tract upon the music of the modern Greeks, written by Lampadarius; but who he was, or when he lived, no one could inform him. In this it appears, that the characters amount to more than fifty; among which most of the names of those musical terms, given by Du Cange, from a MS. treatise on the ecclesiastical music of the Greeks, are to be found. (Gloss. Med. et Inf. Græcitatis.) Du Cange, who has so amply collected and explained the characters used by the modern Greeks in chemistry, botany, astronomy, and other arts and sciences, is silent as to their musical notation; nor have we been able to acquire any information on that subject, except that with which the abate Martini has supplied us. The title of the treatise by Lampadarius is the following: Τεχνολογια της μουσικης τεχνης. The extract from it, which is in our possession, is too long for insertion here; nor would it be of much use could we allow it room, as no equivalents to the Greek characters are to be found in our own notation. But with respect to the author, we find among the memoranda which we made in the king of Sardinia’s library at Turin, an account of a Greek MS. of the fifteenth century, N. 353. b. 1. 24, in which Lampadarius is often mentioned as author of the music to the hymns and prayers it contains. Fabricius likewise, Bibl. Græc. vol. ii. p. 269, 564, and 586 speaks of a MS. in the Selden collection at Oxford, and another in the Jesuits library at Louvain, in which there are explanations of the notes used by the modern Greeks, and musical compositions by several authors, particularly Lampadarius. In the patriarchal church of Constantinople there are four singers, who are placed on the right and left sides of the choir; the first on the right is called Πρωιοψάλτης, the principal singer; the first on the left Δαματαδαμος, Lampadarius; the two others
who assist the principals are called *domestici*. It is probable that Lampadarius, who flourished about the year 1300, either took his name from the office he filled; or, on account of his eminence in music, that his name was given to the office.

To insert here the musical characters still used in the rituals of the Greek church out of Russia, and endeavour to explain them, will perhaps be conferring but a small favour on our readers; for from the scarcity of music written in such characters, so few will be their opportunities of making use of any knowledge they may acquire by the study of them, that it would be like learning a dead language in which there are no books, or a living language without the hopes of either reading or conversing in it.

Those readers who may be desirous of gratifying themselves in matters of curiosity, may consult Dr. Burney’s History of Music, vol. ii. p. 50, where they will find the fourteen musical characters that occur in the Greek MSS. of the Evangelists, written in capitals during the seventh, eighth, and ninth centuries, though at present they are wholly unintelligible, even to the Greeks themselves. It is observable that the more ancient the MSS. the fewer and more simple are the notes: the “Codex Alexandrinus,” in the British Museum has none; and the Evangelistæ MSS. in the Harleian collection, 5785, 5598, both of the tenth century, have only such as these, which were copied in Greece by the abate Martini.

The “Codex Ephrem,” in the king’s library at Paris, of the fifth century, has likewise the same kind of musical notes, and it is assigned as a reason for the “Codex Alexandrinus” not having them, that it was written for private use, not for the service of the church.

Kircher undertakes to give his reader an idea of modern Greek music and its characters; and has indeed collected a great number of notes and their names, but pretends not to furnish equivalents in the music of the western world. And to insert such barbarous names, and more barbarous characters here without explanation, would no more help to initiate a student in the mysteries of Greek music, than the Hebrew or Chinese alphabet. At the first glance they very much resemble the characters used in Choreography, an art invented about two hundred years ago to delineate the figures and steps of dances.

They are too numerous and complicated to be inserted and explained here; however, we have given the names and correspondent notes in the History of Music, vol. ii. p. 51–52, by the study of which the musical reader will be able to form some idea of the melody which they are intended to express.

There are eight ascending, and six descending characters, some for single sounds, and others for wider intervals, as thirds and fifths, such as Zarlino, in the passage mentioned above, had imagined were invented by J. Damascenus; and all these have their particular *Chironomia*, or signs for the gestures with which the priest is to accompany the inflections of voice.

The beginning, or first note of every chant, is called *Ison*, which is equivalent to the key or tone in which any melody is sung.

Kircher, to whom even Egyptian hieroglyphics are easy, has resolved the names of these Greek notes into Latin. Musurgia, ubi supra.

The abate Martini heard the Greeks, in Passion Week, sing several tropes or modes, which they now term ηχοι, in four parts, in the style of Palestrina: and this kind of music they call Cretan, but why, is not easy to divine, unless they learned counterpoint while the Venetians were masters of the island.

The abate says that he often heard the common people of Greece sing in concert, and observed that they made frequent use of the fourth: “della consonanza che noi chiamiamo oggi quarta.” By this he must mean that they used it as a concord in two parts, or if there were more than two parts, in positions where our harmony forbids the use of it; otherwise it would not have affected his ear as a singularity.

The fact is curious, and we find it confirmed by Zarlino, who observed the same practice in the Greek church at Venice. The fourth, we find, was in such favour during the time of Guido, as to be preferred in discant to every other concord, and thought to constitute the most pleasing harmony. This partiality may probably have arisen from the importance of fourths in the ancient Greek system, and the want of a temperament to render thirds and sixths more agreeable; but the improvements in harmony soon brought it into disgrace in Italy, while, from a contrary cause, it has kept its ground to the present time in Greece, at least among the populace.
And, indeed, even in Italy, it seems to have retained a part of its ancient privileges long after the time of Guido, and when harmony was thought to be in great perfection: for Zarlino says, that Jusquin, and the other old Flemish masters, used it frequently in their compositions: “nella parte grave, senza aggiungerle altro intervallo.”

The present state of Greek music, indeed, does not confirm or favour the opinion of Dr. Brown, who asserts with his usual courage, that, “about four hundred years after Guido, the debauched art once more passed over into Italy from Greece: certain Greeks, who escaped from the taking of Constantinople, brought a refined and enervate species of music to Rome, &c.” As many travellers assert that the modern Greeks have no music in parts, we may suppose, that in those places where it was heard by the abate Martini, it had been brought thither by the Venetians, during the time that they had possessions in the Archipelago.

That the Greek music has undergone many alterations since the ancient treatises that are come down to us were written, is certain from the change and increase of its vocabulary. Bryennius has given, as names of intervals, a list of barbarous terms not to be found in any preceding writer within our knowledge; and in the Greek glossary of Du Cange, and the abate Martini’s papers, a great number occur that are not to be found either in writers of high antiquity, or in Bryennius.

The technical language of the Greeks has always been copious, and in music perhaps its seeming redundance is more conspicuous than in any other art or science. But in other arts and sciences words are representatives of things existing; whereas, in designating the tones and inflexions of voice, which, to realize, require new creation, there can be no correspondence between the type and substance. The colours, the forms, and objects, which a painter wishes to represent, are in nature; and the poet, in all the ebullition of wild enthusiasm and fervid imagination, describes what he has seen and felt, or what is to be seen and felt, and for which common language must supply him with symbols. But it has never entered the thoughts of man to give names to all the minute shades of colour between black and white, or to the gradations by which light is propagated between the time of total darkness and the sun’s meridian. And yet, in a scale of sounds, from the lowest musical note in the human voice to the highest, where octaves are not represented by similar signs and appellatives, the names and characters must be numerous. The lines and clefs of the European music have certainly freed it from many perplexities with which it was embarrassed, even in the artless times of canto fermo.

But however flowery the Greeks may have made their ecclesiastical melody, or however they have multiplied its characters, the desire of permanence in the heads of the western church, with respect to all sacred matters, long kept music in the plain and simple state in which it was left by pope Gregory the Great; for we do not find, till the invention of counterpoint, that it received any material change or improvement. Our own bible and liturgy, if they remain in their present state five or six hundred years, will, perhaps, be unintelligible to the vulgar, though written in the best language of this country when they were introduced into the church. And the Greek and Roman languages, which were so well understood by the primitive Christians, became dead and obsolete by degrees, to all but the learned in after ages. The preclusion of change or innovation in sacred concerns which has occasioned permanence, has likewise been the cause of inelegance and obscurity.

“Peter the Great, like his predecessors, had a particular partiality for the music of the church; maintained his own choir, or singers for divine service, and read publicly in the church the epistles and the hours, which, in that country, is permitted to be done by any layman, who delights in such exercise, as well as by the priests.” (King’s Rites of the Greek Church.)

Many of the kings of France not only sung in the choir, but composed hymns for it, and set them to music. (Laborde.) And we have heard his present majesty, at six o’clock prayers in St. George’s chapel at Windsor, officiate alone as clerk; repeating the responses, and reading the psalms aloud for verse, with the minister, and uttering the amen in the clerical style.

Music has been very much cultivated at Petersburgh in the Imperial chapel and metropolitan church during the last century, as well as in the theatre. And though no instruments are admitted in
the Greek church, any more than in the Sistine or pontifical chapel at Rome, yet every vocal refinement, both in composition and performance, that can with propriety be allowed in ecclesiastical music, has been received in the church service at Petersburg, in the Imperial chapel and cathedral of which capital, near a hundred voices are daily employed; and at Moscow, in several churches, when the sovereign is there, forty or fifty.

The music of the Hymnologia of the Russian ambassador’s chapel in London, is sung to figurative music in three and four parts, distinct from the intonations or canto fermo. It consists of short, elegant, and simple strains or movements in the Italian style, in plain counterpoint, composed to Slavonian words, by Bortnianski, who was sent to Italy, early in life, by the empress Catherine, to study composition.

The taste for good music passed from the theatre to the church. The plain chant of the modern Greeks is different from that of other Christian churches. It is more varied than the Gregorian chant; and that of the hymns rather resembles the figurative music of motets, than canto fermo. The empress Elizabeth, who was well acquainted with the kind of counterpoint à capella, and had great pleasure in uniting her voice with the choir, would never allow the Italian florid song to have admission in the sacred service; but says the Gotha Almannæ, in an abridged history of the music of Russia, 1772, “Italian music has invaded even the Greek church as well as the Roman.” This voice of complaint borders on croaking. We have taken considerable pains to obtain information on the subject, and have heard the service of the Greek church performed in several parts of Europe; and we have been favoured with a score of some of the music in present use in that service, composed by Bortnianski, a native of Petersburg, and find that it is neither so bald and dry as canto fermo, nor so florid and flighty as that of the Italian theatre. It is plain counterpoint, non fugato, in which the words seem well accented, the parts moving altogether; so that there is measure, clearness, tranquil and soothing air, pure harmony, and natural and simple modulation. Nothing vulgar occurs, nor any thing to remind us of the opera house, yet the strains are not without grace or gravity. It seems to excite attention by its sweetness and simplicity, more than by the art of fugue, or extraneous modulation.

GREEK Music, Ancient. We shall here introduce some observations on the subject, extracted from a dissertation written several years ago.

Section I.-Of the Notation or Tablature of Ancient Music, including its Scales, Intervals, Systems and Diagrams.

The music of the ancients, according to Euclid, AlyPius, and Martianus Capella, was divided into seven constituent parts: these were sounds, intervals, systems, genera, modes, mutations, and melopæia, or the composition of melody. To these divisions, which comprehended only what was denominated harmonics, or the science of music, strictly so called, were added five other requisites, no less essential for a musician to know, than the preceding seven: and these were, rhythm, or the regulation of cadences in all kinds of movement; metre, or the measure of verses; organic, or the instrumental art; hypocritic, or gesture; and poetic, or the composition of verses. And still to these divisions, Aristides Quintilianus, and some other musical writers, add odicum, or the art of singing; which, indeed, seems of more importance to music, than either the organic or hypocritic art. In order to communicate to our readers all the information we are able, upon so dark and difficult a subject, we shall consider the music of the ancient Greeks under such heads only as absolutely concern music, according to our acceptation of the word; for it is plain that several of its ancient divisions more immediately belonged to poetry. Indeed these two arts were at first so intimately connected, and so dependant on each other, that rules for poetry were, in general, rules for music, and the properties and effects of both were so much confounded together, that it is extremely difficult to disentangle them.

Leaving, therefore, for the present, all other distinctions, divisions, and sub-divisions, with which ancient musical treatises abound, we shall proceed to fulfil the title of this section.

In the study of modern music, the first objects of enquiry are the names by which the several sounds in the scale are expressed; and, if we regard music as a language, the scale or gammut may be called its alphabet.
Plutarch says, that it is not sufficient for a musician to know what kind of music should be set to any particular poem; he should likewise know how to write it down in all the genera, that is to say, in the diatonic or natural scale, consisting of tones and semitones as at present; in the chromatic, in which the scale was divided into semitones and minor thirds; and in the enharmonic genus moving by quarter tones, and major thirds, as will be explained hereafter.

It does not appear from history, that the Egyptians, Phœnicians, Hebrews, or any ancient people, who cultivated the arts, except the Greeks and Romans, had musical characters; and these had no other symbols of sound than the letters of their alphabet, which likewise served them for arithmetical numbers and chronological dates.

As the notation of the Greeks was imagined in the infancy of the art of music, when the flute had but few holes, and the lyre but few strings, the simplicity of expressing the octave of any sound by the same sign, as in modern music, was not thought of; the most ancient and constant boundary of musical tones having been the diatesseron, or fourth, the extremes of which interval were fixed, though the intermediate sounds were mutable; and in the manner of tuning these consisted the difference of intervals in the several genera.

The Greek scale, in the time of Aristoxenus, the oldest writer upon music, whose works are come down to us, extended to two octaves, and was called systema perfectum, maximum immutatum, the great, the perfect, the immutable system; because its extremities formed a perfect consonance, including all the simple, double direct, and inverted concords, with all the particular systems; and it was the opinion of the ancients that this disdiapason, or double octave, was the greatest interval which could be received in melody.

This whole system was composed of five tetrachords, or different series of four sounds, and one note added at the bottom of the scale to complete the double octave; whence the string which produced this sound was called προσλαμβανομένος, proslambanomenos, or note subjoined to the scale; for though this was constantly the lowest sound in all the modes, it was not included in the tetrachords.

All these sounds had different denominations in the system, like our gammut, A re, B mi, C fa ut, &c. besides two different characters, one vocal, and the other instrumental, appropriated to each sound in the several modes and genera, for the purpose of writing down melodies.

That the fourth was a favourite and important interval in the music of the ancients, is plain from the great system of two octaves having been composed of five of these tetrachords, in the same manner as the scale of Guido is of different hexachords.

The first tetrachord is called by the Greek musicians hypaton, or principal; the sounds of which are denominated:
1. Hypate hypaton, principal of principals;
2. Parypate hypaton, next the principal;
3. Lichanos hypaton, or index of principals; from its having been played with the index or fore-finger.
This third sound of the first tetrachord in the diatonic genus was likewise called hypaton diatonos.

4. Hypate meson, or principal of the middle or mean tetrachord; for this sound not only served as the last or highest note of the first tetrachord, but as the first or lowest of the second; whence these two tetrachords were called conjoint, or connected. These four denominations of the sounds in the first tetrachord may be compared with the terms B mi, C fa ut, D sol re, and E la mi, in the Guido scale; or with the sounds

The sounds of the meson, or middle tetrachord, were placed in the following order:
Hypate meson, or principal of the mean tetrachord;
Parypate meson, next to the middle principal;
Lichanos meson;
Mese, or middle, as this sound completes the second tetrachord, and is the centre of the whole system. The sounds of this tetrachord correspond with those which in the base of the scale of Guido are called E la mi, F fa ut, G sol re ut, and A la mi re, which are equivalent to
The mese in ancient music was of equal importance with the key note in modern music: being an octave above the proslambanomenos, which was the lowest sound of the ancient modes, and a kind of key note to them all.

Euclid calls mese the sound by which all other sounds are regulated. And Aristotle, in his XXXVIth Problem, sect. 19. says that all the tones of a scale are accommodated, or tuned, to the mese. The same author likewise tells us, Problem XX. that all melody, whether it moves above or below the mese, has a natural tendency to that sound.

The third tetrachord, beginning by the last note of the second, was thence called synemmenon, the united, or conjunct tetrachord; the sounds of which proceed in the following order:

Mese;
Trite synemmenon; or third string of this tetrachord from the top;
Paramete synemmenon, penultima of this tetrachord;
Nete synemmenon, last of the synemmenon tetrachord; the four sounds of which correspond with those in the centre of our gammut, that are called A la mi re, B fa, C sol fa ut, and D la sol re, or

After ascending regularly thus far, up to D, by three conjoint tetrachords, the fourth tetrachord in the great system is begun by descending a minor third to B natural, the octave above the first sound of the lowest tetrachord. Something of this dodging kind is to be found in the scale of Guido, divided into hexachords: for, after ascending six notes regularly in the durum herachord, it is necessary to descend a major third, if we would begin the natural hexachord; and when the natural hexachord is completed, if we would begin at the molle it can only be done by a leap of a third below. This will best appear by an example in notes:

It appears from the Greek tetrachords, as well as from this example, that neither the ancients nor the early moderns admitted the sharp seventh of a key into their scales.

The fourth tetrachord, ascending, is called diezeugmenon, disjunct, or separated, as it begins at B natural, which is not a note in common with any one in the other tetrachords. But though this system of four sounds is only an octave higher than that of the first tetrachord, and though the next is but a replicate of the second, we shall present them to the reader, as the several sounds of which they are composed have in the Greek music different denominations.

The first sound of the second octave, or series of eight sounds in the ancient great system, is mese, and the first of the fourth tetrachord begins with the note Paramese near the mese, or middle sound; the next is called

Trite diezeugmenon, or third string of this tetrachord from the top; then follows the paramete diezeugmenon; and lastly, the

Nete diezeugmenon, or final sound of this tetrachord; which includes the sounds B mi, C sol fa ut, D la sol re, and E la mi, in the middle of the Guido scale, or
The ancients used likewise four different monosyllables ending with different vowels, by way of solmisation, for the exercise of the voice in singing; like our mi, fa, sol, la. These were, for the first note of each tetrachord, τᾱ, for the second τη, for the third τω, and for the fourth, if it did not serve as the first of the adjoining and relative tetrachord, τε; but if it began a new tetrachord, it was called by the first name, τᾱ.*

* Editorial note: The second letters in each of the Greek words in this paragraph have a Macron (diacritic) above (―). They are not present in the character set of the font used here with the exception of ᾱ.

The repetition of these monosyllables is a further proof that the fourth in the ancient music served as a boundary to a system of four sounds, in the same manner as a hexachord did in the Guido scale, and as an octave does for eight sounds in the more modern practice.

Any interval between the terms of which one or more sounds intervened, was by the ancients called a system: EG, for example, constituted a system of a third minor; EA, of a fourth; EB, of a fifth, &c.

These smaller systems were of different species; thus there were three kinds of tetrachords, that differed in melody by the position of the semitone, which was sometimes at the beginning, sometimes at the end, and sometimes in the middle; as in the following example, where the black notes are semitone and the white, tones.

As the Greeks used all the four and twenty letters of their alphabet for musical characters, or symbols of sound; and as their most extensive system or scale did not exceed two octaves, or fifteen sounds, it should seem as if their simple alphabet was more than sufficient to express them; for their music being at first only a notation of their poetry, the rhythm, or air, must have been determined by the metre of the verses, without the assistance of signs of proportion peculiar to music. But supposing it was necessary for them to have different characters to express the different feet of the verse, it is certain that vocal music was in no want of them; and instrumental being chiefly vocal music played by instruments, had likewise no need of them, when the words were written, or the player knew them by heart.

However, in order to multiply these characters, the letters of their alphabet were sometimes written in capitals, and sometimes small; some were entire, some mutilated, some doubled, and some lengthened; and besides these distinctions in the form of the letters, they had others of situation, sometimes turning them to the right, sometimes to the left; sometimes inverting, and sometimes placing them horizontally; for instance, the letter gamma, by these expedients, served to express seven different sounds:

Some of the letters were also barred, or accented, in order to change their symbolical import; and these still not sufficing, they made the common grave and acute accents serve as specific musical notes.

It is a matter that has been long disputed among the learned, whether accents were originally musical characters, or marks of prosody. It is in vain to set about determining a question concerning which the proofs on both sides are so numerous. (See Gally and Spelman against accents, and Primatt and Forster in defence of them.) Mr. West is firmly of opinion "that accents were originally musical notes, set over words to direct the several tones and inflexions of the voice, requisite to give the whole sentence its proper harmony and cadence.” (Pind. vol. ii.) And the abbé du Bos, who frequently by a peremptory decision cuts the knot of such difficulties as he is unable to untie, asserts, without sufficient proof, that as poets originally set their own verses, they placed for this purpose a figure, or accent, over each syllable. So that, according to this writer, we are at present not only in possession of the poetry of Homer, Pindar, Anacreon, and Sappho, but their music. Why then do we complain of the total loss of Greek music? (See Reflex. Critique, c. iii. p. 85.) But as music had characters different from accents so early as the time of Terpander, to whom the invention is given by the Oxford Marbles, which place this event about six hundred and seventy years before Christ; and as accents for prosody are likewise proved to be of
high antiquity, it seems as if there could have been no necessity for the ancients to use one for the other. But it has already been remarked that the letters of the alphabet, though turned, distorted, and mutilated, so many different ways, were insufficient to express the sounds of all the modes in the genera; so that recourse was had to accents, as the scale became extended, in order to augment the number of characters. And Alypius, in the enumeration of the notes in the enharmonic genus, tells us, that *trite synemmenon* is represented by *beta* and the acute accent; and *paramete synemmenon enharmonios* by *alpha*, and the grave accent.

This is a proof that the accents were known at the time of Alypius, and were then used chiefly for prosody, not music, for which they were only called in occasionally. Indeed they are mentioned as accentual marks by writers of much higher antiquity than Alypius; for not only Cicero and Plutarch, but Aristotle and Plato, speak of them as merely regarding the elevation and depression of the voice in speech. However, in the early Greek and Roman missals, as will be shewn hereafter, the musical characters used in *canto fermo*, seem to have been only lengthened accents.

These various modifications of letters and accents in the Greek notation composed in all one hundred and twenty different characters, which were still considerably multiplied in practice; for each of these characters serving many purposes in the vocal as well as instrumental tablature or gammut, and being changed and varied according to the different modes and genera, as the names of our notes are changed by different clefs and keys, the one hundred and twenty Greek characters produced one thousand six hundred and twenty notes!

Two rows of these characters were usually placed over the words of a lyric poem; the upper row serving for the voice, and the lower for instruments.

If we had not the testimony of all the Greek writers who have mentioned these characters, for their use and destination, it would be natural to suppose that the double row of different letters placed over each other, and above the words of a poem, were intended to express different parts, with respect to harmony; as with us, in modern music, the treble notes are written over the base, and the first treble over the second; but Alypius, who is extremely minute in his instructions concerning the use of these characters, in all these modes, tells us, in express terms, that the upper line of the notes is for the words, and the lower for the lyre. *Σημεια τα μευ αινω, της λεζεως τα δε κατω της κρουσεως* (Introd. Mus. edit. Meibom. p. 2.) We are told, not only by Alypius, but by Gaudentius, p. 23, that of the two rows of letters used for musical characters, the upper is for the words, that is, *to be sung*, and the under *to be played*. And he afterwards proves them to have been unisons to each other, both by his definitions and by placing them opposite to the same sound in all the scales.

In this author, the notes of the great system of the Lydian mode in the diatonic genus are arranged in the following order:

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Z τ R φ C P M I ε υ Z E β Θ M I
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And these he defines in such a manner as leaves no room to doubt of the identity of their signification.

It is somewhat strange that the notes for the voice in ancient music should be placed above those for the lyre, and consequently further from the words. Meibomius, in his preface, has, however, given a curious reason for this custom, from a fragment of Bacchius, senior: “The upper line of notes is for the poem, the lower for the lyre; because the mouth, which alone gives utterance to the words, is placed by nature above the hands, which produce tones from the instrument.
It is from the indefatigable labour of the learned Meibomius, in his Commentaries upon the ancient Greek musicians, particularly Alypius, that we are able to decypher these characters; which, before his time, had been so altered, corrupted, disfigured, and confounded, by the ignorance or negligence of the transcribers of ancient manuscripts, that they were rendered wholly unintelligible.

With our utmost study, reading, and contemplation, we could reduce the Greek notation to no order, nor ascertain whether it was to be read upwards or downwards. The neglect of these distinctions will introduce an universal scepticism concerning every part of ancient music.

At length, an infallible rule presented itself to us in the works of the great Euclid, who has been regarded for so many ages as the legislator of mathematicians, and whose writings have been their code. In his section of the Canon, p. 37, edit. Meibom, he represents proslambanomenos by the whole string: so that, if any thing concerning ancient music can be made certain, it is, that this whole string represented the lowest sound in the Greek scale, which, in the Hyperborian mode, was equivalent to the note A.

Half the string, Mese, its octave, a,

Third part, Nete diezeugmenon, fifth of the octave, e,

And the fourth part of the string, Nete hyperboleon, the double octave, aa, which include all the concords that the ancients admitted. Eight ninths of the string are allotted to the sound Hypate boreia gravis, which is B in the base, one tone higher than proslambanomenos, or A.

This representation of the whole string and its divisions into harmonic and aliquot parts, must put an end to every doubt concerning the order of the scale, which may have arisen from the inverted application of the words high and low, constantly occurring in all the more ancient and authentic Greek writers on music.

Sect. II. Of the three genera, Diatonic, Chromatic, and Enharmonic. See GENERA, DIATONIC, CHROMATIC, and ENHARMONIC respectively.

Sect. III. — Of Modes. See MODES.

Sect. IV. — Of Mutations. See MUTATIONS.

Sect. V. — Of Melopoeia. See MELOPEIA.

Sect. VIII. — Whether the Ancients had counterpoint or music in parts.

This is a subject which has given birth to many learned disquisitions and disputes; and as it long remained a mere matter of opinion, those who believed, and those who denied the point in question, consequently treated each other with all due polemical acrimony. The champions for antiquity thought themselves involved in the controversy; and whether they were possessed of musical knowledge, or were sensible to the charms of harmony, or not, they determined to regard every man as an enemy to sound literature, who did not subscribe to the articles of their faith.

A poem, called “Le Siècle de Louis le Grand,” written by Charles Perrault, of the Academy of Sci-
ences, and brother to Claude Perrault, the famous physician and architect, occasioned the long and acrimonious dispute between him and Boileau, and soon brought on a general war among the learned throughout Europe, concerning the superiority of the ancients or moderns, with respect to arts, sciences, and literature. This piece was first read by the author at the Academy of Sciences in 1687, and was soon followed by his “Parallele des Anciens et des Modernes.” The notes to Boileau’s translation of Longinus were intended as a reply to Perrault, and are full of bitter invectives, not only against him, but the moderns in general. Racine, La Bruyere, and Fontenelle, took sides in the quarrel, which in France was kept alive, with great animosity, for near thirty years.

In England, the controversy between Sir William Temple and Mr. Wooton, Mr. Boyle and Dr. Bentley, and Swift’s “Battle of the Books,” were consequences of this quarrel.

Those who had written ex proffeso on music, had frequently differed in their opinions concerning counterpoint having been known by the ancients, previous to the learned, in general, interesting themselves in the dispute; and before we give our own opinion, as an individual, it is incumbent on us, as an historian, to inform our readers, who were the principal champions on both sides. Would it not render our article too long, the reasons assigned by each for seizing his sword, that is, his pen, in the quarrel, should likewise have a place here. But our limits will only allow us to say, that the most eminent defenders of ancient harmony in our sense of the word, are Gaffurio Zarlino, Gio Battista Doni, Isaac Vossius, Zaccharia Tevo, the abbé Fraguier, and Mr. Stillingfleet, author of “Principles and Power of Harmony.”

Their opponents are Glarianus, Salinas, the cavalier Hercules Bottrigari of Bologna, Artusi, Cerone, Kepler, Mersennus, Marsilius Ficinus, Kircher, Claude Perrault, and the late elegant and learned poet Mr. Mason, who had studied modern music, and has left his decided opinion against the ancient Greeks having cultivated counterpoint. (Hist. Mus. vol. i. p. 125.) To these we may add Bontempi, the first Italian musical historian, the learned Dr. Wallis, M. Burette, who has explored the subject, and considered it in all its ramifications. Padri Martini of Bologna, a learned and diligent inquirer, has given a specimen (Stor della Mus. t. i. p. 174.) of such meagre counterpoint as was likely to have been produced without the use of imperfect concords, which the Greeks termed discords. The late shrewd and penetrating critic J. J. Rousseau is very explicit upon this subject in his “Musical Dictionary,” at the article Counterpoint, which he terminates by saying, “It has long been disputed whether the ancients knew counterpoint; but it clearly appears from the remains of their music and writings, especially the rules of practice, in the third book of Aristoxenus, that they never had the least idea of it.”

After this list of the most respectable writers on both sides of this long disputed question, it now remains to tell the reader ingenuously our own sentiments: and to confess the truth, we will venture to say, that we do not believe the ancients ever did use simultaneous harmony, that is, music in different parts; for without thirds and sixths it must have been insipid; and with them, the combination of many sounds and melodies moving by different intervals, and in different times, would have occasioned a confusion, which the respect that the Greeks had for their language and poetry would not suffer them to tolerate.

Sect. IX.— Of the Dramatic Music of the Ancients.

See DRAMATIC Music.

The Greek dramas consisted of soliloquy, dialogue, and chorus, and it has naturally been supposed, that these were sung to different kinds of music. Soliloquies full of sentiment and passion had probably a different, more elaborate, and refined melody, than the dialogues; but the chorus must necessarily be set to measured music, or the performers, if left ad libitum, could never have kept together.

Sect. X.—Of the effects attributed to the music of the ancients.

Materials for this part of our dissertation are so numerous, that if we were only to present the reader with all the stories that have been related by the most grave and respectable historians and philosophers of Greece and Rome, concerning the moral, medicinal, and supernatural powers of ancient music, this section would be as full of the miracles of musicians, as the “Golden Legend” is of those operated by the saints. The credulous and exclusive ad-
mirers of antiquity have, however, so long read and reverenced all these narrations, that they are impressed by them with an extravagant idea of the excellence of ancient music, which they are very unwilling to relinquish; and yet, after a most careful investigation of the subject, and a minute analysis of this music, by examining its constituent parts, we have not been able to discover that it was superior to the modern in any other respects than its simplicity, and strict adherence to metrical feet, when applied to poetry. For, as music, considered abstractedly, it appears to have been much inferior to the modern, in the two great and essential parts of the art, *melody* and *harmony*.

We have considered the marvellous effects ascribed to ancient music, under three several heads:

First, in softening the manners, promoting civilization, and humanizing men, naturally savage and barbarous.

Secondly, its effects in exciting, or repressing the passions:

And thirdly, its medicinal power, in curing diseases.

And we think, that the whole may be constructed into poetical fables, allegories, and vulgar errors. Many strange stories of the power of music over man and beast have gained admission into books, even in this philosophical and unbelieving age, at which posterity will doubtless stare!

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GROUND *Base*, a term in *Music*, for a few bars, or notes, repeated in the base as a foundation to different trebles: such were the sounds upon which the *Chaconne* was usually built, during the 17th and part of the 18th century. See STRADELLA and PURCELL.

GRUPPO, or SHAKE, in *Music*, was introduced into England by a gentleman who learned it of the famous Scipione del Palla, in Italy. It consists in the alternate prolation of two tones in juxta-position to each other, with a close on the note immediately beneath the lower of them. This is the chief grace both in vocal and instrumental performances.

GUITARRA, Spanish; Guitarre, Fr; Chitarra, Ital; Guitar, Engl. all derived from *Cithara*, which see.

The Spanish guitarra is of a much larger size than the chitarra of Italy, or the guitarres used in France or England. It is strung with bowel-strings, and in form, it seems to have been constructed on a section of a pumpkin or gourd, to which is adjusted a belly at the upper part of the body of the instrument. It has ten frets, dividing each string into semitones: of these the tension must be extremely tight round the neck, for fear of their giving way.

The strings are fastened to a bridge fixed to the lower part of the belly, and supported by a nut at the end of the neck. The strings are governed by pegs or metal pins at the back of the neck. The instrument had at first but four strings, which have since been increased to five double strings, of which the three first are tuned unisons, and the fourth and fifth octaves to each other. Sometimes the fifth string has no octave lest it should overpower the rest; and the first string is so often false that it is frequently played single.

This instrument is tuned and played so many different ways, that it must be strung according to the pitch and tuning. In compass it is two octaves and a fifth, from A in the first space in the base, to E in the fourth space in the treble.
The tuning, like that of the lute is entirely by fourths, except one major third: A D G B E.

The tablature of the guitar in Spain and Portugal is still the same as that of the lute; but in most other countries, its notation is the same as for the harp or pianoforte.

In the ancient tablature, letters of the alphabet, or ciphers, are used for the melody and accompaniment. This method, though ancient, is preserved for the convenience and carriage of the hand, the arrangement of the fingers, the clearness of the tone, the harmony and facility of execution as the harpsichord or pianoforte, it is hardly possible to find the positions of the hand with sufficient readiness.

In France they use the first eleven letters of the alphabet, from a to l upon each string for the ten frets, which produce eleven semitones, setting off from the open string at the nut, that is, without touching the string with the finger, which is expressed by an a; the first fret by a b, and the others successively.

Other signs are also used for the fingers of the two hands; that of the left-hand, which is occupied with every part of the neck, is semi-circular, thus ꕞ, when the notes must be played smooth in passing from note to note, descending; and the contrary 𝑘, when the notes are to be played smooth in ascending. This is done by letting the fingers fall on the strings with spirit and force; so if this instrument is not studied as much that the first touch of the string by the end of the finger shall produce the sound.

The wavering unsteady and plaintive tone, produced by the pressure of the finger, for the continuance of the tone, resembles what is called a close shake on the violin: the shakes, beats, and shifts to form a moveable nut from fret to fret, will require long practice.

Of the Strings. – The choice of strings requires great care, for their size, proportions, and truth, especially for the unisons, of which, if either is false, they never can be tuned.

The silvered, or whipped strings, have two inconveniences: the one is of wearing out and cutting the frets: the other still greater, of overpowering the other strings, particularly in sweeping the chords. There are indeed chords in which they have a good effect, when they give the fundamental base; but as that does not happen very frequently, the silvered strings must be touched very gently.

The following representation of the neck of the large Spanish guitar will shew how the instrument is tuned.
Observations on the Representation of the Neck or Finger-board of the Guitar. – The names of the notes are written on the neck, at the place over which the fingers are to fall, the nearest to the fret possible, but never above the fret. No finger must be near the nut marked $a$, because the tone of the open string begins there, and it is by the open strings that the instrument is tuned.

In the progression of the octave, by half notes, no flats appear in the scale given, sharps only being marked to avoid confusion; but those sharps would be flats in other keys: beginning, for example, at $B^\flat$, and mounting by half-notes, no sharps would be wanted.

As to the form of the letters used as representatives of notes, they are Gothic, particularly 6 and Г and the long letters lean a little to prevent their mixing with each other. This notation is very ancient, and the same as that of the lute, 2 or 300 years ago. See MACE. See Plates VII, and IX, on Music.

This guitar is superior in tone, expression, and power, to the common guitar strung with wire.

About 45 years ago, soon after the conspiracy at Lisbon, of Malagrida and others, a Portuguese gentleman, or musician, with the appearance of a gentleman, of the name of Menesis, probably involved in the plot, resided some time in London, seemingly as a man of fashion, who performed in a very superior manner on the large Spanish guitar strung with catgut or bowel-strings. He was so great a master of the instrument, and so able a musician, that he played voluntaries upon it in the same full and learned manner of a great performer on the organ; led off subjects, pursued them in three and four parts with science and fancy through all the keys of legal modulation; and in slow movements, his taste and expression were equally admirable with the learned and masterly effusions of his allegros.

This is not a traditional account, for we were so fortunate ourselves, as to hear him perform at lord Eglington’s with lord Kelley, Bach, and Abel, all good judges and severe critics.

The common guitar used in England has frequently had fits of favour in this country. About 50 years ago, its vogue was so great among all ranks of people, as nearly to break all the harpsichord and spinet makers, and indeed the harpsichord masters themselves. All the ladies disposed of their harpsichords at auction for one-third of their price, or exchanged them for guitars; till old Kirkman, the harpsichord maker, after almost ruining himself with buying in his instruments, for better times, purchased likewise some cheap guitars and made a present of several to girls in milliners’ shops, and to ballad singers, in the streets, whom he had taught to accompany themselves, with a few chords and triplets, which soon made the ladies ashamed of their frivolous and vulgar taste, and return to the harpsichord.

But during the guitar paroxysm, not a song or ballad was printed, without its being transposed, and set for that instrument, at the bottom of the page; as in the beginning of the last century was done for the common flute. The old tablature, however, was thrown aside, and the same notation adopted for the guitar as for other instruments; but confined to the key of $C$ natural, except by Marella, a good player on the instrument, and not a bad composer, who tuned and taught the guitar in the key of $A$ major.

It is difficult to trace the origin of the guitar. The rest of Europe had it from the Spaniards, to whom it was probably brought by the Moors. It is, however, the general opinion in Spain, that it is as ancient as the harp. Either through respect for this opinion, or from the sweet reverie which it inspires, being congenial with the national, tender, gallant, discreet, and melancholy character; whether, in short, the silence of the beautiful nights in Spain, when the inhabitants are most alert and active, is most favourable to its mild and dulcet harmony, we know not: but it is established there as a national instrument. It has had the same success among the Portuguese and the Italians; and seems to have been at all times the favourite instrument of warm climates; it is so portable, and graceful of carriage, that serenaders, nocturnal revellers, and day-break lowerers, prefer it to all other tuneful interpreters of passion.
The Portuguese having lost a battle, 14,000 guitars were found on the field of battle. Menagiana.

The tone of this instrument is so soft and solemn, that the most profound silence is necessary for its refinements and delicacy to be enjoyed. Only the coarser part of the instrument can be heard through the least noise. It is made to be heard alone, or with a voice. It is unfit for a concert, and has therefore given way to the lute and theorbo, as these have since done to more powerful instruments.

In France, some lovers of music revived, a few years ago, the passion for this instrument, which was in great vogue there in Louis XIVth’s time: and was a very sociable companion of French vaudevilles, pastorals, and brunettes, of which, says M. Laborde, it augments the charms.

HÆRLEM.

*Editorial note: The article is concluded by Burney’s account of the organ there.*

This city is rendered interesting to lovers of music by the fame of its organ in the great church.

In order to hear and examine which, we, thirty years ago, expressly visited that city. Expectation, however, when raised very high, is not only apt to surpass probability, but possibility. Whether imaginary excellence diminished the real, on this occasion, we know not, but we were somewhat disappointed upon hearing this instrument. In the first place, the person who plays it is not so great a performer as he imagines: and in the next, though the number of stops amounts to sixty, the variety they afford is by no means equal to what might be expected. As to the *vox humana*, which is so celebrated, it does not at all resemble a human voice, though a very good stop of the kind; but the world is very apt to be imposed upon by names; the instant a common hearer is told that an organist is playing upon a stop which resembles the human voice, he supposes it to be very fine, and never enquires into the propriety of the name, or exactness of the imitation. However, with respect to our own feelings, we must confess that of all the stops which we have yet heard, that have been honoured with the appellation of *vox humana*, no one in the treble part has ever reminded us of any thing human, so much as the cracked voice of an old woman of ninety, or, in the lower parts, of Punch singing through a comb.

As this organ is not only said to be the largest, but the best in Europe, that is, in the world, we shall in the article ORGAN give a list of the stops which it contains, with equivalent English names, to such as are used in our country, and short explanations of the rest.

This instrument has sixty stops, two tremulants, two couplings, or springs of communication, four separations or valves to close the wind-chest of a whole set of keys, in case of a cipher, and twelve pair of bellows.

Upon the whole, it is a stupendous structure, though we think that given to the new church at Hamburgh is larger, and that of the old kirk, in Amsterdam, better toned; but all these enormous machines seem loaded with useless stops, or such as only contribute to augment noise, and to stiffen the touch.

HALF-NOTE, in Music,

*Editorial note: All the following scientific articles on HALF-NOTE are by John Farey Sr.*

[This is] the elementary minor second of the Iso- tonic, or equal temperament system, the mean semitone of Sauveur, is \( \frac{11}{12} \) th part of the octave, or \( 1 + \frac{\sqrt{2}}{12} = 51.003275 \Sigma + f + 4 m \), or \( 51 \Sigma + f + 4 \frac{5}{12} m \); whose common logarithm is .9749141.6703, and binary or Euler’s log. = .083333 = 4.64980 major COM- MAS.

HALF-NOTE, or semitone of the finger-key intervals, are the intervals between the next adjacent notes of a common keyed instrument; these are not only unequal among themselves in any proposed system of temperament, but they differ also in value or magnitude in every different system of tuning. The second term, or \( f \) in Mr. Farey’s notation, always shews to what finger-key a note, forming any interval above C, is to be referred, as observed in the article FINGER-KEYED Intervals; see also TEMPERA- MENT.

HALF-NOTE, Greater, of Holden, is the hemitone or semitone major, whose ratio is \( \frac{11}{15} = 57 \Sigma + f + 5 m \). See SEMITONE Major.

HALF-NOTE, Lesser, of Holden, is the semitone minor, \( \frac{24}{25} = 36 \Sigma + f + 3 m \).
HALF-TONE, in Music.

Editorial note: All the following scientific articles on HALF-TONE are by John Farey Sr.

[HALF-TONE], or hemitone of the ancients, an interval whose ratio is \( \frac{243}{256} = 46 \Sigma + f + 4 m \), or the LIMMA. See that article.

HALF-TONE, hemitone, or chromatic toniaëum of Aristoxenus and Holden, half the tone major, \( = 2\sqrt[3]{2} \cdot 3 = 52.003932 \Sigma + f + 4 m \), or 52 \( \Sigma + f + 4 \frac{1}{2} m \); whose common logarithm is .9744237,3877, and its Euler’s log. = .084962, such being its decimal relation to the octave 1. It is 4.740705 major commas.

HALF-TONE, Mean, or half-tone of Dr. Smith (Harmonics, p. 204. second edit.), one fourth of the major third, \( = \sqrt[4]{2} \cdot \sqrt[5]{5} = 49.251966 \Sigma + f + 4 m \), or 49\(\frac{1}{4} \Sigma + f + 4 \frac{1}{4} m \); whose common logarithm is .9757724,9675, and its binary log. or decimal of the octave = .080482, and it contains 4.490705 major commas, or \( c \) less than the last. See NOTE and TONE.

HAMBURGH

Editorial note: The article proper is concluded by Burney’s account of music there:

Hamburg has long been remarkably active in the cultivation of musical dramas or operas, and it seems by Mattheson’s list of them, in his Musical Patriot, that the operas performed there, during the latter end of the 17th century, and the beginning of the last, exceeded in number those of every other city in the German empire.

The first musical drama to be found in the annals of the Hamburgh stage, is “Orontes,” set by the chapel-master, Theil, 1678; but this, and most of the operas performed here till the beginning of the present century, were in the German language.

The compositions of Keiser, Mattheson, Handel, and Telemann, who all began their career in this city, are the most renowned. See the biographical articles for these composers, in their several places.

A list of the numerous operas that were performed at Hamburg after 1678, is recorded in Marpurg’s Historical and Critical Essays on Musical subjects.

The principal composers of these early attempts at operas, during the latter part of the 17th century, were Strunck, Franck, Förtsch, Conradi, and Cousser, who afterwards came to England, where he obtained the place of composer and master of the state band of music in Ireland. In 1694, Keiser, Brender, and Krieger began to compose for the Hamburgh theatre, and in 1696 the operas of the celebrated Abate Steffani, which he had set in Italian for the court of Hanover, began to be translated and performed in the German language at Hamburgh, except the airs, which were usually sung in Italian. This custom prevailed in several parts of Germany so late as the year 1733, when Graun set his opera of “Pharao,” the “Gianguir” of Apostolo Zeno, for the theatre at Brunswic, of which only the recitatives were translated into German, while the airs were set and sung in their original language.

In the beginning of the last century, according to Riccoboni, (General Hist, of the Stage,) the performers in the German operas at Hamburgh “were all tradesmen or handicrafts; when your shoe-maker was often the first performer on the stage; and you might have bought fruit and sweet-meats of the same girls whom the night before you saw in the character of Armida or Semiramis.” This may, perhaps, have been literally true in the infancy of the musical drama in that city; and even later, some of the under-characters may have been filled in the manner mentioned by Riccoboni: but afterwards, it is known that Mattheson was many years a performer in those operas; and the celebrated composer Hasse, before he went to Italy, was a tenor singer on the Hamburgh stage, in the operas of Keiser. Life of Graun.

The celebrated Telemann, who succeeded Keiser as music director in 1739, and died in 1767, in the 86th year of his age, was succeeded by the admirable Carl. Phil. Emanuel Bach, the greatest musician of his time, who died at above 80, in 1788.

HAND, harmonical, in Music, used by old writers on the elements of the art, for the ancient diagram; or scale of music, marking the solmisation on the joints of the fingers of the left hand. See Music PLATES.

It has been supposed that this was Guido’s method of teaching the boys of his convent to sing. But no proof can be found, in the writings of Guido, that the harmonic hand was of his construction; writers however mention it by the name of the Guidonian hand, soon after his time. And, when his sys-
tem was digested, and the hexachords were arranged, to teach the names of notes by the joints of the fingers of the left hand seems to have been a common expedient; in which, however, the syllabic names of the notes do not follow in an order sufficiently regular or remarkable to be of much use in forming the hexachords, or discriminating the mutations. Such an expedient would have been more clear and useful in teaching the tetrachords, by appropriating a finger to each of the five, in the great system, or disdiapason of the Greeks. And by imagining the five fingers of each hand to represent the five lines and spaces of the base and treble clefs, children may likewise be taught to name the notes in the scale much sooner than solmisation by the harmonic hand. Henry Faber has arranged the notes in the harmonic, or Guidonian hand, in a better manner than any, other author within our knowledge, by placing a clef at the top of the three middle fingers, as beacons or landmarks, and making each finger the representative of a tetrachord. D'Avella exhibits a great number of harmonic hands, in which the notes of the scale are differently disposed; one of the hands, we know not why, he calls Bœthian, another he gives to Plato, and a third to Aristotle. See HEXACHORDS, SOLMISATION, and D'AVELLA.

HARMATIAN, or CHARIOT AIR, composed by the first Phrygian Olympus. According to Hesychius this air had the title of Ἀρματιος υομος', from its imitating the rapid motion of a chariot wheel; or, from its fire and spirit, being proper to animate the horses that draw the chariot, during battle.

HARMONIA, Lat. Harmony, in Music, the coincidence, or agreeable unison or mixture of two or more notes or sounds.

Editorial note: All the following scientific articles on HARMONY, HARMONICS etc are by John Farey Sr.

HARMONICÆ, in music, an interval which, according to m. Hensling, has a ratio of \(\frac{125}{128} = 21 \Sigma + 2 m\), and is the Enharmonic DIESIS, which see

HARMONICA, a term given by the ancients to that part of music, which considers the ratio or proportion of sound to sound. See HARMONICS.

HARMONICA Regula. (See MONOCHORD.)

That excellent organist and worthy man, the late Mr. Keeble, coadjutor with Roseingrave, as organist of St. George’s, Hanover square, bewildered himself many years in the study of the harmonica.

He does not seem, however, to have discovered with all his long and intense study, what others have clearly demonstrated; that by harmony the ancients mean precisely what the moderns imply by melody. The late Mr. Mason, who being a good musician, alla moderna, and, probably, much better acquainted with Greek literature than Mr. Keeble, has defined the harmony of the ancients in the following manner.

Musical Definitions.

Harmony of the Ancients.

The succession of simple sounds, according to their scale, with respect to acuteness or gravity.

Melody.

The succession of these harmonical sounds, according to the laws of rhythm or metre; or, in other words, according to time, measure, and cadence.

Harmony of the Moderns.

The succession of combined sounds or chords, according to the laws of counterpoint.

Melody.

What the ancients meant by harmony; rhythm and metre being excluded.

Air.

What the ancients understood by melody.

According to these definitions, it appears that harmony, as we call it, was unknown to the ancients; that they used that term as we use simple melody, when we speak of it as a thing distinguished from modulated air; and that their term melody was applied to what we call air or song. If this be true, much of the difficulty in understanding ancient musical writers will vanish.

"If an ancient Tibicen used an improper tone or semitone, or transgressed the rule of the mode or key in which he was playing, he committed an error in harmony, yet his melody might have been perfect with respect to the laws of rhythm and measure. We should rather say of a modern musician, in the same instance, that “he sung or played wrong notes, or was out of tune, yet kept his time.” Whoever made this distinction, would have been allowed by the ancients to possess a good harmonical ear, though the moderns would call it an ear for melody or intonation. We put this familiar instance only to make the difference of the definitions more clear.”
We should call an instrument out of tune inharmonious, though the intervals are nearly right.

By harmony and harmonics, the Greeks implied nothing more than that proportion of sound to sound which mathematicians term ratio, or, in common language, musical tones that succeed each other agreeably. As ancient harmony was the succession of single sound, modern harmony is the succession of chords.

Whether the diatonic scale was originally the work of nature or art, we shall not here attempt to convince our readers: but in Europe, it is now what every infant hears in the nursery, and afterwards in the church and the street, so constantly, that a psalm-tune or ballad, sung in such strange scales or genera as Mr. Keeble recommends to our study and revival, would give an uneasy sensation to the most ignorant clown in a country village, to whom nature has given a discriminating ear. By a great parade of Greek terms and ratios, Mr. Keeble has rendered what good writers had made tolerably plain and intelligible to common sense and common readers, obscure, repulsive, and unintelligible. All these are modern ideas, and indeed the whole book is built on modern principles, with ancient names and technical terms.

By the harmonica, the subject of the late Mr. Keeble’s book, is meant nothing more than the ratio of musical sounds, a la Grec, as Dr. Smith’s harmonics is that of the moderns. Mr. Keeble, among all his boasts of discoveries in ancient music, which had eluded all the inquiries and calculations of the greatest philosophers and mathematicians, has revealed nothing useful to modern music, or luminous concerning the ancient. The section of the harmonic canon, or division of the monochord, according to Euclid, has so often been treated by modern theorists, from Galileo’s time to the present, without improving composition or assisting the practical student upon any instrument. As a matter of speculation, and from an ambition of passing for men of science, few musicians write on the elements of their art without a parade of ratios, which they copy out of other books, without being able to judge of their accuracy, or to explain them to their readers. Even the profound Dr. Pepusch was obliged to get Demoivre and G. Lewis Scot to calculate for him, who laughed at his pretensions to mathematical knowledge, when he delivered his paper on the genera of the Greeks to the Royal Society. See VIBRATIONS, SONS HARMONIQUES, PYTHAGORUS, and EUCLID.

HARMONIC ELEMENTS, or Concordant Elements, are the minor third, (3d) whose ratio is \( \frac{5}{6} \), = 161 \( \Sigma + 3 f + 14 m \) the major third (IIId) whose ratio is \( \frac{8}{5} \), = 197 \( \Sigma + 4 f + 17 m \), and the minor fourth (4th), whose ratio is \( \frac{3}{4} \), = 254 \( \Sigma + 5 f + 22 m \); since each one of these singly is harmonious or concord, and every addition of them in pairs is the same as 3d + III = V, the fifth; 3d + 4th = 6th, the minor sixth; and III + 4th = VI, the major sixth; while the sum of these three elements, or -3d +III + 4th = VIII, the octave, is so perfect a concord, that it may be added any number of times to itself, or to each of the six other concords above named, and still produce concords: and what confirms the character of these as the concordant elements is, that there are no other accords of two sounds which are agreeable to the ear than those produced as above, as will be plain from col. 2. of the table in our article CONCORD.

HARMONIC Genus. The ancients often gave this title to the genus commonly styled the Enharmonic Genus. See ENHARMONIC.

HARMONIC Sliders.

Editorial note: A scientific article by John Farey Sr.

[These] are a contrivance by Dr. Thomas Young, lecturer at the Royal Institution, and described in its “Journal,” (as also in Nicholson’s Journal, 8vo. iv. p. 101), for explaining his ideas of the coalescence of sounds, and the combinations of motion which take place in various cases of the junction of undulations, as of the tides of the ocean, &c. These harmonic sliders consist of a great number of short rods of wood, of the same breadth and thickness, but of different lengths, sliding easily side by side in a long mortice, in a piece of wood, having a thumb-screw at its end for clamping or fixing all the sliders fast, on occasion: the lengths of the several sliders in each of the several mortice frames, are adapted to the ordinates of several regular undulating curves, like the figure of sines almost. A number of solid pieces of wood are wrought on the top into planes, having similar undulating curves: and by placing the sliders
on these curves, and loosening the thumb-screw, so that every slider may rest on the curve below, the tops of these sliders form a new curve, exhibiting the sum of the ordinates of the curves to which the sliders are cut, and the wood on which they rest, above the plane of its bottom.

By making the fixed surface terminate in a series of similar curves, that bear to those of the sliding surface, the ratio of two musical sounds, and such ratio but small: “the phenomenon of the beating of an imperfect unison in music may be imitated, where the joint undulation becomes alternately re-doubled and evanescent.” A figure is given, in which “the proportion is that of 17 to 18, and the curvilinear outline represents the progress of the joint sound, from the greatest degree of intensity to the least.” The ratio here given $\frac{17}{18}$ is equal in Mr. Farey’s Notation to $50.46033 \Sigma + f + 4 m$, being but a trifle less than the half-tone of the equal temperament scale, and therefore as ill adapted to represent an imperfect unison, as the figure alluded to is to convey an idea of a beating unison, or, indeed, that of any other consonance; and we are somewhat surprised, that Mr. John Gough, who so ably and successfully combatted the doctor’s theory, of which this is a branch, in this and the preceding volume of Mr. Nicholson’s Journal, did not animadvert on the very extraordinary assumptions made in this account of the harmonic sliders.

HARMONICAL, belonging to harmony, as harmonical divisions of the monochord, harmonical proportion, harmonical canon, &c.

HARMONICAL Arithmetic, is so much of the theory and doctrine of numbers as relates to making the comparisons, reductions, &c. of musical intervals, which are expressed by numbers, in order to our finding their mutual relations, compositions, and resolutions.

HARMONICAL Composition, in its general sense, includes the composition both of harmony and melody; i.e. of music, or songs, both in a single part, and in several parts.

In its more proper and limited sense, harmonical composition is restrained to that of harmony. In which sense it may be defined, the art of disposing and concerting several single parts together, in such manner as to make one agreeable whole.

The art of harmony has been long known under the name of counterpoint.

At the time when parts were first introduced, music being then very simple, there were no different notes of time; and the parts were in every note made concord. This they afterwards made simple, or plain counterpoint, to distinguish it from another kind, then introduced, wherein notes of different value were introduced, and discords brought in between the parts.

This they called figurative counterpoint.

HARMONICAL, Sounds, or Sons Harmoniques. See SON and SOUND.

HARMONICS. All the concomitant or accessory sounds, which, on the principle of resonance, accompany every single sound, and render it perceptible, are thus called. And thus all the aliquot parts of a string produce harmonics. This substantive is masculine when sound is understood; and feminine when the word chord, or string, is in question.

HARMONICS, Experiments in. See NOTE-FLUTEE. The effects of different tunings, beats of unisons and octaves on the violin, all the strings struck at once on the guitar, and monochord tuned and divided harmonically, seem a unison, like a single key on the full organ.

The term. Harmonics generally implies the theory of sound; the division of the monochord into harmonic intervals, by mensuration, or ratios, including concords, discords, and temperament.

But the harmonics of which we have now to speak, are the sounds generated by a single grave tone, either of a great bell or string of an instrument. Small bells and strings have doubtless their harmonics; but they are too acute for our perception and appreciation.

It is now well known, that any single deep musical tone, such as the 3d or 4th string of a violoncello, soon after it is caused to sound, produces, besides the tone of the whole string, its octave, 12th, 15th, 17th, 19th, and faintly, the 21st, which, by contraction, for the convenience of our hands on keyed-instruments, we form into a common chord, or 3d, 5th, and 8th, the most pleasing combination of musical sounds in our system of harmony. By nice observation it was discovered in the 17th century, by Galileo, that a string, when caused to vibrate by a quill, a hammer, or a bow, divided itself into all the
above proportions, by a kind of magic knots or bridges: that half the string produced the octave of the whole; the 3d part of the string, the 5th of the octave; the 4th part, the double octave of the whole; the 5th part, the 17th, or major 3d to the double octave; the 6th part, the double octave of the 5th, or minor 3d to the 17th, or major 3d; the 7th part of the string, when we hear it sound, is the flat 7th to the double octave of the whole string. Mathematicians express these proportions by ratios, thus: acute, $\frac{1}{1} \cdot \frac{1}{2} \cdot \frac{2}{3} \cdot \frac{3}{4} \cdot \frac{4}{5} \cdot \frac{5}{6}$; grave, $\frac{1}{1} \cdot \frac{1}{2} \cdot \frac{2}{3} \cdot \frac{3}{4} \cdot \frac{4}{5} \cdot \frac{5}{6}$.

And by these figures are expressed, not only the several divisions of the string, or monochord into harmonical proportions, but the proportional number of vibrations which each of these several consonances makes, compared with the rest.

If we produce a deep tone from a great bell, or the 4th string of a violoncello, we hear, besides the principal sound and its octave, two other very acute sounds, one of which is the 12th above the principal, or octave of the 5th, and the other the major 17th, or double octave of the sharp 3d. The principal sound is called the generator, and the two other sounds which it engenders, its harmonics, including the octave. See GENERATOR.

Rameau, who has built his system of la Basse Fondamentale upon these harmonics, has no other natural foundation for the minor mode than reversing the sounds produced above a given generator, and seeking below it what indications he could find in nature for a chord with a flat 3d; and he discovered that the 12th and 17th major below a given sound, below C for instance, though they did not sound, like the harmonics above a grave tone, vibrated very visibly, and divided themselves by a kind of undulation, one into three, and the other into five equal parts; whence he drew this conclusion, that these vibrating silent strings pointed out the chord -minor of F, thus:

\[ \text{which sounds approximated, would form the following chord} \]

Though d'Alembert seemed satisfied with this origin of the minor mode, when he published the first edition of his “Elements,” mathematicians were offended at the author. Rameau, qualifying a tract in explanation of his system, “Demonstration du Principe de l'Harmonie,” and the great geometrician, Daniel Bernouilli, attacked d'Alembert himself, in the Mémoires de l'Académie de Berlin, in 1753, on the subject. See BASSE FONDAMENTALE. See also the next articles.

HARMONICS, Acute, are the shrill, high, or very acute sounds which, like the grave harmonics of two sounds described below, are observed to accompany a single deep or grave note, in most instances; particularly in bells, some of which give their harmonics, particularly the XIIth, almost as strong as the fundamental; and by attending more carefully to the thing, if one of the best sounding strings of the base of a piano-forte be struck, we can hear the XIIth very plainly, as the sound is dying away, and the XVIIth is the last sound that dies away on the ears. Daniel Bernouilli seems to have been the first person who discovered the cause of the acute harmonics, to which he was led, from contemplating and extending the application of the harmonic curve discovered.
by Dr. Taylor, viz. that a musical string, or the elastic column of air in a pipe, at the same time that its whole length is vibrating to the fun damental, is capable and disposed to have its two halves, each forming subordinate vibrations to the octave, its three aliquot parts, each to vibrate to the main twelfth, its quarters to the double octave, its five aliquot parts each to the major seventeenth, &c.; but for want of a proper apparatus, Bernouilli was unable to produce these acute harmonics experimentally. The late Dr. Robinson, being possessed of a curious wheel monochord, made by the ingenious Mr. Watt about the year 1765, which instrument we have already mentioned in our article Concord, in experimenting upon it, some years afterwards, found that when the string was kept in a state of simple vibration, by a very uniform and gentle motion of the wheel, if its middle point was then gently touched with a quill, this point immediately stopped, but the string continued to vibrate in two parts, sounding the octave. And this it continued to do, however strong the vibrations were rendered afterwards, by increasing the pressure and velocity of the wheel. The same thing happened if the string was gently touched at one third. It instantly divided itself into three parts, with two nodes, and sounded the twelfth. In the same manner, the double octave and seventeenth, and all other harmonics were produced and maintained. But the prettiest experiment was, to put something soft, such as a lock of cotton, in the way of the wide vibrations of the chord, at one-third and two-thirds of its length, so as to disturb them when they became wide. When this was done, the string instantly put on the appearance of a figure of 8, performing at once the full vibrations competent to its whole length, and the three subordinate vibrations corresponding to one-third of its length, and sounding the fundamental and the XIIth, with equal strength. In this manner, all the different accompaniments were produced at pleasure, and could be continued, even with strong sounds. And it was amusing to observe, when the wheel was strongly pressed to the string, and the motion violent, the nodes would form themselves on various parts of the string, running from one part to another. This was always accompanied with all the jarring sounds which corresponded to them. When the string was making very gentle, simple vibrations, and the wheel hardly touching it, if a viicncello was made to sound the XIIth very strongly in its neighbourhood, the string instantly divided itself, and vibrated in unison, frequently retaining its simple vibration and fundamental tone. We recommend this experiment to every person who wishes to make himself well acquainted with the mechanism of musical sounds. He will see, in a most sensible and convincing manner, how a single string of the æolian harp gives us all the changes of harmony, sliding from one sound to another, according as it is affected in its different parts by an irregular breeze of wind.”

Mr. John Hawkins, the inventor of the FINGER-KEYED VIOL, see that article, and whose experiment on the concert-pitch is related in that article, during the continuance of his mechanical exhibition shewed to his visitors, a delightful and ocular exhibition of the acute harmonics of a string, as Dr. Robinson had produced them to the ear, as above quoted. Mr. H’s apparatus consisted merely of a brass wire 15 or 16 feet long, spirally curled through its whole length, (as is done by the base strings in his patent pianoforte, for rendering the instrument portable), and stretched over two bridges near its two ends, against the wainscot of the room, on which was a scale, divided the space between the bridges into aliquot parts, as ½, ⅓, ¼, ⅕, &c. through its whole length. The string, thus prepared, was laid hold of by the thumb and finger in the middle, and drawn about two inches out of its quiescent position, and let go, then the tip of the finger, or the feather of a quill being dexterously applied, to check the extreme vibrations opposite to any one of the aliquot divisions, the string immediately began to vibrate in so many separate parts, without destroying the total vibration, which still continued, and supported its subordinate vibrations for a minute or more, in a manner highly gratifying to the eye, as the vibrations were slow enough to be readily counted and compared with each other.

HARMONICS, Grave, are deep, low, or very grave sounds, which, like the acute of a single string above described, are observed to accompany the accordance of two sounding strings, or pipes, &c. These have two different origins, viz. in perfect consonances, or such wherein the exact ratio of the length of the sounding string, or numbers of vibrations in a given time can be expressed in small num-
bers; the coincidence of these vibrations or pulses of
the sound occasion periodical reinforcements of the
sound, which, when they occur oftener than twelve
times in a second, affect the ear as independent
grave sounds. In the other case of imperfect conson-
ances, or tempered concords, where the ratios are
surd, or the numbers expressing them very large, the
small cycles of pulses, occasion, by the periods of
their greatest imperfections, the phenomena called
BEATS (see that article): if such beats are quicker
than twelve in a second, they occasion a like sensa-
tion of GRAVE Harmonic, which have been fully
treated of under that article.

Mr. Holden, in his “Essay,” p. 300, denominates
the grave harmonics, dependents of the consonance
whence they result.

HARMONICUS, CANON. See MONOCHORD.

HARMONIE DIRECT, Fr. in Music, is that har-
mony in which the base is fundamental, and in
which the upper parts preserve a regular order with
the base. Harmonie renversée, or inverted harmony, is
that in which one of the treble parts is made the
base, which happens in the chord of the 6th and \(\frac{5}{4}\).

See DIRECT and INVERTED.

HARMONIST, a musician learned in harmony.
He is a good harmonist. “Durante,” says Rousseau,
“was the greatest master of harmony in Italy, that is, in
the whole world;” but there are some who do not
subscribe implicitly to this assertion: and regard Leo
and Jomelli to be equally profound, and much more
pleasing harmonists, than Durante: whose almost only
works that are highly prized in Italy, and which
have been heard of elsewhere, are his duets, formed
from the cantatas of his master Alessandro Scarlatti,
which are classical and standard studies for the
greatest singers.

HARMONOMETRE, an instrument calculated to
measure the relative harmonies. If we could observe
and follow with the eye and the ear the undulations,
the magic knots, as d’Alembert calls them, and all
the divisions of a string during its vibration, we
should have a natural and very accurate harmono-
metre; but our senses being too gross for such nice
observations, their deficiencies are supplied by a
monochord, which we divide at our pleasure, by
moveable bridges, that constitute the best harmono-
metre hitherto found. See MONOCHORD.

HARMONY. The late citizen of Geneva,
Rousseau, having treated the subject of this article,
in his Musical dictionary, more amply and intelli-
gently than any other author in the French language,
we shall try to transfuse into our tongue the chief of
his ingenious remarks.

“The sense which the Greeks gave to the word
harmony in their music, is the more difficult to de-
termine. from its being originally a proper name
(Harmonia, wife of Cadmus), and having no roots
whence it may be compounded, in order to extract
an etymology. (See the ancient treatises which re-
main.) Harmony seems to imply the agreeable suc-
cession of sounds, with respect to acute and grave,
in opposition to rhythm and metre, which concern
time and measure. This leaves the word harmony so
vague and indeterminate, that it is impossible to fix
its precise meaning, but by a particular study of all
the several parts of the art into which ancient music
was divided,” these were sounds, intervals, systems,
genera, modes, mutations, and melopoeia, or the com-
position of melody, which only comprehend what
was denominated harmonics, or the science of mu-
sic, strictly so called; but to these were added five
other requisites, no less essential for a musician to
know, than the preceding seven: and these were
rhythm, or the regulation of cadences in all kinds of
movement; metre, or the measure of verses; organic,
or the instrumental art; hypocritic, or gesture; and
even to these divisions, Aristides Quintilianus, and
some others, add odicum, or the art of singing,” and
still (adds Rousseau) harmony will be very difficult
to distinguish from melody.

“We see by a passage from Nichomachus, and by
others, that sometimes the name of harmony was
given to consonance in the octave, and to concerts of
voices and instruments formed of unisons; and
octaves, which were generally termed antiphons.

“Harmony, according to the moderns, is a suc-
cession of chords agreeable to the rules of modula-
tion. This harmony for a long time had no other
principles than laws almost arbitrary, founded on
the judgment of practised ears, which determined
what were good or bad successions of concords, but
which, et length, were reduced to calculation. How-
ever, Père Mersenne, and M. Sauveur, having dis-
covered that every sound, though seemingly single,
was accompanied by two other more feeble sounds,
which formed, with the principal, the perfect chord major, M. Rameau, upon the basis of this experiment, has built an harmonic system, with which he has filled many obscure books, and these M. d’Alembert at length took the trouble to explain to the public.”

Here we must stop to correct a mistake of this lively writer: it was neither Père Mersenne, nor M. Sauveur, who discovered the *sons harmoniques*, or harmonics of the 12th and major 17th, which accompany every musical sound, but Galileo Galilei. See his article, and Basse FONDAMENTALE.

And M. d’Alembert in the 2d edit. of his “Elements of Music, on the Principles of Rameau,” disputes his origin of the minor mode, and denies that any part of his system will admit of demonstration.

“Tartini, setting off from another experiment, more novel, more delicate, and not less certain, arrived at similar conclusions, by a very different road. Rameau made the base produce the treble; Tartini made the treble generate the base. The latter derives harmony from melody, the former the contrary. To determine from which of these two schools the best works are likely to proceed, we have only to consider which ought to be subordinate to the other, the melody or the accompaniment.” See SYSTEM, HARMONICS, FUNDAMENTAL BASE, TERZA SUONA, COUNTERPOINT, and COMPOSITION.

Of all the paradoxes of this eloquent and powerful writer, none will surprise musicians more than the following, with which he closes the present article in his Musical Dictionary.

“When we reflect, that of all the inhabitants of the earth, who have music, the Europeans alone are fond of harmony, and delighted with different parts, moving at the same time; when we remember how many ages the world has endured, without any one nation that has cultivated the fine arts, in any of the other three quarters of the globe, discovering this harmony; that no animal, no bird, no being in nature, produces any other consonance than unison, nor other music than melody; that the oriental languages, so sonorous, so musical; that the ears of the Greeks, so acute, delicate, and exercised with so much art, have never guided this voluptuous and impassioned people towards our harmony; that without it their music has produced such prodigious effects; that with it, those of our music are so feeble; and, lastly, that it should be reserved for people of the north, whose organs are gross and obtuse, to be more touched with the clangor and noise of warring sounds, than with the sweet accents, and melody of inflections, to make this great discovery, and to establish it as a principle in all the rules of the art; when, I say, we reflect on all these circumstances, it is very difficult to avoid suspecting, that all our harmony is but a Gothic and barbarous invention, which would never have occurred to us, if we had been more sensible to the true beauties of the art, and to music truly natural.

“Rameau, however, pretends, that harmony is the source of the greatest beauties in music; but this sentiment is confuted by facts and reason. By facts, from all the great effects of music having ceased, and that it has lost its force and energy, since the invention of counter point; to which I must add, that the beauties of what is called fine harmony, are those of learning, and often of pedantry, which only transport persons deep in the mysteries of the science; whereas the true beauties of music being those of nature, are, and ought to be, equally felt by all men, learned and ignorant. By reason, since harmony furnishes no principle of imitation, by which music awakening images, or expressing sentiments, can mount up to the drama, which is the most noble, and the only energetic part of the art; all that depended on simple, natural sounds, being much circumscribed in the pleasure they afford, and having very little power over the human heart.”

We shall leave the exclusive admirers of melody and harmony to fight it out, and declare that we never wish to hear melody without harmony, or harmony without melody. Whenever these two sisters quarrel, and set up different interests, they mutually injure each other, and displease their best friends.

Isidore’s definition of harmony is a proof that, with the ancients, it only implied melody. “Prima divisione musicae qua harmonica dicitur, id est, modulationis vocis — non vocum.”

HARMONY, *figurative*, in opposition to the harmony of common chords, or note against note, otherwise called plain counterpoint. It had its title of figurative after the invention of the time-table, when different figures or notes were used from those of canto-fermo, commonly called Gregorian. See GREGORIAN and FIGURATIVE.
HARMONY. Perfect, of Maxwell, is a system of musical sounds, 44 within the octave, invented by Mr. Maxwell of Broomholme in Scotland, the application of which, to the violin and other bowed instruments, is fully explained in his “Essay on Tune,” printed at Edinburgh in 1781, and wherein some hints are given towards its application to the organ, of which, unfortunately, no musical mechanic has yet availed himself and effected, on this noble instrument, the grand desideratum of instrumental music, whereby a correct concert of voices, or perfect instruments, wherein every concord throughout the piece shall be perfect, and without temperament, or beats, may be certainly and correctly imitated. See MAXWELL’S Scale of Intervals.

HARMONY. Equal, of Dr. Smith, comprehends systems of musical intervals, investigated by this author in his “Harmonics;” the principles of which are, that every concord therein shall be equally, and the most harmonious, that the unalterable nature of the scale will admit, according to the compass or, extent of it; thus, for the compass of one octave, Dr. Smith calculates (p. 153. 2d. edit.) that the major thirds must all be flattened $\frac{11}{7}$ th of a major comma, or 1.3455 $\Sigma$: for the compass of two octaves, the IIIds must be flattened $\frac{\sqrt{2}}{5} c = 1.3670 \Sigma$: for the compass of three octaves, the temperament must be III = $\frac{5}{4} c$, or 1.2231 $\Sigma$: and for the compass of four octaves (p. 140, note.) III = $\frac{5}{4} c$, or more nearly, the temperament is 1.0865 $\Sigma$. For several reasons, Dr. Smith preferred the system of equal harmony in three octaves, and shews (p. 156.) that the same approaches indefinitely near to a commensurate system of 50 equal parts in the octave, without, however, any where mentioning, that this is the system of Mr. Hensling (Hist. de l’Acad. 1711, 16mo. p. 406.), as observed by Mr. Farey, in the Philosophical Magazine, vol. 36. p. 49; by whose theorems, p. 41, or corollaries, p. 374, of the same volume, all the temperaments in either of the above systems can readily be calculated, and the several wolves also, which will arise in applying the same to the common instrument with only 12 notes in the octave, or even to Dr. Smith’s own improved harpsichord, whenever modulation is made, so far as to require double flats, or double sharps; but which can now be used, even on the organ, as well as the piano-forte, without any wolves, as far as two double sharps and one double flat; on the patent instruments of M. Loeschman of Newman-street, whose organs in particular far exceed any thing hitherto effected in musical instruments. The above systems, by Dr. Smith, are all for equalizing the harmony of the several concords, with respect to each other: a different object is aimed at by some theorists and tuners, viz. making all the twelve several keys equally harmonious, with respect to each other, and consequently equally tempered, which is the EQUAL temperament, or ISOTONIC system, (which see,) but this ought not to be called equal harmony, as Mr. Emerson, and some other writers, have done.

HARMONY, Temperaments of, are applied to the temperaments of the intervals, in common keyed instruments, or imperfect instruments, where the same temperaments necessarily apply also to the melody, or leaps. from one note to another: but in a paper by Mr. Farey, in the Philosophical Magazine, vol. 27. p. 206 and 314, it is shewn, that good performers on perfect instruments, and correct singers, make no temperaments in the harmony, but throw the same entirely into the melody or leaps, so as to produce every chord or consonance of notes heard together perfect throughout their performance, at least, they can do so, if skilful and sufficiently careful; and it is truly asserted, that they never attempter their harmony by design, as a tuner of imperfect instruments can so do, if skilful and sufficiently careful; and it is truly asserted, that they never attempter their harmony by design, as a tuner of imperfect instruments is forced to do, and hence the vast importance of the instruments for yielding perfect harmony, on the theory and construction of which Mr. Maxwell has so ably exerted himself; see his “Essay on Tune.”

HARMONY of the spheres or celestial harmony, is a sort of music much spoken of by many of the philosophers and fathers; supposed to be produced by the regular sweetly-tuned motions of the stars and planets.

Plato, Philo Judæus, St. Augustine, St. Ambrose, St. Isidore, Boëthius, and many others, are strongly possessed with the opinion of this harmony, which they attribute to the various proportionate impressions of the heavenly globes upon one another, which, acting under proper intervals, form a harmony. It is impossible, according to them, that such spacious bodies, moving with so much rapidity, should be silent; on the contrary, the atmosphere, continually impelled by them, must yield a set of sounds proportionate to the impulsions it receives:
consequently, as they do not all run the same circuit, nor with one and the same velocity, the different tones arising from the diversity of motions, directed by the hand of the Almighty, must form an admirable symphony or concert. St. Irenæus, St. Basil, and St. Epiphanus, &c., have appeared against the notion.

Pythagoras is supposed to have had a view to the gravitation of celestial bodies, in what he taught concerning the harmony of the spheres.

A musical chord gives the same notes as one double in length, when the tension or force with which the latter is stretched is quadruple; and the gravity of a planet is quadruple of the gravity of a planet at a double distance. In general, that any musical chord may become unison to a lesser chord of the same kind, its tension must be increased in the same proportion as the square of its length is greater; and that the gravity of a planet may become equal to the gravity of another planet nearer the sun, it must be increased in proportion as the square of its distance from the sun is greater. If, therefore, we should suppose musical chords to extend from the sun to each planet, that all these chords might become unison, it would be requisite to increase or diminish their tensions in the same proportions as would be sufficient to render the gravities of the planets equal; and from the similitude of those proportions, the celebrated doctrine of the harmony of the spheres is supposed to have been derived. . Plin. lib. ii, cap. 22. Macrobr, in Somn. Scrip. lib. ii. cap. ; . Plutarch de Animal. Procreatione, & Timaeo. See Maclaurin’s View of Newton’s Discov. book i. chap. ii. p. 32. ed. 4to. See GRAVITY.

HARP, a musical instrument of the string kind, being of a triangular figure, and placed upright between the legs of the person who plays upon it. Papias, and Du-Cange after him, will have the harp to have taken its name from the Arpi, a people of Italy, who were supposed the first that invented it; and from whom they say it was borrowed by other nations. Menage, &c. derives the word from the Latin harpa, and that from the German herpa, or harp. Others bring it from the Latin carpo, because touched or thrummed with the fingers. Dr. Hickes derives it from harpa, or hearpa, which signify the same thing; the first in the language of the Cimbr, the second in that of the Anglo-Saxons. The English priest who wrote the life of St. Dunstan, and who lived with him in the 10th century, says cap. ii. n. 12. “Sumpsit secum ex more citharam suam, quam paterna lingua hearpam vocamus;” which intimates the word to be Anglo-Saxon.

There is some diversity in the structure of harps. That called the triple harp has ninety-seven strings or chords, in three rows, extending from double C in the base, to double G in alt, which make five octaves; the middle row is for the semitones, and the two outside rows are perfect unisons. On the base side, which is played with the right hand, there are 36 strings; on the treble side, 26; and in the middle row, 35 strings. There are two rows of pins or screws on the right side, serving to keep the strings tight in their holes, which are fastened at the other end to three rows of pins on the upper side.

The harp, within the last forty years, has been in some degree improved, by the addition of eight strings to the unison, viz. from E to double F in alt.

This instrument is struck with the finger and thumb of both hands. Its music is much like that of the spinet, all its strings going from semitone to semitone; whence some call it an inverted spinet.

It is capable of a much greater degree of perfection than the lute. The editor of the last folio edition of Chambers’s Cyclopaedia is indebted to Mr. Evans, a very celebrated performer on this instrument, for the above account of the structure and compass of the Welsh harp. King David is usually painted with a harp in his hands; but we have no testimony in all antiquity, that the Hebrew harp, which they call chinnor, was any thing like our’s. On a Hebrew medal of Simon Maccabæus, we see two sorts of musical instruments; but they are both of them very different from our harp, and only consist of three or four strings. All authors agree that our harp is very different from the lyre, cithara, or barbiton, used among the Romans.

Fortunatus, lib. vii. carm. 8. witnesses that it was an instrument of the barbarians.

“Romanusque lyra, plaudat tibi barbarus harpa, Græcus Achilliacha, crotta Britannæa canat.”

The crotta is the cruth Latinized, in all probability an original British or Welsh instrument, as it is never mentioned in any classical author.
The harp is perhaps the most ancient instrument of which we know the use.

The Theban harp is an instrument, of which a beautiful drawing, by Mr. Bruce, and a description, are inserted in Burney’s History of Music, concerning the authenticity of which there were many doubts, and which were by no means removed by a pleasantry of lord North, who said “it was not a harp, it was a lyre;” yet in spite of scepticism and scoffers, the truth of Mr. Bruce’s narrative has been brought into credit by sir W. Jones, and lately fully ascertained by the French invaders of Egypt, and by individual travellers of undoubted veracity.

We shall therefore insert the account of this instrument, and of the situation in which it was found, in the traveller Bruce’s own words.

“Behind the ruins of the Egyptian Thebes and a very little to the N. W. of it, there is a great number of mountains hollowed into monstrous caverns, the sepulchres, according to tradition, of the first kings of Thebes. The most considerable of these mountains, thus hollowed, contains a large sarcophagus of granite, of which the lid only is broken.

“In the entrance of the passage which leads, sloping gently down into the chamber where is the sarcophagus, there are two panels, one on each side: on that of the right is the figure of the scarabæus Thebaicus, supposed to have been the hieroglyphic of immortality. On the left, is the crocodile, fixed upon the apis with his teeth, and plunging him into the waves. These are both moulded in basso relievo, in the stucco itself. This is a sufficient indication of the grotto, to any one who may wish to examine it again. At the end of the passage, on the left hand, is the picture of a man playing upon the harp, painted in fresco, and quite entire.

“He is clad in a habit made like a shirt, such as the women still wear in Abyssinia, and the men in Nubia. This seems to be white linen or muslin, with narrow stripes of red. It reaches down to his ankles; his feet are without sandals, and bare; his neck and arms are also bare; his loose, wide sleeves are gathered above his elbows; his head is close shaved; he seems a corpulent man, of about 50 years of age, in colour rather of the darkest for an Egyptian.

“To guess by the detail of the figure, the painter should have had about the same degree of merit with a good sign-painter in Europe; yet he has represented the action of the musician in a manner never to be mistaken. His left hand seems employed in the upper part of the instrument among the notes in alto, as if in an arpeggio. While stooping forwards, he seems with his right hand to be beginning with the lowest string, and promising to ascend with the most rapid execution. This action, so obviously rendered by an indifferent artist, shews that it was a common one in his time, or, in other words, that great hands were then frequent, and consequently that music was well understood and diligently followed.

“If we allow the performer’s stature to be about five feet ten inches, then we may compute the harp, in its extreme length, to be something less than six feet and a half. It seems to support itself in equilibrio on its foot, or base, and needs only the player’s guidance to keep it steady. It has thirteen strings. The length of these, and the force and liberty with which they are treated, shew that they are made in a very different manner from those of the lyre.

“The instrument wants the fore-piece, or stay of the frame, opposite to the longest string, which certainly must have improved the tone, and that deficiency must have rendered it very subject to go out of tune. The back part is the sounding-board, composed of four thin pieces of wood, joined together in form of a cone, that is, growing wider towards the bottom; so that, as the length of the string increases, the square of the correspondent space, in the sounding-board, in which the tone is to undulate, always increases in proportion.”

“Besides that, the whole principles upon which the harp is constructed are rational and ingenious, the ornamental parts are likewise executed in the very best manner; the bottom and sides of the frame seem to be veneered, or inlaid, probably with ivory, tortoise shell, and mother-of-pearl, the ordinary produce of the neighbouring seas and deserts. It would be even now impossible to finish an instrument with more taste and elegance.

“Besides the elegance of its outward form, we must observe, likewise, how near it approached to a perfect instrument; for it wanted only two strings of having two complete octaves in compass. Whether these were intentionally omitted or not, we cannot now determine, as we have no idea of the music or taste of that time; but if the harp be painted in the
proportions in which it was made, it might be demonstrated that it could scarce bear more than the thirteen strings with which it was furnished. Indeed the cross bar would break with the tension of the four longest, if they were made of the size and consistence, and tuned to the pitch that our’s are at present.

“I look upon this instrument, then, as the Theban harp, before and at the time of Sesostris, who adorned Thebes, and probably caused it to be painted there, as well as the other figures in the sepulchre of his father, as a monument of the superiority which Egypt had in music at that time, over all the barbarous nations that he had seen or conquered.

“Astronomy, and, we may imagine, the other arts, made a rapid progress at this period in Upper Egypt, and continued to do so for 50 years after, between which time, and the Persian conquest, some catastrophe must have happened that reduced them to the lowest ebb, which historians have mistaken for their first original.

“We know about the time of Sesostris, if, as sir Isaac . Newton supposes, this prince and Sesac were the same, that in Palestine the harp had only ten strings; but as David, while he played upon it, both danced and sung before the ark, it is plain that the instrument upon which he played could have been but of small volume, we may suppose little exceeding in weight a guitar; though the origin of this harp was probably Egyptian, and from the days of Moses it had been degenerating in size, that it might be more portable in the many peregrinations of the Israelites.

“The harp, that approaches the nearest to this in antiquity, is represented upon a basso-relievo at Ptolemais, in the Cyrenaicum, a city built by Ptolemy Philadelphus, and it is there twice represented.

“It has fifteen strings, or two complete octaves; but the adding these two notes has occasioned likewise the addition of a fore-piece to sustain the cross bar above, so that its form is triangular; the extremity of the base is rounded into a ram’s head, which seems to allude to its Theban original; and I should imagine that this instrument is likewise Egyptian, as no harp of such a number of strings has ever been seen that I know of, in Grecian sculpture.” Hist. of Music, vol. i. p. 214.

Concerning the form of the harp of David we are utterly ignorant, though dissertations have been written upon it, and Don Calmet has ventured to give it a form; but all we know of it is, that it was called chinnor in Hebrew, and the royal prophet himself frequently calls it the ten-stringed harp in the Psalms.

The Welsh harp seems of very high antiquity in our island under the Druidical government. Before the invasion of Julius Caesar the Britons had music; and the bards, like the Levites among the Hebrews, were the sacred musicians; and we have the authority of the venerable Bede for social and domestic singing to the harp in the Saxon language, upon this island, at the beginning of the eighth century; though he himself wrote in Latin, the only language of the church and the learned then, and for many ages afterwards.

The above account of Welsh music was written and published in 1782, previous to the appearance of the “Musical Relics of the Welsh Bards, by Mr. Edward Jones, Welsh Bard to his Royal Highness the Prince of Wales, in 1784,” which is curious and entertaining; and being written by a native of Wales, and an eminent performer on the harp, we shall extract from this work Mr. Edward Jones’s account of the musical instruments of his country.

“The musical instruments, anciently used in Wales, are as different from those of other nations as their music and poetry.

“These instruments are five in number, the telyn, or harp; the crwth; the pibgorn, or pipe; the tabwrdd, or tabret; and the corn buelin, cornet or bugle-horn.

“Notwithstanding we find that the telyn, or Welsh harp, was always peculiar to our bards; though, probably, there was no difference betwixt the harp, when in its ancient primitive form, and the Grecian lyre; for Diodorus Siculus records that the Celtic bards played on instruments like lyres; ουραν και λυρας ομοιος.

“In the time of the Welsh princes an hereditary harp was preserved with great care and veneration in the household of every prince and lord, to be bestowed successively on the bards of the family, and these were as indispensible among the possessions of a gentleman as a coat of arms.

“The triple, or modern Welsh harp, has three rows of strings; the two outside rows are unison; the
middle row the flats and sharps. Its compass extends to five octaves. Some of its present appendages were probably the addition of the latter centuries. This celebrated instrument has been recently improved by the invention of pedals, which change it without fresh tuning into all the different keys, and have rendered it much less complicated and inconvenient by reducing it to a single row of strings."

This may, probably, not only improve the instruments in the principality, but the style of music and taste of the country, which seem to have been totally confined to national tunes and vulgar variations. Mr. Jones himself, who, during many years, was the chief bard, and best performer on the telyn, an ancient Welsh harp, has quitted that instrument for the pedal harp, on account of the superior facility with which all kinds of music for keyed instruments can be executed with as little difficulty as on a pianoforte; and it is, we suppose, in allusion to the pedal harp, that Mr. Jones says, “in expression and variety the harp has no rival, which every one will acknowledge who knows how the heart is soothed by its delicate and softer sounds, as well as animated by its powerful and brilliant tones.”

The triple harp seems to imply that there have been in Wales three several kinds of harps; the single harp, with only one string to each note; the double harp, with two; and the triple harp, with three strings.

The harp was a favourite instrument with our Saxon ancestors. All our historians relate the romantic story of Alfred reconnoitring the Danish camp in the disguise of a harper. Anlaff, and other Danish chiefs, played Athelstan the same trick in the Saxon camp.

The harp of David, as well as that of Alfred, must have been of a different size and construction from the triple Welsh harp to be portable; particularly that of David, when he danced before the ark.

Eusebius, indeed, calls it a lyre, and informs us that he carried it with him wherever he went, to console him in his affliction, and to sing to it the praises of God.

Millico, when in this country, in 1774, accompanied himself in singing his elegant canzonets on a small harp, which he slung over his shoulder like a guitar, with which, though of very different form, and open like a lyre, was equally portable.

The modern Irish harp is a single instrument, strung with metal strings of brass wire, nine in number, and calculated for mere melody, or a treble part. Carolan’s tunes had no base to them originally, as we have been informed by the late Keane Fitzgerald, a native of Ireland, and a good judge of music, who had often seen and heard old Carolan perform. It was only after his decease, in 1738, that his tunes were collected and set for the harpsichord, violin, and German flute, with a base, Dublin, folio, by his son, who published them in London by subscription, in 1747.

Galilei, the father of the great mathematician Galileo, says that the Italians, who were in possession of the harp before the time of Dante, had it from Ireland.

According to Mr. Walker, in his “Historical Account of the Irish Bards,” the Irish have four different species of harp: 1st. The Clar-sch, or clar-seach, commonly denominated the Irish harp.

2d. Keirnine, a species of dulcimer, (not a sacbut, a double curtul, or bassoon, which are wind instruments.)

3d. The Cionu cruit, of ten strings, a kind of guitar.

4th. The Greamthine cruit, the crwth of the Welsh.

Whether the Welsh had their music from Ireland, according to Giraldus Cambrensis, or the Irish had theirs from the Cambro-Britons, we shall not attempt to determine, but shall leave St. David and St. Patrick, and their champions Jones and Walker, patriotically to dispute the point.

In the late laborious Mr. Strutt’s “Saxon Antiquities,” vol. 1. we have representations of antique harps, one with nine strings, and another with eleven, copied from illuminated MSS. in the British Museum; and a lyre of four strings of the middle ages, “beaten with a small instrument for that purpose;” meaning a plectrum.

The early musical instruments of all countries, like those of Greece and Rome, are of small compass.

“Tibia non, et nunc, orichalco juncta tubæque æmula; sed tenuis, simplexque foramine vacuo Aspirare.”

In all our inquiries we can obtain no satisfactory account of the time when, and on what occasion, the harp was assumed in the arms of Ireland. The
learned Mr. O'Halleran says it was by order of Henry II., and Mr. Ledwich by that of Henry VIII. (Walker's Irish Bards); but neither of these gentlemen assigns a reason for it, or gives any authority for his assertions.

In days of chivalry, the harp passed for the most noble and majestic of instruments, and on this account the romancers place it in the hands of their greatest heroes, as the ancient Greek bards did the lyre.

This instrument was in such general favour, that an old poet has made it the subject of a poem called "Le Dict de la Harpe," "The Ditty, or Poem, upon the Harp," and praises it as an instrument too good to be profaned in taverns or places of debauchery, saying that it should be used by knights, esquires, clerks, persons of rank, and ladies with plump and beautiful hands; and that its courteous and gentle sounds should be heard only by the elegant and good.

It had twenty-five strings, to each of which the poet gives an allegorical name: calling one liberality, another wealth, a third politeness, a fourth youth, &c. applying all these qualities to his mistress, and comparing her to the harp.

HARP, Bell, a musical instrument of the string kind, thus called from its being swung about by those who play upon it like a bell. It is about three feet long; its strings are of brass or steel wire, fixed at one end, and stretched across the sound board, by screws fixed at the other end. It comprehends four octaves; and the strings are struck with the thumbs, the right hand playing the treble, and the left the base; and, in order to draw the sounds the clearer, the thumbs are armed with a little wire pin.

HARP, Silver, or Prize Harp, at the Eisteddfod, or session of the bards and minstrels, appointed in the ninth year of queen Elizabeth, at Caerwys, in North Wales. (Pennant's Tour in North Wales 1773, printed 1778.) This was reviving an ancient custom in the principality, as the Welsh historians and annalists inform us that Gruffidd ap Conan, prince of Wales, established a congress or meeting of masters of music about the year 1100, who underwent a public examination for degrees in their art, and for prizes, the chief of which was a silver harp, with nine strings, worn by the victor as a badge of honour.

As one of these prize harps is still preserved in the curious collection of Cambro-British antiquities of the Mostyn family, and another in Dr. Burney's collection, we shall give an exact representation of it in one of our plates of musical instruments.

HARP, Æolus's. See Æolus's Harp.

HARPE a Pedal, Fr., in Music, a harp with pedals to produce the half notes.

Before the invention of pedals, the whole range of sounds in the double and treble harps on the continent, had been reduced to the diatonic scale, with a single string to each note; the semitones being produced by brass rings with the left hand, at the top of the instrument, which were both difficult to get at and disagreeable to hear, from the noise, which by a sudden motion of the hand, they occasioned.

It was some time after this expedient was put in practice, before the secret of producing the half notes by pedals was discovered.

In 1772, we first heard the pedal harp at Paris and Brussels, where the instrument was constructed of an elegant form, and beautifully ornamented. Its tone was sweet, distinct, and capable of the most minute shades of piano, and the most touching expressions. Among all the musical instruments in use, there is no one more becoming to a female figure. And by means of the pedals for the half notes, it is less cumbrous and unwieldy, and more easy of performance than our double Welsh harp.

The compass of these harps of new construction was from double B♭ in the base, to F in altissimo.

This method of producing the half-notes on the harp by pedals, which has rendered it a female instrument, was invented at Brussels about the year 1757, by M. Simon, who still resided in that city in 1772. It is an ingenious and useful contrivance, in more respects than one; for by reducing the number of strings, the tone of those that remain is improved: as it is well known that the less an instrument is loaded, the more freely it vibrates.

We shall not attempt to instruct our readers how to apply these pedals to the harp, or to explain their operation; the mechanism is too complicated to be taught by verbal instruction. To make a watch by a receipt would be the dearest way of purchasing it.

HARPEGEMENT, Fr., See ARPEGGIO.

HARPEGGIATO, Ital. See ARPEGGIO.
HARPERS, BRITISH. These we are certain were famous long before the conquest, and the bounty of our first Norman sovereign to his joculator or bard is recorded in Doomsday-book; (Gloucestrescire. Ber- dic, Joculator Regis, habet iii. Villas et ibi v. car. nil redd. See Anstis, Ord. Gart. ii. 304.) Nor should that of Henry III. be forgotten, who, in the thirty-sixth year of his reign, not only gave forty shillings and a pipe of wine to Richard, his harper, but another pipe of wine to Beatrice, the harper’s wife; (Rot. Pip. an. 36 Hen. III. Et in uno dolio vini empoto et dato Magis- tro Ricardo Citharistæ Regis, xl. sol. per Br. Reg. Et in uno dolio empoto et dato Beatrici uxori ejusdem Ricardi.) All our most ancient poems, whatever was their length, were sung to the harp on Sundays and on public festivals. See Warton’s Hist, Engl. poetry, vol. i. p. 12. 18. and elsewhere.

HAPRISCHORD, in Music, a keyed instrument of the string kind. It is in fact a horizontal harp, which instrument, if strung with wire and played with a quill like a mandoline, would have the same effect. Its tone is produced by jacks quilled with crow or raven quills. (See JACK.) A single harpsichord of two unisons and one set of keys, was, in effect, a double SPINET or VIRGINAL.

But a double harpsichord used to have two sets of keys and three strings, two unisons and an octave to each note. Merlin, we believe, was the first who changed the octave stop to a third unison, about the year 1770, which rendered the instrument equally powerful, and less subject to go out of tune; the octave stop being so much affected by the least change in the temperature of the air, that it almost instantly discovered when there was a change in the wind.

Besides arming the tongues of the jacks with crow or raven quills, several other means were tried by which to produce a softer tone, and to be more durable; as the quilling a harpsichord with three stops was nearly a day’s work: leather, ivory, and other elastic substances were tried, but what they gained in sweetness, was lost in spirit.

The best harpsichords of the eighteenth century, were made by Ruckers of Antwerp, and his family; Geronimo of Florence, Coushette, Tabel, and Kirk- man, and Shudi, Tabel’s foremen.

However, in the beginning of the last century, hammer harpsichords were invented at Florence; of which there is a description in the Giornale d’Italia, 1711.

The invention made but a slow progress. The first that was brought to England was made by an English monk at Rome, Father Wood, for an English friend (the late Samuel Crisp, esq. of Chesington, au- thor of Virginia, a tragedy, and) a man of learning, and of exquisite taste in all the fine arts.

The tone of this instrument was superior to that produced by quills, with the additional power of producing all the shades of piano and forte by the finger, that though the touch and mechanism were so imperfect that nothing quick could be executed upon it, yet the dead march in Saul, and other solemn and pathetic strains, when executed with taste and feeling by a master a little accustomed to the touch, excited equal wonder and delight to the hearers. Fulk Greville, esq. purchased this instrument of Mr. Crisp for 100 guineas, and it remained unique in this country for several years, till Plenius, the maker of the lirichord, tuned by weights, and the tone produced by wheels, made a piano-forte in imitation of that of Mr. Greville. Of this instrument the touch was better, but the tone very much inferior.

Backers, a harpsichord maker of the second rank, constructed, several piano-fortes, and improved the mechanism in some particulars, but the tone, with all the delicacy of Schroeter’s touch, lost the spirit of the harpsichord, and gained nothing in sweetness.

After the arrival of John Chr. Bach in this coun- try, and the establishment of his concert, in conjunc- tion with Able, all the harpsichord makers tried their mechanical powers at piano-fortes; but the first attempts were always on the large size, till Zumpe, a German, who had long worked under Shudi, con- structed small piano-fortes of the shape and size of the virginal, of which the tone was very sweet, and the touch, with a little use, equal to any degree of rapidity. These, from their low price, and the convenience of their form, as well as power of expres- sion, suddenly grew into such favour, that there was scarcely a house in the kingdom where a keyed-instrument had ever had admission, but was supplied with one of Zumpe’s piano-fortes, for which there was nearly as great a call in France as in England. In short, he could not make them fast enough to gratify the craving of the public. Pohlman, whose instru- ments were very inferior in tone, fabricated an al-
most infinite number for such as Zumpé was unable to supply. Large piano-fortes afterwards receiving great improvement in the mechanism by Merlin, and in the tone by Broadwood and Stoddard, the harsh scratching of the quills of a harpsichord can now no longer be borne. During the last century, the eminent Italian performers on, and composers for the harpsichord, were Domenico Scarlatti, Alberti, Paradies, and Clementi. Among our great organ players, Kelway, Dr. Worgan, and Mr. C. Burney acquired great reputation by their performance on the harpsichord, as did Mrs. Wynne, Miss Best, and Mrs. C. Burney. In France, Couperin, Jaig, Balbastre, Schobert at Strasbourg, and in Germany Emanuel Bach and innumerable others. Dr. Smith, for applying his system of equal harmony to practice, added eight strings to the common harpsichord; but the inconvenience of moving the sliders by the hand is remedied by Dr. Lœschman’s patent piano-fortes and organs, in which the sliders are moved by pedals, and the scale is also extended to 24 notes in the octave.

HARRISON’S Temperament of the musical scale.

In the preface to Dr. Smith’s “Harmonics” we are informed, that the late Mr. Harrison, who constructed the famous longitude watches, applied a temperament in adjusting the frets on the neck of his base-viol, wherein the interval of the octave bore the same ratio to its major third, as the circumference does to the diameter of a circle; of course \( 0.904 \times 1791.66 \) is the logarithm of this third, \( 194.77767 \Sigma x + 4 f + 17 m \) or the temperament of it is flat, \( 2.2223 \Sigma x \); whence, by Mr. Farey’s Corollaries, in the Philosophical Magazine, vol. 36. p. 375, we have, \( -3.30754 \Sigma \) the flat temperament of the fifths, and \( +1.0852 \Sigma \) the sharp temperament of the major sixths; the wolves, which are very great, may be obtained from the same corollaries, if wanted.

HAUT, Fr. in Music, equivalent to Alto, Ital, and High or acute, English.

HAUT-dessus, Fr. upper or first treble, English.

HAUTOIS, in Music, a wind instrument, blown with a reed. It is the natural treble to the bassoon, as their several names imply. Haut-bois, high wood Basson, low sound.

The hautbois consists of four pieces, or joints, the upper piece to which the reed is fixed is the narrowest. The tube increases in diameter to the end, which terminates with a wide mouth like the trumpet.

The hautbois goes lower than the German flute one tone, that is, down to C natural, and seldom, in full pieces, mounts higher than d in alt. This seems to have been an instrument in common use in the time of Shakspeare, and to have had a companion or bassoon for its base. Falstaff, in describing the lank and meagre figure of justice Shallow in his juvenile days, says:

“The case of a treble hautbois was a mansion for him—a court.”

Hen. IV. pt. 2.

Yriarte, in the notes to his Spanish poem, “La Music,” regards its tone as nearer that of a human voice than any other wind instrument.

There is spirit and hilarity in the tone of the hautbois which is gay and enlivening in allegros, and yet is not without expression and complaint in pathetic strains.

The most celebrated performers upon this instrument in this country during the last century, who are now no more, were San Martini, who arrived in England in 1723. His scholar Tommy Vincent, Fischer, and Simpson, Martini and Fischer, were not only exquisite performers on their instrument but admirable composers. The concertos which Vincent used to play 50 years ago, which were known to be Martini’s, were admirable, full of fire, taste, and genius. They were never printed, nor did we ever know what became of them.

The concertos which Simpson played were generally pasticcios, one movement from one composer, and one from another; but Fischer’s, without being capricious, or maniérés, were so much his own, that neither the composition nor performance resembled any other.

HAUTE-Contre, Fr. Contralto, and Counter-tenor, English, in Music is the highest natural voice of a man.

In instrumental music, Altus, Lat. and Alto Viola, imply the tenor part for an instrument tuned an octave above the base; the tenor viol is frequently called by the Italians viol da braccio, on account of it
resting on the arm, in opposition to the viol da gamba, which rests on the leg.

HAUTE-taille, Fr. alto tenore, Ital, is the voice part which we simply call the tenor, written in the C clef, on the fourth line.

HAWKES’ Temperaments of the Musical Scale.

Editorial note: A scientific article by John Farey Sr.

The Rev. William Hawkes in 1798 published an octavo pamphlet, entitled “A Treatise on the Theory and Practical System of Music,” sold by Cawthorn, and in 1805, a folio pamphlet with a similar title, sold by Clementi, the objects of which were, to recommend an irregular douzeave system of temperament, which he said (p. 7, of the first pamphlet) was then practised, wherein the progression of eight-fifths upwards, viz. C, G, D, A, E, B, ♭E, and ♮G, are each flattened 3/5th of a major comma, except the last, which is kept perfect: and the progression of three-fifths downwards, viz. C, F, ♭B and ♮E, which are each also flattened 3/5c, except the last, which is kept perfect: whence it happens, that the resulting fifth, between ♮G and ♭E, presents a wolf or fifth, sharpened 7.8 Σ + 8 m, or almost ¾ths of a comma; a circumstance no where hinted at in the publications above quoted, nor did their author seem to understand or admit this or other facts, in a conversation with the writer of this, on the subject of this and other large wolves, which would occur, in the application of this system to practice. In the Philosophical Magazine, vol. xxvi. p. 171, vol. xxviii. p. 304, and Practical System of Music,” sold by Cawthorn, and in 1805, a folio pamphlet with a similar title, sold by Clementi, the objects of which were, to recommend an irregular douzeave system of temperament, which he said (p. 7, of the first pamphlet) was then practised, wherein the progression of eight-fifths upwards, viz. C, G, D, A, E, B, ♭E, and ♮G, are each flattened 3/5th of a major comma, except the last, which is kept perfect: and the progression of three-fifths downwards, viz. C, F, ♭B and ♮E, which are each also flattened 3/5c, except the last, which is kept perfect: whence it happens, that the resulting fifth, between ♮G and ♭E, presents a wolf or fifth, sharpened 7.8 Σ + 8 m, or almost ¾ths of a comma; a circumstance no where hinted at in the publications above quoted, nor did their author seem to understand or admit this or other facts, in a conversation with the writer of this, on the subject of this and other large wolves, which would occur, in the application of this system to practice. In the Philosophical Magazine, vol. xxvi. p. 171, vol. xxviii. p. 304, and vol. xxxvi. p. 47, a good deal of information has been published respecting this system, which we shall not repeat, but lay before our readers, all which seems further necessary to enable musicians or theorists to judge for themselves, of the merits and defects of this system, formerly so much extolled by its author.

The beatings are all flat or sharp, as expressed in the titles at the bottom of each column, except the 4th on ♭E, and the Vth on ♮G, which are otherwise expressed.

The examination of the calculations of any of these beats is perfectly easy, by Mr. Farey’s theorem for beats, given in our article Grave HARMONICS, by help of the vibrations in the 3d column; thus for the 3d, C ♭E or C ♮ at bottom of col 4, we have, 6 x 240 – 5 x 285.8614 = 10.693 beats per second, and so of others; doubling the vibrations for the notes in the superior octave, wherever they are wanted. It may be proper here to observe, that the system will not be correctly ascertained by means of the beats in the above table, unless the pitch of C of the tenor clef line on the instrument give 240 vibrations, or very near it, ascertained by the methods pointed out in our article CONCERT-PITCH.

In August 1807, the Rev. Mr. Hawkes issued printed proposals for a subscription of 60 guineas (to be made to Mr. Anderson), for completing an instrument for the subscribers, after a plan that had then lately occurred to him, “of a keyed instrument in which true chords are acquired throughout the twenty-four keys,” without the addition of a single finger-key. It is probable that this proposal produced no effect, for on the 25th of July 1808, Mr. Hawkes took out a patent for improvements on musical keyed instruments of 12 fixed tones, the specification of which may be seen in the Repertory, 2d series, vol. xiii. p. 248; whence it seems, that Mr. Hawkes’ invention consists in doubling the usual number of strings or pipes, or extending them to 24 in the octave; twelve of which are to be tuned to a chromatic sharp scale, and 12 to a chromatic flat scale, the natural notes or long keys in each scale being unisons, and the whole key-board moves to the right or to the left by the action of a pedal, so that the keys act at the same time on all the five sharps, or on all the five flats, without altering the pitch of the intermediate natural notes. And thus, with the help of 24 strings or pipes, no more than 17 intervals are acquired in the octave on these patent instruments of Mr. Hawkes; the patentee having been entirely silent in this specification, and in a controversy in which he has been engaged with several, in Dr. Kemp’s “Musical Magazine,” as to the precise mode or principles which he adopts in tuning, or adjusting these 17 intervals, but contents himself on all occasions with asserting, that on his organs and piano-fortes,
“every common chord, major and minor, throughout the 24 keys, are perfect to the nicest ear.” It becomes necessary for us here to remark, that Mr. Hawkes having no sounds for E♭ or F♭, or for B♭ C♭, if in the table of consonances in plate 19 of Dr. Smith’s Harmonics, we draw other diagonal dotted lines, two notes higher, (so as to include D♯ and A♯) and other three notes lower, (so as to include A♭, D♭, and G♭), which are Mr. Hawkes’ five additional notes, (than those which the doctor has drawn, to represent the common or douzeave scale,) it will appear manifest that the nine middlemost keys B♭, F, C, G, D, A, F, B, and F♯, only can be without wolves in their concords, with 17 notes; and that as we proceed to modulate from thence upwards by sharps, C♯ has a false IIId (for want of E♯), G♯ has a false IIIId and a false Vth (for want of B♯ and E♯), D♯ has a false IIIId and a false Vth (for want of F ## and B. ♯), and A♯ has a false IIId, a false Vth, and a false Vth, (for want of C ##, E♭ and F ##): in like manner if we modulate downwards by flats, E♭ has a false 6th, (for want of C♭), A♭ has a false 3d, and a false 6th (for want of C♭ and F♭), D♭ b has, a false 3d, a false, Vth, and a false 6th, (for want of F♭, A♭, and D♭ b), and G♭ has a false 3d, a false 4th, a false Vth and a false 6th, (for want of B♭♭ C♭ D♭ and E♭♭). Giving six major common chords, viz. in the keys C♯, G♯, D♯, A♯, D♭, and G♭ and five minor common chords, viz. in the keys A♭, G♭, A♭♭, D♭, and B♭, in all of which false notes or wolves occur; and every three of these, viz. C♯ and G♯ major, and E♭ minor, are essential to completing the number of 24 usual keys, of whose perfection the patentee and his advocates boast.

We should perhaps have spared ourselves and our readers the pains of exposing the fallacies in the puffs of this reverend patentee, were it not that a lecture on music at the Royal Institution, and at the Surrey Institution, had made their defence, and the exhibition of these patent instruments with that view, parts of his lectures; the patentee, by opposing the obtaining of a subsequent patent by Mr. D. Loeschman for a vastly superior invention, and his misrepresentations and that of his partisans since, rendered it a necessary piece of justice at our hands; and because M. Loeschman’s instruments, containing no more strings than Mr. Hawkes’, can render all the above chords true, according to any given system of temperament, excepting only the minor key of G♭, (he having no E♭♭♭), or 33 keys in the whole, instead of the 23 keys which Mr. Hawkes’ might be made to produce, including A♭ major, and D♯ minor, which are unusual keys, or coincident with G♯ and E♭, on common instruments. Besides all this, Mr. Hawkes’ instruments are incapable of executing the multitude of passages in the best authors, ancient and modern, where both flats and sharps occur in the same strain, of which ample lists have been given in the Musical Magazine above quoted; but on D. Loeschman’s instruments, this can be done with the utmost facility, and as instantaneously as one of six pedals can be put down with the foot, placed ready above it, in most instances which can occur; while the perfection of his mechanism guards against both the flat and the sharp of the same finger-key, sounding together, if the pedal is moved while the key is down, which it can be, without deranging anything, and never more than one of his pedals require to be used at the same time.

HEBREWS. Music. Notwithstanding the unremitting labours of the first fathers of the church, and the learning and diligence of innumerable translators and commentators, but few materials of great importance can be acquired for this article in the musical department, except what the Bible itself contains; as the first periods of the history of the ancient Hebrews, from its high antiquity, can receive no illustration from contemporary historians, or from human testimony.

The chief part, therefore, of what we have to do, is to collect the principal passages relative to those early ages of the world, the transactions of which are recorded in the sacred writings with true and genuine simplicity, and to arrange them in chronological order; a task which, however trivial and easy it may seem, will not be without its use in a General History of Music; as it will at least shew, that this art is to collect the principal passages relative to those early ages of the world, the transactions of which are recorded in the sacred writings with true and genuine simplicity, and to arrange them in chronological order; a task which, however trivial and easy it may seem, will not be without its use in a General History of Music; as it will at least shew, that this art has always had admission into the religious ceremonies, public festivals, and social amusements of mankind.

The construction and use of musical instruments have a very early place among the inventions attributed to the first inhabitants of the globe, by Moses: for, Genesis, chap. iv. ver. 21, Jubal, the sixth descendant from Cain, is called “the father of all such as handle the harp and organ.”
But though this circumstance is mentioned so soon in the Pentateuch, yet it could have happened but a short time before the deluge, A. M. 1656; consequently the world must have been peopled many centuries before the invention took place. And with respect to the instrument called an organ, in the English version of this passage, it must not be imagined that such a noble and complicated machine is there implied, as the present instrument of that name. In the Hebrew it is called huggah, which, say the commentators, was a kind of syrinx, or fistula. The Septuagint, instead of harp and organ, has ψαλτηριου και χιθαρου, psaltery and cithara; the Syriac, citharam et sides; Chaldæan paraphrase, ipse fuit magister omnium canentium in nablio, scientium cantium citharie et organi. Nablion is the Hebrew word for harp. The Arabic has tympanum et citharam; and the French has le violon et les orgues.

Hence it appears, that the translators, ancient and modern, of all parts of the world, not knowing what were the real forms and properties of the Hebrew instruments, have given to them the names of such as were of the most common use in their own countries.

No mention, however, is made in the scriptures of the practice of music, till more than six hundred years after the deluge. But in Genesis xxxi. and 26th and 27th verses, about 1739 years before Christ, according to the Hebrew chronology, both vocal and instrumental music are spoken of as things in common use.

“And Laban said to Jacob, what hast thou done, that thou hast stolen away unawares to me, and carried away my daughters, as captives taken with the sword?”

“Wherefore didst thou flee away secretly, and steal away from me? and didst not tell me, that I might have sent thee away with mirth and with songs, with tabret, and with harp?”

Laban was a Syrian, and brother to Rebecca, Isaac’s wife; so that the tabret and the harp should be ranked among Assyrian instruments.

After this time the sacred text furnishes no musical incident, till the year 1491 before Christ, when we have the first hymn, or psalm, to the Supreme Being, upon record. It contains the pious effusions of Moses, after the passage of the Red sea, at the head of the whole people of Israel, just escaped from bondage.

“Then sang Moses and the children of Israel this song unto the Lord, and spake, saying, I will sing unto the Lord, for he hath triumphed gloriously,” &c. Exod. xv.

Moses is seconded on this occasion by Miriam, the prophetess, and sister of Aaron, who “took a timbrel in her hand, ver. 20; and all the women went out after her with timbrels and with dances.”

“And Miriam answered them, sing ye to the Lord,” &c.

Here is an early instance of women being permitted to bear a part in the performance of religious rites, as well as of vocal music being accompanied by instrumental, and by dancing.

St. Stephen tells us (Acts, vii. ver. 21, 22.) that Moses, having been educated by Pharaoh’s daughter “as her own son, was learned in all the wisdom of the Egyptians.” And Clemens Alexandrinus particularizes his acquirements, by affirming that “he was instructed in his maturer age by the Egyptians in all liberal sciences, as arithmetic, geometry, rhythm, harmony, but, above all, medicine and music.”

However, in the infancy of a state, a nation has but little leisure for cultivating music any otherwise than as it is connected with religious rites and the military art. Accordingly we find no other musical instrument mentioned during the administration of the great Hebrew legislator, than trumpets, except the timbrel, used by Miriam. Numb. chap. x. he is ordered by divine command to make two trumpets of silver of a whole piece, “for assembling together the people, and for journeying the camps.” And in the eight following verses all the signals to be sounded by one and by two trumpets are regulated. But these instruments seem to differ from that of the jubilee, in nothing but the materials of which they were made: as the Hebrew text, and the several versions, agree in calling all by one name.

The feast of trumpets instituted by Moses, Numb. xxix. 1. in the month of September, is imagined to have been the celebration of harvest home. “And in the seventh month, on the first day of the month, ye shall have a holy convocation; ye shall do no servile work; it is a day of blowing the trumpets unto you.” The rigid observance of the Sabbath upon every seventh day rendered seven a sacred number among
the Hebrews. Hence, not only the seventh day, but the seventh week, the seventh month, the seventh year, and seven times seventh year, were kept holy: " and on the fiftieth year thou shall cause the trumpet of the jubilee to sound throughout the land.” Levit. xxv. 9.

The trumpets of rams horns used at the siege of Jericho, seem to have been less musical instruments, than military signals for the assailant to march and shout by, in order, by their noise, to terrify and dismay the enemy.

Upon this occasion all the powers of the number seven were put in practice. “Seven priests shall bear before them seven trumpets, and the seventh day ye shall compass the city seven times, and the priests shall blow with the trumpets.” Josh. vi. 4.

No further mention is made of music, till the song of Deborah and Barak, Judges v. which seems to have been sung in dialogue, and wholly without instruments. It was about fifty years after this period, and eleven hundred and forty-three years before Christ, that the unfortunate daughter of Jephthah, upon hearing of her father’s victory over the Ammonites, went out to meet him with timbrels and with dances: Judges ii. 34. From this time till Saul was chosen king, 1095, B. C. the sacred text is wholly silent about every species of music, except that of the trumpet in military expeditions.

But here an incident occurs, which seems to merit particular attention. It appears from many passages in scripture, that music was as nearly allied to prophecy as to poetry. When Samuel, after secretly anointing Saul king, instructs the new monarch in the measures he is to pursue for establishing himself on the throne, he says, “And it shall come to pass, when thou art come to the city of (Bethel,) that thou shalt meet a company of prophets coming down from the high place, with a psaltery and tabret, and a pipe, and a harp before them, and they shall prophesy. And the spirit of the Lord will come upon thee, and thou shalt prophesy with them.”

Who is ignorant, says Quintilian, that music in ancient times was so much cultivated, and held in such veneration, that musicians were called by the names of prophets and sages?

Vates, in Latin, is a common term for prophet, poet, and musician. Clemens Alexandrinus, describing the different kinds of Egyptian priests, and their functions, says, that the principal of them were called prophets. The oracles of the ancients were delivered in song; and the Pythian priests, who composed into hexameter verse the loose and disjointed expressions of the agonizing Pythia, were styled prophets, ὠροφήται. These, according to Plutarch, “were seated round the sanctuary, in order to receive the words of the Pythia, and inclose them immediately into a certain number of verses, as liquors are inclosed in bottles.”

The improvisatori of Italy are still accompanied by an instrument, like the prophets of old; and Italian poets, who write down verses, sing at the time of composing them.

The examples in scripture of this union of music and prophecy are numerous. “Moreover, David, and the captains of the host, separated to the service of the sons of Asaph, and of Heman, and of Jeduthun, who should prophesy with harps, with psalters, and with cymbals. Of the sons of Asaph, four, who prophesied according to the order of the king:—Of Jeduthun, six, who prophesied according to the order of the king:—Of Jeduthun, six, who prophesied with a harp, to give thanks and to praise the Lord. And of the sons of Heman, the king’s seer, in the words of God, fourteen, to lift up the horn.”

But the most striking examples of the custom practised by the prophets, of tranquillizing their minds, and exciting in themselves divine inspiration, by means of music, is in the second book of Kings.

The three sovereigns of Israel, Judah, and Edom, marching with their armies through a wilderness, were all upon the point of being destroyed by thirst, as there was no water to be found in their passage, either for man or beast.

“And the king of Israel said, alas! that the Lord hath called these three kings together, to deliver them into the hand of Moab. But Jehoshaphat said, is there not here a prophet of the Lord, that we may enquire of the Lord by him: And one of the king of Israel’s servants answered and said, here is Elisha, the son of Shaphat. So the king of Israel and Jehoshaphat, and the king of Edom, went down to him.—And Elisha said, bring me a minstrel. And it came to pass when the minstrel played, that the hand of the Lord came upon him, and he said,
“Thus saith the Lord, make this valley full of ditches,” &c.

David, by having cultivated music so early in youth, seems to have been intended by his family for the profession of a prophet. St. Ambrose says, that he had always the gift of prophecy, and was chosen by God himself, in preference to all other prophets, to compose psalms. (Praef, in Psal. i.) See DAVID.

It has ever been the custom of legislators and founders of religion, in compliance with the prejudices of mankind, to retain part of the former laws and religious institutions. The Egyptians divided the inhabitants of their country into casts, or tribes, confining each profession to one family. And as music was many ages confined by them to the priesthood, and to religious purposes, the Hebrews, who had their arts and sciences from the Egyptians, and who adopted many of their religious rites, as the primitive Christians did afterwards those of the Pagans, in order to conciliate parties, and facilitate the establishment of a new worship, made both priests and musicians hereditary in the tribe of Levi. “And the sons of Aaron the priests shall blow with the trumpets, and they shall be to you for an ordinance for ever, throughout your generations.” Accordingly, during the life of Moses, none but the priests blew the trumpets, whether in peace or war: as, afterwards, in Joshua’s administration, both at the siege of Jericho, and upon all other occasions, we find the office of blowing the trumpets was still confined to the priesthood; and, when David first regulated the musical establishments, for the service of religion, it appears, that not only the select band of singing men and singing women, but all the four thousand performers upon instruments, were chosen from the families of priests and Levites.

Of the musical instruments of the Hebrews, so often mentioned in the Psalms, so discordant are the commentators on the subject, that no precise or satisfactory idea can be suggested on the subject. If, indeed, the least ray of hope remain, that a true idea of Jewish instruments can ever be acquired, it must be from the arch of Titus at Rome, where it is supposed that the spoils brought by that emperor from Jerusalem have been exactly represented in sculpture. Among these are several musical instruments, particularly the silver trumpets, called by the Hebrews chatzotzeroth; and horns, supposed to resemble the shawms, mentioned so often in scripture, called in Hebrew keranim, or sacerdotal trumpets.

But the arch upon which these instruments are sculptured, though, according to Venuti, of excellent workmanship, was not erected till after the death of Titus; and, to say the truth, the instruments are of no uncommon form. The trumpets are long straight tubes, as modern trumpets would be, if not folded up for the convenience of the player; and the horns are such as frequently occur in ancient sculpture. Examples of both may be seen in Blanchini, Bartholinus, Montfaucun, Padre Martini, and all the writers upon ancient music.

The reign of Solomon, so long, so pacific, and so glorious to the Hebrews, may be regarded as the Augustan age of that people; whose prosperity, during this period, not only enabled them to cultivate arts and sciences among themselves, but stimulated foreigners to visit and assist them. And as we find that the Romans, during the time of Augustus, and his successors, were indebted to the Greeks for a great part of their knowledge in the polite arts, so the Hebrews, under Solomon’s government, had assistance from Egypt and from Tyre. Riches and renown never fail to attract talents into a country from neighbouring kingdoms. As to music and poetry, which were put upon so respectable a footing in the former reign, they seem to have had their share of attention in this; particularly in the service of the temple, at the dedication of which, if we may credit Josephus, “Solomon made two hundred thousand trumpets, according to the ordinance of Moses: (Moses was ordered to make two trumpets of silver only. Numb. x. 2.) and forty thousand instruments of music (as if trumpets were not instruments of music) to record and praise God with, as the psaltery and harp of electrum,” a mixed metal, of which, according to Pliny, four parts were gold, and the fifth part was silver. Josephus has often been accused of inaccuracy in other things; and with respect to music, his accounts neither bear the marks of judgment nor fidelity; but we have information from much better authority, “That Solomon appointed, according to the order of David his father, the courses of the priests to their service, and the Levites to their charges, to praise and minister before the priests, as the duty of every day required.”
It is the opinion of many expounders and commentators of the sacred writings, that Solomon was author of some of the Psalms that are attributed to David. Of this we are certain, that he was no less fond of poetry than his father. In the first of Kings, iv. and xxv. we are told that “he spake three thousand proverbs; and his songs were a thousand and five.” But whether, like the royal psalmist, he was a practical musician, does not appear in the records of his reign. However, in Ecclesiastes, ii. 8. we find music mentioned by this voluptuous prince among the vain luxuries and vexations of spirit, with which he found himself satiated: “I gat me men-singers and women-singers, and the delights of the sons of men, as musical instruments, and that of all sorts:” which is all that can be gathered on the subject of music during this splendid reign.

A century passed from the dedication of the temple, without the mention of any thing remarkable in scripture concerning the music of the Hebrews, except the passage already cited, where Elisha calls for a minstrel to awaken inspiration, previous to his prophesying.

In the year 896, B.C. the singers are said to have contributed greatly towards obtaining a singular advantage in favour of Jehoshaphat, over the Ammonites and Moabites; the musicians following the camp in the same order as they served in the temple, marched as a vanguard in the field with their instruments: “And the Levites of the children of the Kohathites, and the children of the Korahites, stood up to praise the Lord God of Israel with a loud voice on high.-And when Jehoshaphat had consulted with the people, he appointed singers unto the Lord, and that should praise the beauty of holiness as they went out before the army, and to say, praise the Lord, for his mercy endureth for ever. And when they began to sing and to praise, the Lord set ambushments against the children of Ammon, Moab, and Mount Seir, which were come against Judah, and they were smitten.”

The Hebrews frequently attributed their success in battle to the animation given the troops by the trumpets, which were always blown by priests and Levites, whom the people highly reverenced, and regarded as inspired persons.

“And behold, God himself is with us, for our captain, and his priest with sounding trumpets, to cry alarm against you. And when Judah looked back, behold the battle was before and behind, and they cried unto the Lord, and the priests sounded with the trumpets. Then the men of Judah gave a shout; and it came to pass as the men of Judah shouted, that God smote their enemies.”

It was, in like manner, the part of the ancient Gallic, German and British druids, who were not only priests, but musicians, to animate their countrymen to the fight.

Thus far we have only had to speak of the cultivation and improvement of music among the Hebrews; we have little more to add, except what will indicate its neglect and decline.

But few memorials remain concerning it, from the victory obtained by Abijah, till the captivity and destruction of Jerusalem and the temple, by the Babylonians, in the reign of Jehoiakim. Before this period, music, and other sacred rites, had been frequently much corrupted, during the wars, and by intercourse with foreign nations; and at every attempt to restore them to their former purity and splendour, we find the number of those employed in the service of the temple diminished, and their efforts more feeble and ineffectual. At the restoration of the royal family, after the crown had been usurped by Athalian, we are told that “the princes and the trumpets stood by the king: and all the people of the land rejoiced, and sounded with trumpets, also the singers with instruments of music; and such as taught to sing praise.” And Jehoiada, during the minority of Joash, “appointed the offices with rejoicing, as it was ordained by David.” B. C. 878. And in this reign we find that “the singers, the sons of Asaph,” were restored to their places.

These continued, however, but a short time in the ministry, before they were driven out, and the king and people became proselytes to another form of worship. But after various revolutions both in religion and government, a powerful attempt was made, during the reign of Hezekiah, about 726 years B. C. to restore the temple to all its ancient splendour.

“And he set the Levites in the house of the Lord with cymbals, with psalteries, and with harps, according to the commandment of David.—And the Levites stood with the instruments of David, and the priests with the trumpets. —But the priests were too
“few” to perform all the ceremonies formerly solemnized in the temple. However, “there was now great joy in Jerusalem; for since the time of Solomon, there was not the like in Jerusalem.”

But this happy period was of short continuance; new schisms and new misfortunes soon put an end to it. And in the year 606, B.C. the Hebrew nation was subdued; the temple plundered and destroyed; and, soon after, both king and people were, by Nebuchadnezzar, sent captives to Babylon.

During the seventy years captivity, it is natural to suppose that the Hebrews were denied the celebration of their religious rites; nor could they have much time or inclination for domestic amusements or festivity; so that music, the child of leisure and happiness, and parent of innocent pleasure, must have been neglected and shut out of their houses, as an unwelcome guest. The idea of every thing that awakened recollection of former felicity, must have been painful in a state of slavery. “By the waters of Babylon we sat down and wept; when we remembered thee, O Sion. As for our harps we hanged them up upon the trees that are therein. For they that led us away captives, required of us then a song, and melody in our heaviness: Sing us one of the songs of Sion. How shall we sing the Lord’s song in a strange land: If I forget thee, O Jerusalem, let my right hand forget her cunning.”

These are the natural sentiments and feelings of a people but lately fallen from a state of prosperity and happiness, into that of bondage and misery.

All that has been hitherto collected relative to the music of the Hebrews, only shews that it was in general use among them, from the time of their quitting Egypt, till they ceased to be a nation: but what kind of music it was with which they were so much delighted, no means are now left to determine. That they had their first music and instruments, whatever they were, from the Egyptians, appears to admit of no doubt; but these seemed to have remained in a very rude state till the reigns of David and Solomon, when, perhaps, they were more improved in quantity and quality; for the great number of Levites, of singing men than singing women, as well as of trumpets, shawms, cornets, sackbuts, cymbals, and timbrels, could only augment the noisy cry of joy, or the clamour of petition.

However, we have no authentic account of any nation, except the Egyptians, where music had been cultivated so early as the days of David and Solomon, the brightest period of the Jewish history, the Greeks at that time having hardly invented their rudest instruments: for Homer and Hesiod, the refiners, if not the inventors, of Greek poetry; and Orpheus, Musæus, and Linus, to whom they attribute the invention of their music and instruments, all flourished, according to sir Isaac Newton, after these Hebrew monarchs.

With respect to the modern Jewish music, we have been informed by a Hebrew high priest, that all instrumental, and even vocal performances, have been banished the synagogue ever since the destruction of Jerusalem: that the little singing now used there is an innovation, and a modern licence; for the Jews, from a passage in one of the prophets, think it unlawful, or at least unfit, to sing or rejoice before the coming of the Messiah, till when they are bound to mourn and repent in silence: but the only Jews now on the globe, who have a regular musical establishment in their synagogue, are the Germans, who sing in parts; and these preserve some old melodies, or species of chants, which are thought to be very ancient. At Prague they have an organ. The same priest says that, being at Petersburgh some years since, the grand caliph of Persia was there likewise on an embassy, and had the service of his religion regularly performed in a kind of mosque fitted up in the czar’s palace for his use. That when he first heard this service performed, he found the singing so like that in the German synagogues, that he thought it had been done in derision of the Jews, and on that account soon withdrew. But, upon enquiry, finding it to be nothing more than the manner of singing common in Persia, he concluded that the Persians had borrowed this kind of chant from the ancient Oriental Jews. At present, he says, they sing it first single, and then add parts to it in a kind of chorus, like the German Jews.

Padre Martini has inserted from the “Estro-PoeticoArmonico” of Marcello, 1724, and from an inedited MS. by the cavalier Ercole Bottrigari, called “Il Trimerone de’ Fondamenti Armonici,” 1599, a great number of such Hebrew chants as were sung in the synagogues of different parts of Europe, at the time when these works were composed. But as no two...
Jewish congregations sing these chants alike, if tradition has been faithful in handing them down from the ancient Hebrews to any one synagogue, who shall determine to which such permanence can be attributed.

HEMIDIAPENTE, in Music.

Editorial note: A scientific article by John Farey Sr.

[A] semi-diapente or false, flat, or imperfect fifth

[This] is an interval whose ratio is $\frac{45}{64} = 311 \Sigma + 6 f + 27 m$. See Flat FIFTH.

HEMITONETONE,

Editorial note: A scientific article by John Farey Sr.

[A] semiditone, or demiditone, sesquitone, trihemitone, minor terece, or lesser or minor third, is an interval whose ratio is $\frac{5}{6} = 161 \Sigma + 3f + 14 m$.—See Minor THIRD.

HEMITONE, in Music,

Editorial note: All the following scientific articles on HEMITONE are by John Farey Sr.

[Is] the same with semi-tone or half-tone, on some occasions, but not always, as will appear from the following; viz.

HEMITONE of Aristoxenus or chromatic tonæcum of this author, Euclid, Holder, &c. is half the major tone, and has a ratio of $2\sqrt{2} + 3 = 52.00393 \Sigma + f + 4 m$ in the notation of J. Farey: its common logarithm being .9744237.3877, its value in the logarithms of Euler or decimals of an octave = .084962, and it is equal to 4.74070 major commas: not belonging to the diatonic scale, which admits of no aliquot divisions of intervals; it cannot therefore be tuned by any combination of perfect concords.

HEMITONE of Euclid’s diatonum syntonium or intense, of his diatonum molle, and of his chromatonæcum, is an interval the $\frac{6}{36}$ th or $\frac{1}{6}$ th part of diatessaron or minor fourth, = $508031.45 \Sigma + f + 4m$, or $50 \frac{5}{8} \Sigma + f + 4 \frac{3}{4} m$, whose common logarithm is .9750122.5268, the logarithm of Euler or decimal of an octave is .083008, and it contains 4.63162 major commas; see Holder’s “Treatise on Harmony,” p. 103, and Overend’s MS. in the library of the Royal Institution, vol. iii. p. 49.

HEMITONE of Euclid; the greater in his diatonum molle, is $\frac{9}{36}$ th of the diatessaron or fourth, answering to the interval from C to D (according to Overend), is, in Farey’s notation, = 76.27168 $\Sigma + f + 7 m$ or 7 $\frac{3}{2} + 1 \frac{1}{2} f + 6 \frac{5}{8} m$, whose common logarithm is .96251813.7912; its binary or Euler’s logarithm is .1245114, and it contains 6.947483 major commas.

HEMITONE, Greater, or maximus of Holder, is an interval whose ratio is $\frac{15}{16} = 68 \Sigma + f + 6 m$, which is the SEMITONE maximum of Overend; see that article.

HEMITONE, Major, or Hemitone of Dr. Smith, is an interval whose ratio is $\frac{15}{16} = 57 \Sigma + f + 5 m$, which is the SEMITONE major of the nomenclature which we have adopted from Overend; see that article.

HEMITONE, Major, of Boethius, has a ratio of $\frac{2046}{2048} = 58 \Sigma + f + 5 m$, and is the apotome of the Greek scales of music, of Pythagoras, Overend, &c.; it is the absciss of Dr. Boyce, the flat and sharp of Dr. Calcott (Grammar, p. 112), and of Overend’s great scale, the sharp of Dr. Boyce; the chromatic semitone of Dr. Calcott, &c.

In our article APOTOME, we omitted to state the value of this interval in the different notations, which therefore we shall supply in this place, after noticing, that by mistake its ratio was there stated to be $\frac{2187}{2048}$ instead of $\frac{2046}{2047}$, as above: which in its component primes is $\frac{3}{2}$; its common logarithm is .9714811.6927, and its binary or Euler’s logarithm is .1245114, and it contains 5.28613 major commas and 58.138976 schisms; it is equal $2 \frac{2}{3}$ $- t - s$. The apotome is formed by the addition of the following pairs of intervals, viz. a semitone major and a schisma; a limma and a diachisma; a semitone medius and a major comma; a semitone minimum and a chromatic diesis; a semitone minor and two major commas; a major residual and two chromatic dieses; a semitone subminimus and three major commas; a prisma and four diachismas; a dieze minime and four major commas; a medius residual and five major commas, &c.

It is also equal to the difference between the following intervals in pairs, viz. a major tone and a limma; a semitone maximum and a minor comma; a tone maximum and a semitone major; two minor
semitones and a dieze minime; two semitones minimum and a major residual; two semitones medius, and a minor semitone; three minor semitones and two semitones subminimis; four semitones subminimis and three dieze minime, five dieze minime and four medius residuals, &c. Our general table shews in like manner, fifteen ways in which the apotome can be compounded of the sum of three intervals; 24 in which it results from taking one interval from the sum of two; others, and 22 where it results from taking the sum of two intervals from a single one, but the above must suffice, except mentioning, that this interval is equal to 7 V – 4 VIII, 3 V – 44ths, or 3 3 + 3 III – 44ths by either of which it can be correctly tuned by perfect concords, on an instrument having a sufficient number of strings or pipes.

HEMITONE Medium, of Holder, is an interval whose ratio is \( \frac{1 \times 17}{18} = 47 \Sigma + f + 4 m \), or the SEMITONE medius; which see.

HEMITONE Minor, of Holder, or less half note, has a ratio of \( \frac{24}{25} = 36 \Sigma + f + 3 m \), or the SEMITONE minor, which see.

HEMITONE Minor of Boëthius and Sauveur: the ancient hemitone mentioned by Pythagoras, Aristothenus, &c. It is what a fourth exceeds two major tones, and has a ratio of \( \frac{243}{259} = 46 \Sigma + f + 4 m \), or the Limma; which see.

HEMITONE, Artificial, of Holder, is an interval whose ratio is \( \frac{10}{19} = 45.270982 \Sigma + f + 4 m \); its common logarithm being .9777236.0529, its Euler’s log. = .074006, and it contains 4.129058 major commas. Mr. Holder observes, that this hemitone differs from the limma of Pythagoras only by the ratio \( \frac{1216}{1215} \), which is .270982 \( \Sigma \), as above.

HEMITONE, Greater, of Quintilian, is an interval whose ratio is \( \frac{16}{19} = 53.533181 \Sigma + f + 5 m \), its common logarithm is .9756710.6128, its Euler’s logarithm, or decimal of the octave, is .087463, and it contains 4.88023 major commas. This is the false semitone of the trumpet and French horn, being 4 octaves below the sound yielded by \( \frac{1}{17} \) th part of the whole length of the tube, or fundamental.

HEMITONE, Lesser, of Quintilian, has a ratio of \( \frac{17}{18} = 50.46033 \Sigma + f + 5 m \); its common logarithm is .9751764. 1627, its Euler’s logarithm = .082462, and it contains 4.601184 major commas. Dr. T. Young, in his account of his HARMONIC Sliders, (see that article,) calls this an imperfect unison.

HEMITONE, Subminimis, of Mersennus, Holder, &c. is an interval whose ratio is \( \frac{243}{259} = 25 \Sigma + f + 2 m \), or the SEMITONE subminimis; which ste.

HEMITONE Wolf, is the small discordant interval which results, between eleven major hemitones or semitones and the octave, which in Mr. Farey’s notation is 14.70068 \( \Sigma + f + m \), or 15 \( \Sigma – f + m \), equal to the sum of the major residual and nine schismas, the greater fraction and 14 schismas, &c.; its common logarithm is .992714.3606, its Euler’s logarithm = .02420, and it contains 1.35056 major commas.

Editorial note: All the following scientific articles on HEPTACHORD are by John Farey Sr.

HEPTACHORD, of ἐπτα , seven, and χορδη, chord, in the Ancient Music. Heptachord was applied, according to the etymology of the term, to the lyre, when it had but seven strings, and is generally said of any instrument that has but that number; one of the intervals is also called heptachord, as it contains that number of degrees between its extremes. See SEVENTH.

In the ancient poetry, it signified verses that were sung or played on seven chords, notes, or sounds, and probably on an instrument with seven strings. See LYRE.

HEPTACHORD, Major, is the major greater, or sharp seventh, an interval whose ratio is \( \frac{8}{15} = 555 \Sigma + 11 f + 48 m \). See Major SEVENTH.

HEPTACHORD, Minor, is the minor seventh, or greater of the flat sevenths, an interval whose ratio is \( \frac{5}{9} = 519 \Sigma + 10 f + 45 m \). See Minor SEVENTH.

HEPTACHORD, Minor, of Galileo, is the minor seventh or lesser of the flat sevenths, an interval whose ratio is \( \frac{9}{16} = 508 \Sigma + 10 f + 44 m \). See Minor SEVENTH.

HEPTAMERIDE, from ἑπτά , seven, and μελος, a part, in Music. is one of the intervals in the system of M. Sauveur, (Mem. de l’Acad, des Sc. 1701,) who divides the octave into 40 parts, which he calls me-
Guido had originally only the Roman literal nota

scales of six sounds. In the general system, the scale

belong to no other theme or occasion.

may naturally arise out of the subject, and seem to

of composition is selection and rejection, that all

or movement alike on all occasions. The moral part

promiscuously to use every thing belonging to a key

rhythm, the melody, the voice of the singer; and

what belonged to the mode or key, to the subject, the

sisted in knowing how to choose, upon all occasions,

or measure consists of two equal notes. See

of the octave, and \( \frac{1}{7} \) th part of the

meris or meride (which see). It is equal to 2.0405742 \( \Sigma \)

its common logarithm is .9989999.0035, its Euler’s

log. = .0033226, and it is equal to .185374 of a major

comma. Dr. Busby, in his “Dictionary of Music,”

mentions this interval as belonging to the ancient

music; we are not aware, however, of its use more

than a century ago, when M. Sauveur introduced it

in his logarithmic tempered system, with all the

principles of which the ancients were unacquainted,

as far as we know.

HERTOMHICUS, a dactylic air. (See HARMATIAN AIR.) Dactyl

tic is a name given, in Ancient Music,

to that kind of air or nome of which the rhythm

or measure consists of two equal notes. See

RHYTHM.

They also called a nome dactylus in which this

rhythm was frequently used, as the Harmathian,

and the Orthian nome.

Julius Pollux doubts whether dactylus implied the

sort of instrument, or the form of melody; a doubt

which is solved by what Aristides Quintilianus says

in his second book, and which can only be under-

stood, by supposing that the term dactylus signifies

at once the instrument and the air; as with us, says

Rousseau, the words musette and tambourine.

HERMOSMENON, in the Greek Music, a term

which implied morals, propriety, and fitness. It con-

sisted in knowing how to chuse, upon all occasions,

what belonged to the mode or key, to the subject, the

rhythm, the melody, the voice of the singer; and

promiscuously to use every thing belonging to a key

or movement alike on all occasions. The moral part

of composition is selection and rejection, that all

may naturally arise out of the subject, and seem to

belong to no other theme or occasion.

HEXTACHORD, from the Greek, is a term, in Music,

implying either an instrument with six strings, or

a scale of six sounds. In the general system, the scale

of Guido had originally only the Roman literal nota-
tion; and it was some time after its invention that it

was divided into these relative hexachords, which

were interwoven into each other, and called by these

several names: as the durum hexachord, from gam-
mus, or G to E; the natural hexachord, from C to A;

and the moll hexachord, from F to D, in which B is

flat. The term hexachord never appears in the Micro-

logus. See these terms severally explained.

The syllables supposed to be taken by Guido

from the hymn to St. John the Baptist, “Ut quean

laxis resonare libris, &c.” Ut re mi fa sol la, and being

applied to each of these hexachords, was to give ar-
ticulation to sounds in singing, and assist the stu-
dent in hitting distances.

And it is from the mixture of these hexachords

that the mutations in solmisation arise. See MUTA-

TION, SOLMISATION, and Harmonic HAND.

Editorial note: All the following scientific articles on

HEXTACHORD are by John Farey Sr.

HEXTACHORD, Major, or Hexacordon major, is

the major, greater, or sharp sixth, an interval whose

ratio is \( \frac{5}{6} = 45 \Sigma + 9 f +.39 \) m. See Major SIXTH.

HEXTACHORD Major, of Galileo, is an interval

whose ratio is \( \frac{16}{27} = 462 \Sigma + 9 f +39 m \), and is the

comma-redundant major SIXTH, which see.

HEXTACHORD Minor, or Hexacordon minor is

the minor, Isser, or flat sixth, whose ratio is \( \frac{4}{5} = 415 \Sigma + 8 f +36 \) m. See Minor SIXTH.

HEXTACHORD minor, of Galileo is an interval

whose ratio is \( \frac{28}{31} = 426 \Sigma + 8 f +37 m \), which is the

comma-deficient minor SIXTH, which see.

HEXTACHORD, Minor, of Didymus, is an interval

whose ratio is \( \frac{41}{45} = 404 \Sigma + 8 f +35 m \), which is the

comma-deficient minor SIXTH, see that article.

Vol 18 Hibiscus-Increment

HIGH, in Music, is sometimes used in the same

sense with local, in opposition to low; and some-
times in the same sense with acute, in opposition to

grave.

HISTORICAL MUSIC, musica historica, is that

branch of music which treats of the origin and in-
vention of music, of modes, of notes, instruments,

&c. as also the lives and writing of celebrated au-

thors on that subject.
HOLD, in Music, is a mark, like an arch, with a point in the middle of it, placed over some single notes, which has been used to signify that such note is to be made longer than ordinary; but it now more commonly denotes that the song ends there, and is only used when the song ends with a repetition of the first strain, or part of it.

HOLDEN'S Temperament of the Musical Scale.

Editorial note: A Scientific article by John Farey, Sr.

In Mr. John Holden’s “Essay towards a Rational System of Music,” he recommends a system of tuning common-keyed instruments, in which the series of eight 5ths C, G, D, A, E, B, ♯F, ♯C and ♯G upwards are each flattened ⅕th of a major comma, and the three 5ths C, ♯B, and ♯E. downwards, are also flattened ⅕c, leaving a wolf or bearing 5th between: ♯G and ♯E. Mr. Farey, in the 5th Scholium to his Musical Theorems, in the Phil. Mag. vol. xxxvi. P. 46, shews, that in this regular duzeave, the fifths are is much tempered flat as the major thirds are sharp (not flat as printed), and whence we obtain the fifth’s temperament = 2.20157 Σ flat, the Vth wolf = 12.20944 Σ the IIId temperaments 2.20157 Σ sharp, the 111d wolves = 16.61258 sharp, the VIth temperaments = 4.40314 Σ sharp, and the VIth wolves = 18.81316 Σ: sharp. Only three of the fifths, viz, between C, G, ♯E, and ♯B in this system, differ from those in MR. HAWKE’S Deuzeave System, see that article.

At pages 338 and 364 of the work above quoted, Mr. Holden, proceeding on the mistaken Principles to which we have adverted in our article GRAVE Harmonics, gives an ascending and a descending scale of intervals, which, when combined and reduced to one fundamental, stand as follows: viz.

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By the decimal fractions of schismas (Σ) in the third column, it will appear, which of these ratios involve the number 7, which does not belong to the diatonic system, amounting to nearly one-half of the whole number of notes, with which this fanciful system is encumbered.

HOQUETUS, HOCHETUS, or Hocetus, a term used in the old Latin tracts, and in the censures of music by the heads of the church and grave divines, seems to imply a fantastical division, which by the sudden leaps and breaks, or discontinuity of voices, resembled a hiccup, in French hoquet. “They intersect the melodies with hoquets, slide about in dis- cant, and sometimes even crowd and load the chants with vile third and fourth parts, triplis et motetis vulgaribus.”

HORMUS, in Ancient Music, was a dance of a gay kind for girls and boys, in which the boys took the lead, putting themselves in manly and military attitudes, the girls following in gentle and modest steps, harmonizing the two virtues of force and temperance.

The Grecian girls of good families assembled in troops, ornamented with nosegays, garlands, and chaplets of flowers; they afterwards went to the temples, singing hymns, at the solemn festivals, or at the nuptials of some one of their companions.

The Laceæmonian dance consisted of three parts at the same time.

Age – We have been valiant.
Youth – We are so at present.
Infancy – We shall be so in our turn.

HORN is also a sort of musical instrument, of the wind kind; chiefly used in hunting, to animate and bring together the dogs and the hunters.

The horn may have all the extent of the trumpet. The term for sounding anciently was, wind a horn; all horns being in those times compassed; but since straight horns are come in fashion, they say, blow a horn; and sometimes, plainly sound a horn.

There are various lessons on a horn; as the recheat, double recheat, royal recheat, running or farewell recheat, &c. See RECHEAT.

Wind instruments of this name and form are as numerous and various, as the animals that nature has armed with this weapon. The principal instrument, however, under that denomination, is the French horn, cor de chasse, hunting horn, or corno da
used for the editing means the figures are illegible.

The horn is a long tube, narrow at the top, and en- creasing in diameter to the end, where its mouth is very wide. It is curled up in a ring or rings, for the convenience of carriage and performance.

It has no holes or keys with which to form different tones; the whole scale is produced by different modifications of the breath at the mouth-piece, by the lips and tongue.

It has the same series of notes as the trumpet, only an octave lower. All the music that is composed for it, is written in the key of C, and its pitch is altered now to any other key by crooks. At the beginning of a movement, the key is indicated by one of the seven letters of the gammut; as D horn, E♭, F, or G horn, &c. Its natural scale is a regular series of eight notes with the addition of an occasional sharp 4th, and the harmonics of the key below.

Attempts at chromatic horns have been made early in the last century, in Germany; the Messings formers in general are able to reach, in which the column of air in the tube vibrates in two equal parts; by blowing a little harder, the performer has it in his power to cause the column of air in the tube to divide itself into three equal parts, and whose vibrations consequently have the ratio of ¼ to the fundamental, or VIII + V; a little harder blowing will occasion three nodes or quiescent points in the tube, and the ratio of the sound will be ⅓, or 2 VIII: harder still produces ⅕, or 2 VIII + III: the next note is ⅓ or 2 VIII + V, a repetition of ⅓ an octave higher; then ⅐, which is a false or unnatural note, less than the minor 7th ⅗ by 24.9472 Σ + 2 m, the note being 2 VIII + this false 7th above the fundamental tone of the instrument. By blowing still harder each ⅕th part of the tube’s length yields its sound, which has the ratio ⅖, or 3 VIII: the next is ⅕, and gives 3 VIII + II, or the true major tone: then ⅕, or 3 VIII + III, a repetition of ⅕ th : then comes ⅓, which is 27.25 171 Σ + 2 m sharper than a true minor fourth, being 3 VIII + this false 4th : the next note is ⅐, or 3 VIII + V, another repetition of ⅐ : then ⅔, which also is a false note, 22.58107 Σ + 2 m lower than a true major sixth, or 3 VIII + this false VIth : then ⅔, which is a repetition of the false 7th, or ⅔, but an octave higher : then ⅕, or 3 VIII + VII or true major seventh, ⅕, or 8 VIII: then ⅕, which is a false minor second, 3.46819 less than the major semitone, ⅕, or 4 VIII + this false 2d : then ⅕, or 4 VIII + II, a repetition of ⅕ above : then ⅕ which is a false minor third, less by 9.27098 Σ + m than the true minor third, ⅕, or 4 VIII + this false 3d : then ⅕, or 4 VIII + III a repetition of ⅕, two octaves higher; then ⅕, or 3 VIII + V + the false 7th arising from ⅕ or another false minor fourth (differing 41.1989 Σ + 3 m, from ⅕ above), which is 13.9472 Σ m flatter than the true 4th. Next, by increasing the strength of the blast, will arise ⅕ which is a repetition of the false former.

The French horns used in concerts are usually tuned an octave lower than the trumpets, to which they are closely allied in their principles. The whole length of tube yielding the fundamental note is often about ten feet, but it is the octave of this that performers in general are able to reach, in which the column of air in the tube vibrates in two equal parts: by blowing a little harder, the performer has it in his power to cause the column of air in the tube to divide itself into three equal parts, and whose vibrations consequently have the ratio of ¼ to the fundamental, or VIII + V; a little harder blowing will occasion three nodes or quiescent points in the tube, and the ratio of the sound will be ⅓, or 2 VIII: harder still produces ⅕, or 2 VIII + III: the next note is ⅓ or 2 VIII + V, a repetition of ⅓ an octave higher; then ⅐, which is a false or unnatural note, less than the minor 7th ⅗ by 24.9472 Σ + 2 m, the note being 2 VIII + this false 7th above the fundamental tone of the instrument. By blowing still harder each ⅕th part of the tube’s length yields its sound, which has the ratio ⅖, or 3 VIII: the next is ⅕, and gives 3 VIII + II, or the true major tone: then ⅕, or 3 VIII + III, a repetition of ⅕ th : then comes ⅓, which is 27.25 171 Σ + 2 m sharper than a true minor fourth, being 3 VIII + this false 4th : the next note is ⅐, or 3 VIII + V, another repetition of ⅐ : then ⅔, which also is a false note, 22.58107 Σ + 2 m lower than a true major sixth, or 3 VIII + this false VIth : then ⅔, which is a repetition of the false 7th, or ⅔, but an octave higher : then ⅕, or 3 VIII + VII or true major seventh, ⅕, or 8 VIII: then ⅕, which is a false minor second, 3.46819 less than the major semitone, ⅕, or 4 VIII + this false 2d : then ⅕, or 4 VIII + II, a repetition of ⅕ above : then ⅕ which is a false minor third, less by 9.27098 Σ + m than the true minor third, ⅕, or 4 VIII + this false 3d : then ⅕, or 4 VIII + III a repetition of ⅕, two octaves higher; then ⅕, or 3 VIII + V + the false 7th arising from ⅕ or another false minor fourth (differing 41.1989 Σ + 3 m, from ⅕ above), which is 13.9472 Σ m flatter than the true 4th. Next, by increasing the strength of the blast, will arise ⅕ which is a repetition of the false former.
fourth $\frac{1}{12}$ as above, an octave higher: then $\frac{1}{2}$, which is a false minor fifth, $9.460262 + m$ sharper than the semi-diapente or flat fifth $\frac{45}{44}$, or $4 \text{ VIII} + \text{V}$ this false $5\text{th}$, which is $19.46026 \Sigma + 2$ in sharper than the major fourth or tritone $\frac{22}{21}$, then $\frac{1}{24}$, or $4 \text{ VIII} + \text{V}$, a repetition of $\frac{1}{2}$, three octaves higher, then $\frac{1}{27}$, or $4 \text{ VIII} + 2 \text{ III}$, the double (or square) of $\frac{1}{2}$, and is $21 \Sigma + 2 \text{ m}$ flatter than the true minor sixth, or $4 \text{ VIII} + \text{this false 6\text{th}}:$ then $\frac{1}{29}$, which is the repetition of the false major sixth $\frac{1}{15}$, above; then $\frac{1}{27}$, or $3 \text{ VIII} + 3 \text{ V}$ the triple of $\frac{3}{5}$, is another false major sixth (differing $23.58107 \Sigma + 3 \text{ m}$ from $\frac{22}{21}$ above), or $4 \text{ VIII} + a$ comma-redundant major sixth instead of the true VI: then $\frac{1}{30}$, which is a repetition of the false minor seventh or $\frac{1}{7}$ as above, but two octaves higher: then $\frac{1}{29}$ which is another false minor seventh (differing $31.0707 \Sigma + 3 \text{ m}$ from $\frac{22}{21}$, above) and being $6.12449 \Sigma + \text{ m}$ sharper than the minor seventh, $\frac{5}{9}$, or $4 \text{ VIII} + \text{this false 7\text{th}}:$ then $\frac{1}{30}$ or $4 \text{ VIII} + \text{VII}$, a repetition of $\frac{1}{15}$ an octave higher; and lastly, $\frac{1}{27}$ is a false eighth less than the octave by $28.1748 \Sigma + 2 \text{ m}$, or $4 \text{ VIII} + \text{this imperfect VIII}$.

And thus we have all the natural horn or trumpet notes within the compass of five octaves, of which it may be observed, that the IIId, Vth, and VIIIth are the only concords found among these horn notes, which explains the reason of these being the only Acute HARMONICS (see that article) which accompany a note: the IId and 6th composed by doubling these harmonics, the XIIth and the XVIIth; the VIIth by tripling the XIIth; and the VIIth by combining the XIIth and XVIIth together, are the only other notes of the horn or trumpet which belong to the diatonic scale, this diesis-deficient minor sixth, and the comma redundant major six, being however inapplicable to practice, and all the remaining ten notes, enumerated above, are anomalous, and have the effect of highly tempered notes or wolves in the practice of diatonic music, which is alone used at this day. Composers for the horn contrive to introduce as few of these false notes into their pieces as possible, and modern horn players also, by introducing their hand, or a block of wood, into the broad end of the horn, contrive, by habit, to correct many of the false intervals when playing in concert; but this is often done at the expense of clearness and fullness of tone.

The late Mr. Charles Clagget, by combining two horns or trumpets of different pitches together, so that the same mouth-piece, by means of a slide, acted on by the finger, could instantly be made to sound either tube, which he called his chromatic French-horns and trumpets, pretended, that by this means all the false notes were corrected: which of course supposed, that they were all alike tempered or defective, and that these lay all the same way, but which is far from being the case, as will appear from the recapitulation of the temperaments in the margin,*

*Editorial note: * Printed below

| \text{7\text{th}} | \Sigma | \text{24.747} |
| \text{VI} | \Sigma | \text{22.581} |
| \text{6\text{th}} | \Sigma | \text{21.000} |
| \text{4\text{th}} | \Sigma | \text{13.947} |
| 3d | \Sigma | \text{9.271} |
| 2d | \Sigma | \text{3.468} |

where, however, the flat fifth is omitted, being sharpened $+ 9.460 \Sigma$ and consequently it would be further injured by a new tube, sharper than the first, either $15836 \Sigma$ (which is the mean among the above flat temperaments), or by any other difference of pitch in the two tubes, which might be adopted. We shall resume the curious theory of this instrument in the article TRUMPET. Horns are tuned, or brought to the proper pitch for playing in concert with other instruments, by means of short pieces of tube of different lengths called crooks, which are put on or taken off below the mouth-piece, so as to lengthen or shorten the entire length of the tube, according as the pitch wants lowering or raising.

HORN PIPE, in Music, the name of an instrument, and of a tune. The hornpipe air, so frequently danced by our sailors and active stage dancers, is perhaps the only national tune, or melody, which we can call our own. It is of high antiquity, and can be traced to the ancient Britons, perhaps before the invasion of Julius Caesar, or the Saxons. The instrument, in our old authors, is called the Pip-corn, or pipe of Cornwall. And when the Britons were driven by the Saxons, some into Wales, some into...
Armorica, or Britanny, and some into Cornwall, we may suppose the instrument and tune to have been preserved in the last mentioned province, and to have retained its name. The instrument called a hornpipe, though unknown in England, was a few years ago so common in Wales, according to the late honourable Daines Barrington, that even the shepherd’s boys used to play on it. It consists, says Mr. B., of a wooden pipe with holes, at proportional distances, and a horn at each end, the one to receive the wind from the mouth of the player, and the other to produce the sounds, as modulated by the performer. Mr. Barrington communicated to the Antiquarian Society a delineation and description of this rustic instrument (Archæologia, vol. iii, p. 33.), and conjectured that it originally gave the name to the tune called a hornpipe.

Chaucer, in his Romant of the Rose, fol. 135, mentions this instrument.

Controue he would, and foul faile
With HORNPIPES of CORNEWAILE.

Mr. Jones, in one of his tracts, says that the pibgorn, or hornpipe, is peculiar to the isle of Anglesea; but the word in old English and French authors, implies a tune as well as an instrument.

The Lancashire hornpipes, Cheshire rounds, and some of our very old country dances, are, perhaps, genuine English melodies; but melody, till after the invention of the opera at Florence in 1600, was little cultivated in any part of Europe. We had very good church music in our cathedrals, from the time of Tal lis and Bird, to the arrival of Handel, in 1710; but being set to English words, it never reached the continent.

HUNGARIAN Music. There is no doubt (says Mr. Laborde) but that the Hungarians, in abandoning Asia, about the ninth century, in order to inhabit Europe, made use of Asiatic musical instruments during their first years’ residence there.

These were almost all wind instruments; of which their names, that still retain their Hungarian appellations, and are of that kind, is a proof. As the trumpet, bucchina, is called kuxt in the Hungarian dialect, and the flute, sip, &c. Other instruments have names, derived from other languages, as izimlalom signifies cymbalum; orgona organum; trombita tuba. All these words are of Greek, Latin, or German extraction, whence we conclude that the Hungarians, in quitting Asia, had only wind-instruments. If they had had others, they would have had words to express them. We see likewise that the pike, the bow, arrow, and sabre, are the only arms of which the names are Hungarian, as these were the only arms which this people knew when they arrived in Europe: their other military weapons are expressed by foreign words.

Hungarian music remained in its pristine state of mediocrity till the reign of Corvinus, who was proclaimed king of Hungary at the age of 15, in 1458, and afterwards conquered the kingdom of Bohemia, and died at 47, in 1490.

This prince rendered Hungary equal to other countries in arts and sciences, by his patronage and cultivating them himself. The pope’s nuncio, who came to Buda in 1483, to make peace between the emperor Frederic and Corvinus, in a letter to his holiness, says, “the singers of this prince’s chapel are the best of all those I have ever heard.”

Music was cultivated with the same ease under king Ladislaus VI. and Lewis II., but not with the same pomp, the number of musicians of the household was considerably diminished. It appears likewise by the state of music which is still preserved, that wind instruments have the precedence over all others.

The Hungarians, like all people not quite civilized, had tunes without time or key, to which they sung their coarse national ballads without harmony; however, though almost all uncultivated people love high tones and noisy music of a light and vulgar cast, the Hungarians preferred soft sounds and slow measures: which has rendered their music more of the feminine than the masculine gender. And we still see among the peasants who preserve their primitive manners longer than the higher orders of the people, that the girls assemble on great festivals, and sing in chorus odes and ancient poetry, which is never done by boys. Men, however, cultivated music; but it was only to celebrate the prowess of their ancestors in patriotic songs. It is related that in a repast given by Attila, the Enckesius, or director of the music, had a seat on the right hand of the throne; and that after the service two men sung verses composed in honour of Attila’s victories. Part of the audience wept, and, adds the historian, the rest grew furious and
desired to be led to battle. Two stanzas of these songs have been preserved in their original language, and in Latin to the following purport.

“Let us ever remember those ancient domains,
Which our ancestors left when they flew
To a climate more mild, from the Scythian plains,
Where dread mountains of snow are in view.

“To Hung’ry they hasten’d, with God for their guide,
And chose Transylvania for home;
Be their force and their courage forever our pride,
But, like them, let us ne’er again roam.”

The knowledge of music was introduced into Hungary by the Christian religion and belles lettres. As to the time when music was first in use at court, there appears, in a diploma granted by king Bela III, in 1192, that a person was sent to Paris of the name of Elvin, to learn the French melody. It likewise appears in the journals of the kings of Hungary, that the Hungarians, who came from Asia into Europe, brought to their new habitations the Asiatic manners, airs, dances, and songs; but that in process of time they cultivated the music and dancing of the neighbouring nations of Europe, till at length these two arts, practised by the sovereigns themselves, were held in great favour throughout the kingdom of Hungary. Essais sur la Musique.

HYDRAULIC, in the Ancient Music, an organ blown by the fall of water. From the description of this instrument by Vitruvius, cap. xiii. it seems as if the water which forced the air into the pipes was pumped by men. Indeed, it has been much disputed whether it was played with fingers, by means of levers or keys; and yet the description of it by Claudian seems such a one as would suit a modern organ, only blown by water instead of bellows.

“Vel qui magna levi detrudens murmura tactu
Innumeris vocescegetis moderato aënae
Intonet erranti digito, penitusque trabali
Vecte laborantes in carmina concitet undas.”

In Athenæus, lib. iv. p. 174, there is a history and description of this instrument. He tells us that it was invented in the time of the second Ptolemy Euergetes, by Cesibius, a native of Alexandria, and by profession a barber: or rather, that it was improved by him, for Plato furnished the first idea of the hydraulic organ, by inventing a night-clock, which was a clepsydra, or water-clock, that played upon flutes the hours of the night at a time when they could not be seen on the index.

The anecdote in Athenæus concerning the mechanical amusements of the great ideal philosopher, is curious. What a condescension in the divine Plato to stoop to the invention of any thing useful! This musical clock must have been wholly played by mechanism. But neither the description of the hydraulic organ in Vitruvius, nor the conjectures of his innumerable commentators, have put it in the power of the moderns either to imitate, or perfectly to conceive the manner of its construction; and it still remains a doubt whether it was ever worthy of the praises which poets have bestowed upon it, or superior to the wretched remains of the invention still to be seen in the grottos of the vineyards, near the city of Rome.

The pneumatic organ, or instrument blown by bellows, and furnished with keys, such as are in present use, though perhaps a descendant from the hydraulicon, will have a distinct article, where its invention will be discussed, and its improvements traced, among those of modern instruments.

HYMN, a song, or ode in honour of God; or a poem proper to be sung, composed in honour of some deity. See ODE and SONG.

The word is Greek, ύμνος, hymn; formed of the verb ύδω, celebro, I celebrate. Isidore, on this word remarks, that hymn is properly a song of joy, full of the praises of God; by which, according to him, it is distinguished from threna, which is a mourning song, full of lamentation.

The hymns, or odes, of the ancients, generally consisted of three stanzas or couplets; the first called strophe; the second antistrophe; and the last epode.

St. Hilary, bishop of Poitiers, is said to have been the first that composed hymns to be sung in churches; he was followed by St. Ambrose. Most of those in the Roman breviary were composed by Prudentius. They have been translated into French verse by Messieurs : De Port Royal. The Te Deum is also commonly called a hymn, though it be not in verse; so also is the Gloria in excelsis.

In the Greek Liturgy there are four kinds of hymns; but then the word is not taken in the sense of
a praise offered in verse, but simply of laud, or praise. The angelic hymn, or Gloria in excelsis, makes the first; kind; the trisagion, the second; the cherubic hymn, the third; and the hymn of victory and triumph, called επιυϰιος, the last.

HYMN of Castor, in the Music of the Ancients. The Lacedemonians, in marching to battle, played on the flute what they called Castoreum Melos. Some authors pretend that Castor himself invented this hymn, and that from him it had its name; others that Minerva invented the hymn of Castor, and that this air served at first for the Pyrrhic dance.

HYMN of Aristotle to Hermias. Aristotle honoured his friend and kinsman, Hermias, prince of Atarnea, with a hymn, or canticle, which is preserved in Athenæus, and in Diogenes Laërtius, for which he is said to have been arraigned at a court of justice, where he was accused of impiously lavishing upon a mortal such honour and praise, as were due only to the gods.

Aristotle’s Hymn to Hermias.

“Virtue thou source of pure delight,
Whose rugged mien can ne’er affright
The man with courage fir’d;
For thee the sons of Greece have run
To certain ills, which others shun,
And gloriously expir’d.

“When’er thy sacred seeds take root,
Immortal are the flow’rs and fruit,
Unfading are the leaves;
Dearer than smiles of parent kind,
Than balmy sleep, or gold refin’d,
The joys thy triumph gives.

“For thee the Twins of mighty Jove,
For thee divine Alcides strove
From vice the world to free;
For thee Achilles quits the light,
And Ajax plunges into night,
Eternal night, for thee.

“Hermias, the darling of mankind,
Shall leave a deathless name behind
For the untimely slain;
As long as Jove’s bright altars blaze,
His worth shall furnish grateful praise,
To all the Muses’ train.”

The offence given by Aristotle in this poem, which his enemies denominated a Pæan, seems to have been the saying that the actions of his friend would be sung by the Muses, as long as the worship of Jupiter Hospitalis continued. Athenæus, however, did not regard it as a true Pæan, because the characteristic exclamation Io Pæan did not occur in any part of it.

HYMN of Battle, a kind of air which was sung by the Greeks when they advanced to battle, and began to charge instead of the shout, which was used at other times. Traces of this custom are still found amongst the Arnauts, inhabitants of Macedonia, now subject to the Turks. These people, stout and bold, like their ancestors, engage with a rapid pace; the chief sings, and his troops answer, whilst they press forward with an accelerated velocity. These hymns ought to be short, and consist of short verses, set to a lively air. Horace speaks in one of his odes of a poet called Tyrtaeus, who, in the wars of Messina, animated by his verses the Lacedæmonians to such a degree, that they thus gained a complete victory. In the time of Thucydides, how-ever, the Lacedæmonians marched in silence to the sound of flutes, and by its cadence regulated their steps, the better to preserve their ranks. It was this, without doubt, which gave marshal Saxe the first idea of marching to time; one of the best plans that could be devised to perfect the military art.

HYMNAIA, in Mythology, a surname given to Diana, under which appellation she was worshipped, and had a temple in Arcadia.

HYMNUS, Lat. ύμυος, Gr, a song in honour of gods or heroes. The difference between a hymn and a canticle consists in this, that the canticle more generally relates to actions, and the hymn to persons. The first songs of all nations have been canticles or hymns. Orpheus and Linus passed among the Greeks for the authors of the first hymns, and there remain among the works of Homer a collection of hymns to the gods.

We have a fine translation of the hymn of Callimachus to Apollo, by Prior, and of Homer’s hymn to Venus, by Congreve.

HYPATE, ὑπατη μεσωυ, in the Greek Music, an epithet by which the Greeks distinguish the lowest tetrachord, and the lowest string of each of the two lowest tetrachords.
HYPATE, Hypaton, was at one higher than the proslambanomenos. See Greek SCALE and NOTATION.

HYPATE Meson, μεσον, the lowest string of the second tetrachord, which was also the most acute of the first, as these tetrachords were conjoint. See CONJOINT.

Editorial note: Scientific article by John Farey sr

HYPATE Prima, in Music, is an interval, so called by M. Henfling, whose ratio is \( \frac{2}{3} = 358 \Sigma + 7 f + 31 m \), or the FIFTH, which see.

HYPATOIDE, in Music, a name, or air, in a low pitch.

HYPATOIDES, grave sounds. See LEPSIS.

HYPATON, DIATONOS. See DIATONUS and SYSTEM

HYPER-AEOLIAN, the penultima in the acute of the fifteen modes in greek music, of which the fundamental or key-note was a fourth above the æolian mode. Neither the hyperæolian, nor the hyper-lydian mode was so ancient as the rest; and Ptolemy, who admitted only seven modes, comprehended neither of them in this list.

HYPER-DIEZEUXIS, in Music, the disjunction of the two tetrachords, separated by the interval of an octave, as the tetrachord hypaton and hyperbolæon.

HYPER-DORIAN, a mode so called in Greek music, and sometimes denominated Mixo-Lidian; the fundamental or key-note of which was a fourth above the Dorain. See MODE.

The invention of the hyperdorian mode is ascribed to Pythoclides

HYPER-IONIAN, in Ancient Music, one of the Greek modes, whose fundamental was one fourth above the Ionian. It is the 12th mode ascending in the scale.

HYPER-LYDIAN, in Music, was the most acute of the 15 Greek modes. Its fundamental was a fourth above the Lydian.

Editorial note: All the following scientific articles on HYPEROCHE are by John Farey Sr.

HYPEROCHE of Dr. Busby, in Music, (Mus. Dict.) is “the difference between the enharmonic and chromatic diesis”, an interval whose ratio is \( \frac{2097152}{2109375} = 5 \Sigma + f \) which is the SEMI-COMMA maxime of Rameau, see that article. A doubt, however, remains with us, as Dr. B. has quoted no author, only mentioning the ancient authors generally, nor given the ratios, whether by the term “chromatic diesis,” he did not mean the least chromatic diesis of Holder, Chambers, &c, in which case his hyperoche would coincide with the hyperoche of Henfling and others below.

HYPEROCHE of Dr. Callcott. In purusing the additions by Dr. Callcott to the Overend MS. which we have so often quoted, we met with an interval whose ratio is \( \frac{16,677,811,699,666,569}{16,777,216,000,000,000} = 5 \Sigma + 2 f \), which is the greater RESIDUAL, see that article.

HYPEROCHE of Hensling, Travers, Dr. Pepusch, Overend, Dr. Callcott (Musical Grammar, art. 231.), is an interval, whose ratio whose ratio is \( \frac{3072}{3125} \) or \( \frac{2}{5} \) Its value in Farey's notation being 15 Σ + f + m; its common, logarithm is .9925711,8968, the reciprocal of which is 74288,1032; its Euler's or binary logarithm is .024679, such being its decimal value of the octave 1: it is equal 1,37696 major commas, and to 15.1575.24 schismas. It is equal to the sum of the following pairs of intervals, viz. a diaschisma and a medius residual, a major comma and a semi-comma maxime of Rameau, a minor comma and a semi-comma of Rameau, a dieze minime and a schisma, a prisma and five schismas, &c. The following three intervals also compose it by addition, viz. a schisma, a minor residual and a diaschisma, a schisma, a medius residual, and a major comma, &c.

If three major thirds be turned upwards, and two minor thirds and a fourth downwards, each true and without any beats on an instrument having sufficient strings, this interval will result; which, in the additions to the Overend MS. by Dr. Callcott, is designated by the Greek small p or pi.
HYPEROCHE of Ptolemy, is an interval whose ratio \(\frac{128}{125}\), or \(\frac{2}{\sqrt[3]{2}}\), or 6.8806 \(\Sigma + m\), and therefore not in the diatonic scale: its common logarithm is .9966202, 5935, and its Euler’s log = .0112275, and it is equal to .6264543 major commas. It cannot, of course, be tuned by any combinations of perfect concords, though it readily may by calculating the BEATS which it makes. See that article.

HYPO-ÆOLIAN, a mode in the ancient music, called also by euclid the grave hypo-lydian. This mode has its fundamental a fourth below the æolian.

HYPO-DIEZEUXIS, in Music, according to Bacchius, sen. is the interval of a fifth between two tetrachords separated by a disjunction, and further by a third intermediate tetrachord. Thus there is a hypothetical between the tetrachords hypaton and diezeumenon, and between the tetrachords synnemenon and hyperbolœon. See TETRACHORD.

HYPO-DORIAN, the lowest of all the modes of Ancient Music. It has its fundamental a fourth below that of the Dorian mode. It is said to have been invented by Philoxenus. This mode is grand, but cheerful; uniting sweetness with majesty.

HYPO-IASTIAN, in Music. See HYPO-IONIAN.

HYPO-IONIAN, the second of the modes of Ancient Music from the lowest: Euclid calls it hypo-iastian, and grave Phrygian. Its fundamental is a fourth below the Ionian mode.

HYPO-LYDIAN, the fifth mode of the Ancient Music, beginning from the lowest. Euclid calls it hypo- iastian and hypo-phrygian. Its fundamental is a fourth below the Lydian. Euclid distinguishes two hypo-lydian modes; the acute, which is that of this article, and the grave, which is the same as the hypo-æolian.

The hypo-lydian mode was proper for funeral chants, sublime and divine meditations: its invention is attributed by some to Polymnestes of Colophon, by others to Damon of Athens

HYPO-MIXO-LYDIAN, a mode added by Guido d’Arezzo to the Ancient Music of the church: it is properly the plagal of the mixo-lydian mode, and its fundamental is the same as that of the Dorian mode.

HYPO-PHRYGIAN, one of the modes of Ancient Music, derived from the Phrygian. Its fundamental was a fourth higher. Euclid speaks still of another hypo-phrygian mode below it; which was called with more accuracy the hypo-ionian mode. The character of the hypo-phrygian mode was calm, tranquil, and proper to appease the vehemence of the Phrygian. It was said to have been invented by Damon, the friend of Pythias, and the music-master of Socrates

HYPO-PROSLAMBANOMENOS, in Music, the name of an additional string or sound, which Guido is said to have added to the scale of the Greeks, a note below prosilambanomenos, answering to gamut or G on the first line in the base. The author of this new sound expressed it by the letter, \(\Gamma\), gamma, of the Greek alphabet, whence the name of gammut was derived. See DIAGRAM.

HYPO-SYNAPHE, in the Greek Music, the disjunction of two tetrachords separated by the interposition of a third tetrachord conjoint with both; so that the homologous or relative strings of the two-tetrachords, disjoined by the hyposynaphe, have the interval of five tones, or a minor seventh between them. Such are the two hypaton and synnemenon tetrachords.

HYPOPHORBION, in the Ancient Musical Instruments. The Libyans, according to Pollux, invented a kind of flute called hyppophorbion, because its sound resembled the acute neighing of a horse. The hyppophorbion was made of a stick of laurel stript of its bark and pith, and served those who had the care of horses at pasture as a kind of lure or horse-call.

JACK, a Musical implement in a virginal, spinnet, and harpsichord; it is a small machine, usually made of pear-tree wood, in which is a tongue, armed with a quill. This tongue moves on a swivel, and when the quill has struck the string, by the jack being thrown up with the key, on the end of which it rests, if the finger is taken off, it returns to its place under the string, and the tongue, thrown back by passing the string, is forced into its perpendicular situation by the spring of a bristle behind it.

IAMBIC VERSE

Editorial Note: Rees notes the articles IAMBIC FOOT, or IAMBUS in Metre and IAMBIC Verse, were written by the Revd Mr Adams, Vicar of Halstead, Essex [Revd William Adams, 1766-c1840, had links with Shrewsbury. He buried Frances Burney at Bath – this is of no relevance here, of course. Charles Burney, a great-grandson of CB was vicar of Halstead later in the
C19. The latter article is concluded by the following passage.

As a poetical foot consists of a certain number of syllables which constitute a distinct part of verse, so a bar of an air in music contains a number of notes of different lengths which are reducible to long and short syllables: an hexameter verse consists of six of these feet, a pentameter of five; an iambic foot has one short and one long syllable; as θος λεγω, potens, amas.

In ancient music, says Rousseau, there were two kinds of iambic verse, one of which was only recited to the sound of instruments, whereas the other was sung. It is not easy to comprehend what effect the accompaniment of instruments could have on simple recitation; and all that we can reasonably conclude is, that the most simple manner of pronouncing Greek poetry, or at least iambics, was to musical tones, and very much resembled singing.

IMITATION, in Music, dramatic or theatrical, belongs to imitation, as much as poetry and painting do: in this instance it is a principle common to all arts. But this imitation does not belong to all arts to the same extent. All that the imagination can convey to the mind belongs to poetry. Painting, which cannot present its pictures to the imagination, but to sense, and to one sense only, can only paint objects submitted to the judgment of the eye. Music should seem to have the same bounds with respect to the ear; however, she can represent every thing, even objects that are only visible: by an illusion almost inconceivable, she seems to put the eye into the ear; and the greatest miracle of an art, which totally depends on movement, is, that it can excite an idea of repose. Night, sleep, solitude, and silence; all enumerated among the great pictures of music. It is known that noise can produce the effect of silence, and silence the effect of noise: as when we fall asleep during an even-toned and monotonous reading, and that we wake the instant it ceases. But music acts more immediately upon our sensation in exciting by one sense similar affections to those which we can excite by another. And, as the relations cannot be sensible unless the impression is forcibly made, painting, stripped of this force, cannot return to music those imitations which music draws from her ideal painting. Let all nature sleep, the person who contemplates her at such time is not asleep. And the musician’s art consists in substituting to the insensible object that of movement, which its presence excites i.e. the heart of the beholder. It will not only agitate the sea, increase the flames of a conflagration, render the stream of a river more rapid, produce showers and swell torrents; but will paint the horror of a frightful desert, blacken the walls of a subterraneous dungeon, calm the tempest, render the air tranquil and serene, and shed from the orchestra new freshness on the grove. It will not represent these things directly; but it will awaken in the mind the same sensations which we feel in seeing them.

It has been said in the article HARMONY, that we can draw from it no principle of musical imitation, as there is no relation between chords and objects which we wish to paint, or passions which we would express. See MELOPY.
IMPERFECT CONSONANCES, in Music. Sometimes the thirds and the sixths are, though improperly, called imperfect consonances, because they are of two kinds, major and minor of each: while the fifth and fourth are said by these writers to be perfect, because they never change; which, however, is not correct, since there is the minor, false, or flat fifth, or semidiapente, and the major, false, or sharp fourth, or tritone: and thus every note of the scale has its major and minor, as well as the thirds and sixths. (See INTERVAL). Dr. Callcott recommends some further distinctions on this subject in his Musical Grammar, art. 189, &c.

IMPERFECT Chords, or incomplete, are such as do not include all their accessory sounds.

Editorial note: All the following scientific articles beginning IMPERFECT are by John Farey Sr.

IMPERFECT Instruments, are those with a fixed number of notes or intervals in the octave, (less than 44, according to Maxwell,) as the common keyed instruments with 12 sounds, flutes, oboes, bassoons, &c. and in general, all such wherein the performer has it not in his power to vary his sounds, so as to produce perfect chords with other notes struck or sounded at the same time, a thing impossible throughout the 12 keys major and 12 minor, on any instrument which cannot command 44 different sounds within the octave, according to Mr. Maxwell, or 60 at the least, according to Mr. Henry Liston. The imperfect instruments in common use, are incapable of executing any tempered system of intervals except the isotonic, or equal temperament, so that every key therein shall be alike harmonious, because wolves, bearing-notes, or intervals very different to what they are intended to be must occur, or be substituted for the proper ones, unless 21 sounds at least can be introduced into the octave, as was done by Dr. R. Smith on his harpsichords. or 24 notes, as is done on Mr. D’Laeschman’s patent pianofortes and organs for harmonizing 33 keys: we have already, under the article HAWKE’S Temperament, pointed out the impossibility of the 17 notes on that gentleman’s patent instruments performing without wolves in more than 23 keys, while some of them are not the most usual, or those which first arise in the regular order of modulation: all these of 12, 14, at the Temple, 16 at the Foundling organ, 17, 21 and 24 notes, are imperfect instruments, and incapable of yielding perfect or untuned harmony in any piece of music. See PERFECT INSTRUMENTS.

IMPERFECT Intervals, are such as have not a ratio expressible in small or whole numbers: thus ⅓, or the fourth, is a perfect interval, but ⅔, or ⅔, is not a perfect interval; but the false, or trumpet fourth, ⅔, or ⅔, is also an imperfect interval, the tritone. The tempered intervals, adapted to imperfect instruments, are imperfect intervals, whether such deviate one or more of some small interval from perfection, as the comma deficient fourth: ⅔ the double comma deficient fifth, 16264/10000, the schisma-excessive minor third, &c.; or deviate any fractional part or parts of a small interval from perfection, as 1+⅓ a fifth flattened, ⅓ th of the major comma for the mean tone temperament, 4/10 a fifth flattened ⅓ of the major comma for a system with perfect major sixths, &c.

IMPROVISARE, Ital to sing or play extempore.

IMPROVISATORE, Ital, an extemporaneous singer of verses upon a given subject. A voluntary player, an organist who is able to treat in a masterly manner a given subject of fugue, extempore, is justly allowed to be a man of considerable abilities.

The improvisatori, in poetry, seem confined to the southern provinces of Europe. Italy, Spain, and Portugal, appear exclusively to enjoy the gift. It is indeed unwillingly credited elsewhere. And yet there is nothing more common in Italy, than to see, during the carnival, two masks meet, defy, challenge, and attack each other in verse, and answer, stanza for stanza, to the same air, with a vivacity, dialogue, melody, and accompaniment, which, without the having been present, it is difficult to comprehend. But Dionysius Halicarnasseus informs us, that in the first Roman triumph of Romulus over the Canienses, the army followed in three several divisions, hymning their gods in songs of their country, and celebrating their general with extemporary verses: this account affords a venerable origin to the improvisatori of Italy; as the event happened in the fourth year of Rome, seven hundred and forty-nine years before Christ, and the fourth year of the seventh Olympiad.
This surprising faculty, in modern times, extends to females. Such was the admirable improvisatrice, Madalena Morelli, commonly called the Corilla, whom we saw and heard at Florence in 1770; and who, besides her poetical inspirations, played well on the violin, resting it on her lap, not her shoulder, like Madame Sirman. It was at the house of Nardini, of whom she had learned the violin, that we heard her perform. She had likewise a pleasing voice, and sung with taste, expression, and no inconsiderable degree of execution. This accomplished female having been long celebrated all over Europe for the marvellous fertility and readiness with which she instantly produced the most elegant verses on whatever subject, and in whatever measure, she was requested to give specimens of her talents; after having been received with acclamation into the celebrated academy of the Arcadi at Rome, in 1775, in the presence of the first nobility and men of letters and science, in July 1776, she was solemnly crowned in the Campidoglio, as Petrarch had been in the fourteenth century. See CORILLA.

**Editorial note:** All the following scientific articles beginning INCOMPOSIT are by John Farey Sr.

**INCOMPOSIT,** in *Music*, is a term used by Euclid to express such intervals in certain Greek scales of music, as resulted, or were required to make up the whole diatessaron or minor fourth. In the chromatic molle, the incomposite interval, which, with two TRIENTAL Dieses (see that article) is required to complete the tetrachord, being the difference between a fourth and two-thirds of a major tone, is $1843 \frac{3}{2} \Sigma + 3 \frac{3}{2} f + 1.6 m$, or $184.61678 \Sigma + 4 f + 1.6 m$, its common logarithm is .9091629.4502, and in those of Euler or decimals of the octave $.301755$, and its Euler's log. = .358.397, and it contains 19.997.46 major commas. Euclid is said to have represented this incomposite interval as being seven of his dieis quadantalis, or $\frac{1}{3} T$, which, however, is $182.072864 \Sigma + 3 f + 1.6 m$, and consequently differs more than three commas from it; another instance of what has been observed above. See INTERVAL.

**INCOMPOSIT of the Diatomic Molle,** in the Greek *Music*, is the excess of the fourth above one-sixth part of a major tone, which, in Mr. Farey's notation, is $219 \frac{3}{2} \Sigma + 4 \frac{3}{2} f + 19 m$, or $219.38322 \Sigma + 4 f + 19 m$, its common logarithm is .8921121.0420, its Euler's log. = .358.397, and it contains 19.997.46 major commas. Euclid is said to have represented this incomposite interval as being seven of his dieis quadantalis, or $\frac{1}{3} T$, which, however, is $182.072864 \Sigma + 3 f + 1.6 m$, and consequently differs more than three commas from it; another instance of what has been observed above. See INTERVAL.

**INCOMPOSIT of the Chromatic Sesquialtrum,** in the Greek *Music*, is the excess of the fourth above one-sixth part of a major tone, which, in Mr. Farey's notation, is $219 \frac{3}{2} \Sigma + 4 \frac{3}{2} f + 19 m$, or $219.38322 \Sigma + 4 f + 19 m$, its common logarithm is .8921121.0420, its Euler's log. = .358.397, and it contains 19.997.46 major commas. Euclid is said to have represented this incomposite interval as being seven of his dieis quadantalis, or $\frac{1}{3} T$, which, however, is $182.072864 \Sigma + 3 f + 1.6 m$, and consequently differs more than three commas from it; another instance of what has been observed above. See INTERVAL.

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acute accent, as 3’ or 4’. Dr. Callcott observes, in the Overend MS. vol. vi. p. 92, in the library of the Royal Institution, that of the six inconcinnous inter-vals 3’, 6’, 4’, and 3’, 6’, and 5’, the 3’, 5’, and 6’, 4’, are used in harmony, but the 3’, and 6’ only in the melody of modern music. Of the inconcinnous scale of Aristides, an account is given in vol. i. p. 201, of the manuscripts above quoted.

INCONCINNOUS System. See SYSTEM.

INCONSONANCE, in Music, is of the same import nearly with dissonance, or a jarring and unpleasant sound.

Vol 19 Increments-Kilmes

INCURABILI, the name of one of the celebrated conservatories or music-schools at Venice, where orphan girls, or girls of worthy parents in indigence, used to be well educated and regularly bred to music as a profession. Galuppi was master of this conservatorio in 1770, when the composition and performance were exquisite.

INHARMONICAL RELATION, in Music. See RELATION, inharmonical.

INHARMONICAL, is said of an interval or chord that is impractical in harmony, and, consequently, in melody. Notes out of tune are inharmonical.

INHARMONIOUS, or unnatural relations, according to Mr. John Holden (Essay, p. 331.) are such intervals as result from the sums of notes or intervals not contiguous in the scale, as a minor third to a major seventh, &c.

INSTRUMENT, in Music, is a generical term, under which all artificial bodies, capable of producing and varying musical sounds in imitation of the voice, are comprehended. Every body capable of agitating the air by some shock, and exciting by its vibrations in this agitated state undulations sufficiently frequent, may produce sound; and all bodies capable of accelerating or retarding these undulations may vary their sounds. See SOUNDS.

There are three ways of producing sound by instruments by the vibration of strings, by the vibration of elastic bodies, and by the collition of air enclosed in pipes. The invention of these instruments will be considered at the word MUSIC.

Instruments are generally classed under the three following heads; stringed-instruments, wind-instru-
“The flute, in the æthiopic, is called. Kweetz, a word difficult to be written or sounded in English; in the Amharic, it is called Agădă; it is about the shape and size of the German flute, but played upon long-ways, with a mouth-piece resembling that of the clarinet; its tone is not loud, but accompanied with a kind of jar, like a broken hautbois; not owing to any accidental defect, but to construction and design, as it would not be esteemed without it.

“The kettle-drum is called in both languages. Nagareet, because all proclamations are made by the sound of this drum (these are called Năgăr), if made by governors, they have the force of laws, in their provinces; but if made by the king they are for all Abyssinia. The kettle-drum is a mark of sovereign power: whenever the king promotes a subject to be governor, or his lieutenant-general in a province, he gives him a kettle-drum, and standard as his investiture. The king has forty-five of these drums always beating before him when he marches. They are in shape and size like ours, only they are braced very disadvantageously; for the skin is strained over the outer rim, or lip of the drum, and brought a third down its outside, which deadens it exceedingly and deprives it of that clear, metallic sound which ours has. Such man has but a single drum, upon the left side of his mule, and beats it with a crooked stick, about three feet long. Upon the whole, its sound is not disagreeable, and I have heard it at an incredible distance.

“The third instrument is the small drum, called Kăbăro, in Ethiopic and Amharic; though in some parts of Amhara it is also called Hătămo. It is about half the diameter and twice the length of our common drum; it is just the tambourine of Provence, only rounded to a point at the lower end. This is beaten always with the hand, and carried sometimes on foot, sometimes on horse- back, when any inferior officer (not having a Nagareet) marches.

“The trumpet is called Mĕlĕkēta, or Mĕlĕket and Kenet in Amharic, but Keren in æthiopic (or horn); which shews what of materials it was anciently formed. It is now made of a cane that has less than half an inch aperture, and about five feet four inches in length. To this long stalk is fixed at the end a round piece of the neck of a gourd, which has just the form of the round end of our trumpet, and is on the outside ornamented with small white shells; it is all covered over with parchment, and is a very neat instrument. This trumpet sounds only one note, E, in a loud, hoarse, and terrible tone. It is played slow when on a march, or before an enemy appears in sight; but afterwards it is repeated very quick, and with great violence, and has the effect upon the Abyssinian soldiers of transporting them absolutely leaping, and turning to fury and madness, and of making them so regardless of life, as to throw themselves in the middle of the enemy, which they do with great gallantry. I have often in time of peace tried what effect this charge would have upon them, and found that none who heard it could continue seated, but that all rose up and continued the whole time in motion.

“The fifth instrument is the sistrum: it is used in the quick measure, or in allegros, in singing psalms of thanksgiving. Each priest has a sistrum which he shakes in a very threatening manner at his neighbour, dancing, round with such an indecent violence, that he resembles rather a priest of paganism, whence this instrument was derived, than a Christian. I have forgot the name of the sistrum in Ethiopic, but on looking into my notes I shall find it.

“The sixth and last instrument is the lyre, which is never played solo, but always in accompanying the voice, with which it plays constantly in unison; nor did I ever hear music in parts, in any nation, savage or polished, out of Europe; this is the last refinement music received, after it was in possession of complete instruments, and it received it probably in Italy.

“The lyre has sometimes five, sometimes six, but most frequently seven strings, made of the thongs of raw sheep or goat skins, cut extremely fine, and twisted; they rot soon, are very subject to break in dry weather, and have scarce any sound in wet. From the idea, however, of this instrument being to accompany and sustain a voice, one would think that it was better mounted formerly. -

“The Abyssinians have a tradition, that the sistrum, lyre, and tambourine were brought from Egypt into Ethiopia, by Thot, in the very first ages of the world. The flute, kettle drum, and trumpet, they say, were brought from Palestine with Menelek, the son of their queen ot Saba, by Solonion, who was their first Jewish king.
“The lyre in Amharic is called bēg (the sheep); in Ethiopian, it is called mēsinkō; the verb sinko signifies to strike strings with the fingers: no plectrum is ever used in Abyssinia, so that mesinkō being literally interpreted, will signify ‘the stringed instrument played upon with the fingers.’ This would seem as if anciently there was no other stringed instrument in Abyssinia, nor is their any other still.” See THEBAN HARP, with Mr. Bruce’s drawing and account of it, in the same volume.

Modern musical instruments will be described under their several heads as they occur.

Editorial note: The remainder is a scientific account of modern instruments by John Farey Sr.

In modern times, since harmony has sustained so important a part in music, musical instruments have been divided into perfect and imperfect, the first of these being such as are capable of executing or sounding as many notes of different pitches within a given compass, as within an octave for instance, as the harmony of the music performed upon it may require, without being forced to introduce notes, which make false or tempered intervals, or involves with the other notes of the pitch, sounded at the same time; as in the second class necessarily happens, in very numerous instances, where the notes are previously fixed and tuned, as it is called, to some certain scale or system of 12 notes within the octave, and which notes the performer of any one part in a piece of music has not the power of altering and adjusting to the true harmonic relation with the simultaneous notes of the bass, or other principal part: imperfect instruments are not, however, confined to those with 12 strings, pipes, &c. in an octave, but the term applies, though in a less degree, to instruments with 14, 16, or 17 strings, as shewn in our article HAWKE’S temperament of the musical scale, where his 17 notes in the octave are proved to be incapable of banishing wolves, or false intervals, even from tempered systems, and which Dr. Smith’s harpsichords with 21 notes in the octave were alike unable to effect, in the numerous passages of modern music where double sharps or double flats occur; but on the improved organs and piano fortés of D. Lœschman, whose scale is extended to 24 notes all such notes as usually occur can be truly given, according to any assigned system of temperament. The violin, viola, bass-viol or violoncello, and double bass, have held a distinguished rank in modern refined concerts as perfect instruments, and were, indeed, the only instruments that should be admitted to accompany the human voice, which exceeds, in the perfection of its scale, any instrument whatever, since a vocal performer, with a good ear and intonation, can instantly strike a perfect interval to any note whatever, without the least beating or degree of temperament or imperfection in the harmony, and this he does, by atempering the leaps or intervals of the melody (see MELODY, Temperaments of) *: it being absolutely and demonstrably impossible to avoid temperaments, or the use of imperfect intervals, either in the harmony or in the melody, (but they need not be used in both.) on perfect instruments, as on imperfect instruments they necessarily must, as is shewn in our article HARMONY, Temperaments of: the late Mr. Maxwell, in the year 1781, in his “Essay on Tune,” sketched out the principles of an organ capable, by means of 44 pipes in each octave, of entirely banishing temperaments from the harmony, in 24 keys, 12 major and 12 minor: but we never heard until very lately, that anyone had constructed such an instrument. It appears, however, that on the 3d of July 1810 the Rev. Henry Liston took out a patent for his enharmonic organ, and in the autumn of the year issued proposals for publishing, by subscription, “An Essay on perfect Intonation,” and for exhibiting one of these patent organs in London, which had been completed in Scotland, and tuned, says his prospectus, “perfectly true throughout, without any temperament whatever, and performs every chord, in every key absolutely perfect, nor is there any combination which it is not capable of performing.” — “The decided superiority of the harmony has been acknowledged by the best judges, and the performers have found no serious difficulty in the most sudden and extraneous modulation, or in the widest range of keys:” such were the pretensions of this instrument, and which no musical persons that we conversed or corresponded with seemed disposed to expect would be realised: however, in the beginning of this month (April 1811), Mr. Liston arrived in London with his organ, and had it put up at Flight and Robson’s, organ builders in St. Martin’s lane, and tuned it, and on the 16th politely gave us the opportunity to be the first that
heard it performed in London, and of hearing the
effect of some glee sung to it; which proved delight-
ful indeed, and rather exceeded our expectations
than otherwise, though they had, as above hinted,
been raised above those of most musical persons.
The Rev, Mr. Liston also favoured us with the per-
usal of the manuscript of the first part of his inten-
ded work, in which we were delighted to observe,
that a good knowledge and a correct application of
mathematics is combined with a thorough know-
ledge of composition, and of the wants of the prac-
tical musician: the defect of one of “which essential
qualifications we have so often had to deplore, and
even to reprobate, in our numerous quotations and
references to modern writings on temperament, and
the nature and magnitude of musical intervals, in
the different articles of our work. Mr. Liston’s work
will describe an instrument with 24 pipes in each
octave, and 1, each of which two valves or shaders,
of different sizes, are adapted, affixed to radii from
rolls or axles, that can be turned by means of pedals,
so that each of these pipes can be made to sound one
major comma or two major commas alter than the
pitch of the pipe, making in all 72 sounds in each
octave, which, by the 12 usual finger keys and the
use of twelve pedals, enables the performer to give
33 perfect keys, without any tempered harmonies.
The instrument, shewn as above, has not F, but con-
tains 29 pipes, and gives 60 different sounds within
the octave. See the Philosophical Magazine, vol.
xxxvii. p. 273, and our article Liston’s Scales of Mu-
sical Intervals.*

** Editorial note: These articles do not exist in the
Cyclopædia. Farey wrote an article “Liston’s Scale” in
the Edinburgh Encyclopædia vol 13, pp 41-2. See ‘Dr
Burney, Rees’s Cyclopædia and the Farey’s’ (forth-com-
ing) for more about Farey’s contributions to Rees.

INSTRUMENT, Wind. See WIND.

INTENSIO, Lat. INTENSO, Ital. Intense, in Music.
Intense sounds are such as are produced with
the greatest force, which are loudest, and heard at the
greatest distance. They are such sounds likewise, as
are produced from strings of greatest tension, and
which, on that account, vibrate more powerfully.

INTENSION

Editorial note: A scientific article by John Farey Sr.
were afterwards exhibited as farces at the end of pious pieces.

Tragicomedies had a very early admission on the stage at Bologna during the 17th century: as Andromeda, Tragicomedia, set by Girolamo Giacobbi, maestro di cappella of San Petronio, and founder of the Academy de' Filomasi, in that city, was performed in 1610; and Amor vuoi Gioventa, schirzo drammatico, at Viterbo, 1659. Musica di Giambatista Mariani, 1659. But the only real burlettas which we have met with are Girello, Drama Burlesca, set by the famous Pistocchi, 1672, which was represented at Venice by little figures of wax: I dos Diogeno, dramma burlesca per musica, and Agripina in Baja, Schirzo dram-matico per musica, were both performed at Ferrara, 1687.

There are intermezzi, says Rousseau, that are true comic or burlesque dramas, which detach the audience from the interest of the principal piece, without taste or reason. As the dance in Italy is never analogous to the drama, they are obliged to admit it on the stage as an intermezzo; "but this is not what I blame; on the contrary, I think it may be useful to efface, by an agreeable dance, the melancholy impressions left by the events of a grand serious opera; and I see plainly that the subject of this dance should have no connection with the piece; but what offsends me, continues the citizen of Geneva, is that they destroy all the interest that has been excited, and render each act a new piece." We suppose he means that the ballet should be given at the end, not in the middle of the opera.

Editorial Note: After John Farey Sr submitted the following articles beginning INTERVAL, he fell out with Rees in September 1811, and wrote nothing more the Cyclopædia. (Monthly Magazine, vol 34, pp 7-8 (1812)). A few articles by him continued to appear in the Cyclopædia, and it is presumed there were accepted before the falling out. See 'Dr Burney, Rees's Cyclopaedia and the Farey's' (forthcoming) for more about Farey and the music articles.

Each of these had its differences; even of the simple there are some greater, and others less: but they are always discord; but of the compound, or systems, some are concord, others discord. Unisons, it is plain, cannot possibly have any variety; for where there is no difference, as in unisonance, which flows from a relation of equality, it is plain there can be no distinction: unisons therefore must all be concords. But an interval depending on a difference of tune, or a relation of inequality, admits of variety: and so the terms of every interval, according to their particular relation or difference make either concord or discord. Some indeed have restrained the word concord to intervals, making it to include a difference in tune in time; but this is precarious; for as the word concord signifies an agreement in sounds, but it is certainly applicable to unisons in the first de-
gree. Intervals, it is plain, may differ in magnitude, and there may be an infinite variety, according to the possible degree of tune; for there is no difference so great or little, but a greater or a less may possibly be conceived. It is true, with regard to practice, there are limits, which are the greatest and least intervals our ears are judges of, and which may be actually produced by voice or instrument.

The degrees of tune are proportional to the number of vibrations of the sonorous body in a given time, or the velocity of their courses or recourses. Now these differences in tune constitute, as has already been said, the intervals in music; these therefore must be greater or less, as the differences are; and it is the quantity of these which is the subject of the mathematical part of music, those intervals are measured, not in simple differences, or the arithmetical ratios of the numbers expressing the lengths or vibrations, but in their geometric ratios; so the same interval depends on the same geometrical ratio, and vice versa. It is, however, to be observed that in comparing the equality of intervals, the ratios expressing them must be all of one species; otherwise this absurdity will follow, that the same two sounds may make different intervals. To describe the particular methods of measuring the inequality of intervals would be too tedious: this one rule may be observed, that, to determine in general which of two or more intervals are the greatest, take all the ratios as proper fractions, and the least fraction will be the greatest interval.

The ancients were extremely divided about the manner of measuring intervals. Pythagoras and his followers measured them by the ratios of numbers. They supposed the differences of gravity and acuteness to depend on the different velocities of the motion which causes sound; and therefore concluded, that they could only be accurately measured by the ratios of those velocities. Which ratios are said to have been first investigated by Pythagoras, on occasion of his passing by a smith's shop, and observing a concordance betwixt the sounds of hammers striking on the anvil.

Aristoxenus opposed this. He thought reason and mathematics had nothing to do in this case, and that sense was the only judge in the dispute; the other being too subtle to be of any use. He therefore determined the octave, fifth, and fourth, which are the most simple concords, by the ear; and by the difference of the fourth and fifth he found out the tone; which, once settled as an interval the ear could judge of, he pretended to measure every interval by various additions, and subtractions, made of these mentioned, one with another: but this method is very inaccurate.

Ptolemy keeps a middle course betwixt the two: he finds fault with the one for despising reason, and with the other for excluding sense; and shews how these two may mutually assist each other in this matter. Malcolm.

Intervals are founded on certain ratios or proportions expressible in numbers, which may all be analysed into the prime numbers 2, 3, and 5. And all intervals may be found from the octave, fifth and third major, which respectively correspond to those numbers. These are the musician's elements, from the various combinations of which all the agreeable variety of relations of sounds results.

This is the modern system; and a late author assures us, it may be looked on as the standard of truth; and that every interval that occurs in music is good or bad, as it approaches to or deviates from what it ought to be, on these principles. He observes, that the doctrine of some of the ancients seems different. Ptolemy, for instance, introduces not only the primes 2, 3, 4, 5, but also 7 and 11, &c. Nay, he seems to think all fourths good, provided their component intervals may be expressed by super-particular ratios. But these are justly exploded conceits; and it seems not improbable, that the contradictions of different numerical hypotheses, even in the age of Aristoxenus, and their inconsistency with experience, might lead him to reject numbers altogether. Dr. Pepusch, ap. Phil. Trans. No 481, p. 267, 268.

M. Euler defines an interval, the measure of the difference of an acute and grave sound. Tentam. Nov. Theor. Music, p. 72 and p. 103.

Suppose three sounds $a$, $b$, $c$, of which $c$ is the acute, $a$ the most grave, and $b$ the intermediate sound. From the preceding definition it appears, that the interval between the sounds $a$ and $c$ is the aggregate of the intervals between $a$ and $b$, and between $b$ and $c$. Therefore, if the interval between $a$ and $b$ be equal to that between $b$ and $c$, which happens when $a : b : : c : d$, the interval between $a$ to $c$ will be double the interval $a$ to $b$, or $b$ to $c$. This being
considered, it will appear that intervals ought to be expressed by the measures of the ratios constituting the sounds forming those intervals. But ratios are measured by the logarithms of fractions, the numerators of which denote the acute sounds, and the denominators the grave. Hence the interval between the sounds $a$ and $b$ will be expressed by the logarithm of the fraction $\frac{a}{b}$; which is usually denoted by $\log \frac{a}{b}$, or, which comes to the same, $\log ab = \log a + \log b$. The interval therefore of equal sounds, $a$ to $a$, will be null, as $\log a - \log a = 0$. The interval called an octave, or diapason, will be expressed by the logarithm of $2$; and the interval of the fifth or diapente, will be $\log 3 - \log 2$. From whence it appears that these intervals are incomparable: so that no intervals, however small, can be an aliquot part, both of the octave and fifth. The like may be said of the intervals $\log 3$, and $\log 5$, and others whose logarithms are dissimilar. But intervals expounded by logarithms of numbers, which are powers of the same root, may be compared. Thus, the interval of the sounds $27:8$, will be to the interval of the sounds $9:4$, as $3$ is to $2$: For $\log 27 = 3 \log 3$, and $\log 8 = 2 \log 2$.

But though the logarithms of numbers, which are not powers of the same root, be incommensurable, yet an approximating ratio of such may be found. Thus the measure of the octave is $\log 2 = 0.3010300$, and the measure of the fifth is $\log 3 - \log 2 = 0.1760913$. Hence the interval of the octave will be to that of the fifth, nearly as $3010300$ to $1760913$; which ratio being reduced to smaller terms, in the method explained under the head RATIO, will give us these simple expressions for the ratio of the octave and fifth: $2:1$, $3:2, 5:3, 7:4, 12:7, 17:10, 29:17, 41:24, 53:31$, which last is very near the truth. Euler, ibid. p. 74.

In like manner intervals may be divided into any number of equal parts: for this purpose we need only divide the logarithm of the proposed interval into the same number of parts, and then find its corresponding number by the tables. The ratio of the number so found, to unity, will give the required ratio of the divided interval to its proposed part. Thus let the third part of an octave be reunited; its logarithm will be $\log 1.5 = 0.1003433 = \frac{1}{3} \log 2$. The ratio corresponding nearly to this will be $63:50$, or less accurately $29:23$, or $5:4$, which last expresses the third major; and this is by the less knowing taken for the third part of an octave, and seems to be such on our harpsichords and organs, where from C to E is a third, from E to G another, and from G or A to c another third. But the more intelligent know, that G and A’ ought not to be reputed the same sound, since they differ by a diesis enharmonica, which is nearly equal to two commas.

M. Euler has inserted a table of intervals in his "Tentamen Nova Theoriarum Musicarum" in which he supposes the logarithm or measure of the octave to be $1.000000$, whence the logarithm of the fifth will be $0.584962$, and the logarithm of the third major will be $0.321928$: from these the measures of all other intervals may be found. But as it has been customary for musicians to measure their intervals by commas, we shall here insert a table of intervals, with their measures in commas; where we suppose the logarithm or measure of the comma $\frac{1}{390625}$ to be $1.000000$; hence the logarithm of the octave $\frac{2}{3}$ will be $55.79763$, that of the fifth $32.63952$, and lastly, that of the third major $17.96282$. From these all the other intervals may be found in the manner expressed in the table; where the first column shews the names of the several intervals; the second, the proportions of sounds forming these intervals; the third, the composition of these proportions from the primes 2, 3, and 5. The smaller figures marked above, and somewhat to the right of the larger, indicate the power to which the number expressed by the larger figures is raised. Thus $2^{3}$ shows that the seventeenth power of 2 multiplied by 3, and divided by the eighth power of 5, will produce $0.392216$ in the second column, and that this is the proportion expressing the interval called eschaton in the first column. The fourth column of the table contains some simple signs of some of the intervals, as $h$ for hyperbole, $d$ for diesis, &c. and the fifth column shews how the intervals arise from others; thus over against semitone major, I find in the fourth column, $\frac{1}{3}$, which is here only an arbitrary mark for this semi-tone; and in the fifth column, I find $\frac{8 + d}{d} = IV – III$, which signifies that the semitone major is equal to the sum of the semitone minor and diesis, or to the difference between the fourth and the third major. Observe, that the comma is marked by a dot ('); when this is placed over the letter or other symbol, it signifies that the interval is supposed to be heightened by a comma; and on the con-
trary, when the point is placed below, it signifies that the interval must be diminished by a comma; thus $t\, =\, \uparrow$ signifies that the tone minor increased by a comma is equal to a tone major. The signs $+, -, =, \uparrow$, are here taken in the same sense as in algebra, to signify addition, subtraction, and equality. So likewise the dot placed between two numbers, or between a number and the symbol of an interval, signifies that the interval is to be multiplied by the number. Thus $2\cdot IV$ shews that the fourth is doubled; and thus $7\cdot IV = VIII - T$, shews, that the lesser flat seventh is equal to the sixth major and semitone-major, or also to two fourths, or to the octave when the tone-major, or also to two token fourths, or to the octave when the tone-major is taken from it. Lastly, the sixth column of the table shews the measures, or logarithms of the ratios in the second column. These are not the common logarithms of the tables where $1.000000$ is the logarithm of 10. But here $1.000000$ is assumed as the logarithm of $\frac{81}{80}$, or of the comma, as before mentioned. These logarithms are easily derived from the common, of the large tables of Vlacq, or Briggs: thus the logarithm of 2, or the octave $= 0.3010299957$; the logarithm of $\frac{5}{2}$, or of the fifth $= 0.1760912590$; and lastly, the logarithm of $\frac{5}{4}$, or of the third major $= 0.0969100130$. Now, these logarithms being severally divided by the logarithm of $\frac{81}{80}$, or the comma $= 0.0053950139$; the quotients will give the number of commas in an octave $= 55.79763$; in a fifth $= 32.63952$; and in a third major $= 17.96282$. Hence all the rest may be found by addition and subtraction only. Here follows the Table.

<table>
<thead>
<tr>
<th>Name of the Interval</th>
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### A Table of the Melodic Intervals with their Measures.

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The limma, apotome, trihemitone, ditonus, semi-diapente, and tritonus, mentioned in this table, by the names of limma, apotome, &c. of the Greek scale, are such as are either mentioned by the ancients, or at least occur in their scale, where fourths are divided into two tones and a limma, and where the octave consisted of five tones and two limmas.

The term redundant, in the table, is applied to such intervals as exceed the truth by a comma; and such as fall short of the truth by a like quantity, are called deficient. Intervals that exceed true diatonic intervals, by a semitone minor, are said to be superfluous; and those which fall short by the same quantity, are said to be diminished.

Where an interval exceeds a true diatonic interval by the quantity of two semitones minor, we have called it an extreme superfluous interval; and if it falls short by the same quantity, the appellation of extreme diminished interval is given it. Thus, if from A to D ascending to a true fourth, and from D to a a true fifth, then if D be supposed raised by a comma, from A to D will be a redundant fourth, and from D to a a deficient fifth.

From A to D will be a superfluous fourth, and from D to a will be a diminished fifth. In like manner, from A to D will be a diminished fourth, and from D to a a superfluous fifth. From A to D# (D double sharp) will be an extreme superfluous fourth, and from A to D## (D double flat) will be an extreme diminished fourth. In like manner from D# to a will be an extreme diminished, and from D## to a an extreme superfluous fifth. Such intervals are not to be met within the practice of music; but if the division of the octave into 31 parts were once established, as it ought for the perfection of music, such intervals as these here mentioned will necessarily occur in the scale. Vide Phil.Trans. N° 48 I. p. 273, 274. See GENUS.

This table, among other uses, will facilitate the examination of any proposed scale, or interval. Suppose, for instance, it were required to examine some of Ptolemy’s divisions of the fourth, as his diatonicum molle, which he makes \( \frac{21}{20} + \frac{10}{20} + \frac{21}{20} = \frac{4}{3} \). Take the logarithm of \( \frac{8}{7} \) from the common tables, and divide it by the logarithm of \( \frac{81}{80} \), the quotient will be 10.75, which gives the measure or number of commas, and its parts contained in an interval expressed by \( \frac{8}{7} \). Look for the nearest measure of intervals to 10.75 in the table, it will be found to be 10.39058, which answers to the interval of two semitones major, or of the diminished third, as practitioners call it. But Ptolemy’s exceeds this by 0.36, or about \( \frac{1}{3} \) of a comma. The next interval in Ptolemy’s division is \( \frac{10}{9} \), which will be found to be 3.93 commas, that is, a semitone minor and 0.64 of a comma: or a semitone minor redundant by near \( \frac{3}{4} \) th of a comma. But this is much out of tune. In the common and in Huygens’s temperatures, the semitone minor is increased only by about \( \frac{1}{4} \) th of a comma. Vide Ptolemy’s Harmon. p. 92. apud Wallis Opera, tom. v.

INTERVALS, Concinnous. Discords are distinguished into concinnous and inconcinnous intervals: the concinnous are such as are fit for music, next to, and in combination with concords; being neither very agreeable nor dis-agreeable in themselves; but having a good effect, as by their opposition they heighten the more essential principles of pleasure; or as by their mixture and combination with them, they produce a variety necessary to our being better pleased. See CONCINNOUS.

The other discords that are never used in music are called inconcinnous.

INTERVAL, Diminished, is a defective interval, or an interval which is short of its just quantity by a lesser semitone. Thus from C to E being a third major, if E be lowered by a semitone minor, we shall
have E♭, and then from C♮ to E♭ is called a diminished third, in the language of practical musicians, and occurs frequently in their works. But, strictly speaking, in this case, the note E must be lowered more than a semitone minor.

**INTERVAL, Harmonical**, is an interval, or difference of two sounds which are agreeable to the ear, whether consonance or succession.

Harmonical intervals, therefore, are the same with concords; which see.

They are thus called, as being the only essential ingredients of harmony.

**INVENTION, in Music.** Having no objects, melody, or harmony in nature to copy, except the common chord arising from the divisions of a string or sounding body into its harmonics, a musician has more to invent than the professor of any other art. Every passage, every combination, every motive or subject, that has not been used before, is invention. There is so little invention in some compositions, that whoever has heard or seen much music, could point out the prototype of every bar.

There is, on the contrary, such an ambition in some authors of being new, that the ear is teased and disappointed by the constant struggle and labour to be unnatural. Haydn’s invention, which is so unbounded, is never pushed to such excess. There is in his most original and capricious movements and passages, a mixture of natural, graceful, ingenious or spirited connecting traits, which relieve the hand of the player, and the attention of the hearer.

There is no infallible receipt for invention; all a master can do is to recommend to his disciples to avoid excesses of every kind: too easy and common, too hard and uncommon; complaints of pieces being too long are more frequently made than of their being too short, which would be more flattering to a composer. When fertility is wanting, passages are frequently repeated alla tanta Rosalia, to a degree which now cannot escape remark and censure. A master cannot, nor ought if he could, tell his pupil in composition what to adopt; he can only tell him what to avoid. See COMPOSITION, and COUNTERPOINT, to which this article may serve as a supplement.

**INVERSION, in Music,** is often applied to the complements or supplements of intervals to the major eighth or octave; thus the major sixth is the inversion of the minor third, the minor sixth the inversion of the major third, &c. Intervals which are the inversion of each other, always have one term of their ratios common to each, and the other terms, are one the double of the other thus ⅜ and ⅝; ⅝ and ⅘, are inversions of each other.

**JONGLEURS,** musicians, players on instruments, in the infancy of French poetry, who attached themselves to the troubadours or provincial poets.

The history of the French theatre informs us that a kind of merry-andrews were thus called that accompanied the troubadours, who began to flourish about the beginning of the eleventh century. The term jongleur seems to be a corruption of the Latin word joculator, in French joueur, and in English player on an instrument. Mention is made of the jongleurs from the time of the emperor Henry II; who died in 1056. As they played upon different instruments, they associated with the troubadours and singers, to execute the works of the first, and thus, in their company they gained admission into the palaces of kings and princes, and drew from them magnificent presents. Some time after the death of Joan 1, queen of Naples and Sicily, and countess of Provence, which happened 1382, all those of the profession of troubadours and jongleurs, separated into two different classes of actors, Some, under the ancient name of trouvadours, joined singing to instruments, or the recitation of voices; others simply took the name of players, or joculators, as they were named in their certificates.

About the year 1330, the minstrels of Paris, including the jongleurs, formed themselves into a company, and obtained a charter. The police frequently repressed their licentiousness, and regulated their conduct: Philip Augustus banished them the first year of his reign; but they were recalled by his successors, and united under the general name of menestraudie, minstrelsy; having a chief appointed over them, who was called king of the minstrels. Lewis IX exempted them from a tariff or toll at the entrance into Paris, on condition that they would sing a song and make their monksies dance to the tollman, perhaps to prove their title to such indulgence; and hence arose the well-known proverb: *Payer en gambades et en monnoïe de singe.*

The associated minstrels inhabited a particular street, to which they gave the name, which it still re-
tains, of St. Julien des Menestreros. It was here that the public were provided with musicians for weddings and parties of pleasure; but as a greater number of them usually attended on such occasions than were ordered, and all expected to be paid the same price, William de Germont, provost of Paris, in 1331 prohibited the jongleurs and jongleuresses from going to those who required their performance in greater numbers than had been stipulated, upon a severe penalty. In 1395 their libertinism and immorality again incurred the censure of government, by which it was strictly enjoined that they should henceforth, neither in public nor private, speak, act, or sing any thing that was indecorous or unfit for modest eyes and ears, upon pain of two months imprisonment, and living on bread and water.

Though the word minstrel, in English, is confined to strolling musicians, players on instruments; yet the term jongleur, in old French, included buffoons, fortune-tellers, slight of hand, tumblers, &c. besides violars, or performers on the violae or viol; juglars, or flute players; musars, or players on other instruments; comiques, or comedians.

All these, at last, assumed the name of jongleurs, as the most ancient, and the women who followed this profession were denominated jongleuresses. They settled at Paris in one particular street, which thence was called "la rue des jongleurs," and which is still called the street of "St. Julien des Menétriers." In that street people used to apply for performers on festivals, and for parties of pleasure.

By an ordonnance of William of Clermont, provost of Paris, 14th Sept. 1395, the jongleurs were forbidden to utter, represent, or sing in public places, or elsewhere, any thing that would occasion scandal, on pain of fine and two months imprisonment. Since that time we hear no more of them, except their danse, and performing tricks with swords and other weapons. These were called batalores, in Fr. bateleurs, merry-andrews; and, at length, tumblers and ropedancers. See MINSTREL.

IONIC, or IONIAN Mode, in the Ancient Greek Music, The Ionian mode, reckoning from the grave to the acute, was the second of the five middle modes in the Grecian system. This mode was also called Jastian, and Euclid still terms it the grave Phrygian mode. See MODE.

JOUER des INSTRUMENTS, Fr. to play upon musical instruments. The French say jouer du violan, de la basse, du hautbois, de la flute; toucher le clavecin, et les orgues; sonner la trompette; donner du cor; pincer la guitarrre. They play on the violin, the violoncello, the hautbois, and the flute; but they touch the harpsichord and the organ; sound the trumpet and French horn; and pinch the guitar.

IRREGOLARE, Ital, in Ecclesiastical Music. Modes are called irregular in canto fermo, when the compass is extended beyond its usual limits, or its regular scale is in some unusual manner violated.

A cadence or close, used to be termed irregular when the harmony did not close on the key note. (See Disappointed CADENCE.) But Rameau has given this title to a particular cadence of his own system, in which the fundamental base rises a fifth, or falls a fourth after the chord of the \( \frac{5}{2} \) to the fourth of the key. See CADENCE

ISOCRONOUS PARCELS, in Music.

Editorial note: A scientific article by John Farey Sr.

Mr. John Holden labours in his "Essay towards a rational System of Music," to establish it as a principle, that "there is a certain propensity in our mind to be subdividing the large numbers (of equal and equidistant objects) into smaller equal parcels; or, as it may be justly called, compounding the large numbers of several small factors, and conceiving the whole by means of its parts," p. 288. "Seven, we conceive, as two threes disjoined, and one in the middle; five becomes two twos disjoined, and one in the middle," p. 289; and again, p. 305, "we readily conceive five by its affinity to four, and seven by its affinity to six," p. 292. "Among the isochronous single vibrations of musical sounds, the mind naturally seeks to constitute isochronous compound parcels." — "The size or magnitude of a musical interval is estimated by the inequality of the isochronous parcels of vibrations of its two terms; and in proportion as their isochronous parcels differ more from quality, the included interval becomes greater," p. 327. The above extracts shew the nature and uses to which this author attempts to apply his isochronous parcels of vibrations; in which we can scarcely admit him to have been more successful, than in the application of the GRAVE Harmonics (see
that article, or Tartunian sounds, to accounting for the constitution of the musical scale; the incongruous system of intervals to which these fancies lead, will be seen in our article HOLDEN’S System of Musical Intervals.

**ISOTONIC Scale of Music, or the Equal Temperament Scale.**

*Editorial note: A scientific article by John Farey Sr.*

This is that in which the octave is divided into twelve equal parts; of course each half note is equal 
$$1 + \frac{\sqrt{2}}{12} = 2^{\frac{1}{12}}$$

Editorial note: A concluding section by Burney about music of the country.

In the fifteenth century, when we first hear of harmony in four parts, and masses set to figurative music, it was for the use of the pope’s chapel that the greatest efforts of genius in composition were excited among the candidates for favour in that art, by the double certainty of having their labours liberally rewarded, and their productions well performed. And if we find that many of the composers of the pontifical chapel were Nether-landers, and the singers Spaniards, it does not necessarily-follow that the Italians had either counterpart, or the art of singing, from the Low Countries, or from Spain. The Roman college of singers had been established and celebrated during so many ages, that we may as well imagine these foreigners went to Rome to learn music, as to teach it.

We know, in later time, that many of the greatest musicians of Europe have either had their education in Italy, or thought it as necessary to visit that country as the ancient Roman philosophers to travel into Greece, or the Grecians in Egypt. Orlando di Lasso, Handel, Hasse, Gluck, and J. C. Bach, went thither very early, and may be said to have formed their styles on the best models of that country. The first motets of Orlando that were published at Antwerp, by Tylman Susato, 1555, were said to be made “a la nouvelle composition d’aucuns d’Italie;” as the first productions of Handel, that were published in England, were said to be composed “by an eminent Italian master;” Hasse went very young into Italy, and was a scholar of Alessandro Scarlatti; however, his clear and graceful style more resembled that of Vinci and Pergolesi, his competitors in the natural, simple, and elegant manner of writing for the voice, than that of either Scarlatti, his master, or Kaiser, his countryman, and first model, The late excellent composer, Mr. J. C. Bach, son and brother of two of the greatest musicians that ever existed, is allowed to have been a fine player on keyed instruments, before he went into Italy; but his vocal music is certainly more in the style of Italy, than of his native country.
If the great musicians of antiquity, whose names are so familiar to our ears, had not likewise been poets, time and oblivion would long since have swept them away. But these having been luckily writers themselves, took a little care of their own fame; which their brethren of after-ages gladly supported for the honour of the corps.

But since writing and practical music have become separate professions, the celebrity of the poor musician dies with the vibration of his strings; or if, in condescension, he be remembered by a poet or historian, it is usually but to blazon his infirmities, and throw contempt upon his talents. The voice of acclamation, and thunder of applause, pass away like vapours; and those hands which were most active in testifying temporary approbation, suffer the fame of those who charmed away their care and sorrows in the glowing hour of innocent delight, to remain unrecorded.

If it be true that the progress of music in every country depends on the degrees of civilization and culture of other arts and sciences among its inhabitants, and on the language which they speak, the accents of which furnish the skeleton and nerves of all vocal melody; great perfection cannot be expected in the music of Europe during the middle ages, when the Goths, Vandals, Huns, Germans, Franks, and Saxons, whose ideas were savage, and language harsh and insolent, had seized on its most fertile provinces. All the dialects that are now spoken in Europe are a mixture of Celtic and Latin; and as the inhabitants of Italy preserved the Roman language longer than those of other countries remote from the seat of empire, more vestiges of the Latin tongue still remain in Italy than elsewhere. For though there are many terms in it that they were forced to receive from the barbarians who invaded them, yet the chief part of the language is still Latin corrupted, and sometimes softened and improved. And as literature, arts, and refinements, were encouraged more early in Italy at the courts of the Roman pontiffs, than in any other country, modern music has thence been furnished with its scale, its counterpoint, its best melodies, its religious and secular dramas, and with the chief part of its grace and elegance. Italy, in modern times, has been to the rest of Europe what ancient Greece was to Rome; its inhabitants have helped to civilize and polish their conquerors, and to enlighten the minds of those whose superior force and prowess had frequently enslaved them.

IULE, in the Music of the Ancients, Athenæus, lib.xiv. a song for woollen manufacturors; but afterwards the same author says it is one of the songs or hymns in honour of Ceres, and it was, in fact, a hymn sung by the Greeks, and after them by the Romans, in the time of harvest, in honour of Ceres and Bacchus, in order to render those deities propitious.

The word is derived from ολα, or ἰσυλαεξα, a sheaf. This hymn was sometimes called demitrule or demitriel, that is, the Iule of Ceres.

JULIAN I, AN ORGAN ATTRIBUTED TO

The most ancient proof of an instrument, resembling a modern organ, blown by bellows, and played with keys, very different from the hydraulic organ, which is of much higher antiquity, is a Greek epigram in the Anthologia, attributed to the emperor Julian, who flourished about 364. We shall here give a literal translation of this epigram, which, though it contain no very beautiful or poetical images, will answer the historical purpose of ascertaining the existence of an instrument in the fourth century, which, in many particulars, resembled a modern organ.

We shall insert the original here, for the satisfaction of the learned reader, from the Anthol. lib. i. Cap. 86. 8.

"I see reeds of a new species, the growth of an old vine," says Αλλης, Χαγκεις ταχα μαλλοι ομελαεξα αρονης, Αλριοι οιδ᾽ αυεμοιοι ιυ ϕ’ ἠμετεριος δουεουταις, Δλλ ὑτο ταυρειης ῥωθοὺς σπ’λυγγος ἀήτης, Νεμθεν εὕτη πιο καλαμυν ὑπ’ ραμεν οδειν, Και τις αυε ρισοχως ἐγον θοδ δεσπολα χειρος, Ιεται αμφαφῶν καυνύονα συμφράδμους αυλωυ’ Οιδι ἀπαλον σωμτουτες, αποθλιδουνιν αοδηνη.

"I see reeds of a new species, the growth of another and a brazen soil; such as are not agitated by our winds, but by a blast that rushes from a leathern cavern beneath their roots; while a robust mortal, (ἀγεροχος), a tall sturdy fellow, alluding to the force necessary to beat down that kind of clumsy carillon
keys of this rude instrument of new invention,) running with swift fingers over the concordant keys, (the rulers of the pipes, αὐλων; literally keys,) makes them, as they smoothly dance, emit melodious sounds."

Nothing material is omitted in the version of this epigram, or rather enigma, upon the organ, though not a very ingenious one; for the word, ἂυλων the pipes discovers the whole mystery.

KEY, in Music, is a certain fundamental sound, or tone, to which the whole piece, be it concerto, sonata, cantata, &c. is accommodated; and with which it usually begins, but always ends.

To get an idea of the use of the key, it may be observed, that as in an oration there is a subject, viz. some principal person or thing, to which the discourse is referred, and which is always to be kept in view, that nothing unnatural and foreign to the subject may be brought in; so in every regular piece of music, there is one note, viz. the key, which regulates all the rest. The piece begins and ends in this; and this is, as it were, the musical subject, to which a regard must be had in all the other sounds of the piece. Again, as in an oration there are several distinct articles, which refer to different subjects, yet so as they have all a visible connection with the principal subject, which regulates and influences the whole; so in music there may be various subaltern subjects, that is, various keys, to which the different parts of the piece may belong; but then, they must all be under the influence of the first and principal key, and have a sensible connection with it.

To give a more distinct notion of the key, we must observe, that the octave contains in it the whole principles of music, both with respect to consonance or harmony, and succession or melody; and if either scale be continued to a double octave, there will, in that case, be seven different orders of the degrees of an octave, proceeding from the seven different letters, with which the terms of the scale are marked. Any given sound, therefore, i.e. a sound of any determinate pitch or tune, may be made the key of the piece, by applying it to the seven natural sounds arising from the division of an octave, and repeating one Octave above or below, at pleasure. The given sound is applied as the principal note or key of the piece, by making frequent closes or cadences upon it; and, in the progress of the melody, no other but those seven natural sounds can be admitted, while the piece continues in that key, every other sound being foreign to the fundamental, or key.

For instance, suppose a song begun in any sound, and carried on upwards, or downwards, by degrees and harmonical distances, so as never to touch any sounds, but what are referable to that first sound as a fundamental, i.e. are the true sounds of the natural scale proceeding from the fundamental; and let the melody be so conducted through those natural sounds, as to close and terminate in the fundamental, or any of its octaves above or below; that sound is called the key of the melody, because it governs all the rest, limiting them so far, as that they must be to it, in the relation to the seven essential sounds of an octave; and when any other sound is brought in, it is called going out of the key.

From which way of speaking, viz. a song’s continuing in, or going out of the key, it may be observed, that the whole octave, with its natural sounds, come under the idea of a key; though the fundamental or principal sound is, in a peculiar sense, called the key.

In which last sense of the word key, (viz. where it is applied to one fundamental sound,) another sound is said to be out of the key, when it has not the relations to that fundamental of any of the natural sounds belonging to the concinnous division of the octave.

Here too it must be added, with respect to the two different divisions of the octave, that a sound may belong to the same key, i.e. it may have a just musical relation to the same fundamental in one kind of division, and be out of the key with respect to another.

Now a piece of music may be carried through several keys; i.e. it may be given in one key, and be led out of that into another, by introducing some sound foreign to the first, and so on to another; but a regular piece must not only return to the first key, but those other keys too, must have a particular connection with the first. It may be added, that those other keys must be some of the natural sounds of the principal key, though not any of them at pleasure.

As to the distinctions of keys, we have already observed, that to constitute any given note or sound, a key, or fundamental sound, it must have the seven
essential or natural notes added to it; out of which, or their octaves, all the notes of the piece must be taken, while it keeps within the key, i. e. within the government of that fundamental. It is evident, therefore, there are but two different species of keys, which arise according as we join the greater or less third, these being always accompanied with the sixth or seventh of the same species; the third g, for instance, with the sixth or seventh g, and the third l with the sixth and seventh l.

This distinction is expressed under the names of sharp key, which is that with the third g, &c. and the flat key, which is that with the third l, &c.; whence it is plain, that how many different closes soever there be in a piece, there can be but two keys, if we consider the essential difference of keys; every key being either flat or sharp, and every sharp key being the same, as to melody, as well as every flat one.

It must be observed, however, that in common practice the keys are said to be different, when nothing is considered but the different tone, or pitch of the sound, in which the different closes are made. In this sense, the same piece is said to be in different keys, according as it is begun in different sounds, or degrees of tune.

To prevent any confusion which might arise from using the same word in different senses, Mr. Malcolm proposes the word mode to be substituted instead of the word key, in the former sense; that is, where it expresses the melodious constitution of the octave, as it consists of seven essential and natural sounds, besides the fundamental; and in regard there are two species of it, he proposes, that with a third g be called the greater mode; and that with a third l, the lesser mode: appropriating the word key to those sounds of the piece in which the cadence is made; all of which maybe called different keys, in respect of their different degrees of tune.

To distinguish then accurately between a mode and a key, he gives us this definition; viz. an octave, with all its natural and essential degrees, is a mode, with respect to the constitution, or manner of dividing it; but with respect to its place in the scale of music, i. e. the degree or pitch of tune, it is a key; though that name is peculiarly applied to the fundamental.

Whence it follows that the same mode may be with different keys; i. e. an octave of sounds may be raised in the same order, and kind of degrees, which makes the same mode, and yet be begun higher or lower; i. e. be taken at different degrees of tune, with respect to the whole, which makes different keys; and vice versa, that the same key may be with different modes, i. e. the extremes of two octaves may be in the same degree of tune, yet the division of them be different.

KEYS also imply those little levers in the forepart of an organ, harpsichord, or piano-forte, by means of which wind is given to the pipes, and the jacks or hammers strike the strings of the instrument.

In large organs there are generally three sets of keys; one for the great or full organ, one for the choir organ and one for the swell and echoes. The long keys used to be black, and the short, or flats and sharps, white; but a contrary practice took place about the beginning of the last century.

KETTLE-DRUMS. See DRUM.

The kettle-drum, with trumpets, is the most martial sound of any; each regiment of horse formerly had a pair. The kettle-drummer rides always at the head of the squadron, and his post is on the right when the squadron is drawn up. The kettle-drum, belonging to the royal regiment of artillery, is mounted on a superb wagon, richly gilt and ornamented, and drawn by four white horses, elegantly caparisoned, with a seat for the drum-major general.
The splendid robes and gorgeous attire of bards and minstrels at all times are upon record. The flowing vest of Orpheus in the triple capacity of priest, legislator, and musician, is specified by Virgil; Arion is related by Herodotus to have leaped into the sea in the rich vestments he usually wore in public; Suidas speaks of the saffron robe and Milesian slippers worn by Antigenides; and the performers in the tragic chorus, which used to be furnished at the expense of some wealthy citizen of Athens, wore also a splendid and costly uniform.

Indeed the custom of presenting state musicians with superb and expensive dresses during the fourteenth century, seems to have travelled into England from the continent, and to have continued here till after the establishment of the king’s band of four-and-twenty performers; part of their present salary being still paid at the wardrobe-office, as an equivalent for the annual dress with which they used to be furnished at his majesty’s expense. The children of the king’s chapels still continue to wear the scarlet uniform of the original establishment. And the waits, or musicians who attend the mayor and aldermen of our cities and incorporate boroughs, are still furnished with splendid cloaks. See MINSTRELS and WAITS.

King of the Minstrels, in Musical History. Dr. Plot, in his History of Staffordshire, has minutely related the origin of an ancient and curious, though barbarous, privilege in favour of English minstrels, granted by John of Gaunt, duke of Lancaster, at his castle of Tutbury, in the year 1381, at the inauguration of the first king of the minstrels.

Du Cange gives several more early instances of minstrels having arrived at the honour of sovereignty in France; particularly Jean Charmillons, rex juglatororum at Troyes, in Champagne, 1296. Robert Cavaron, roi des menestriers du royaume de France, 1338; and others in 1357, and 1362. Copin de Brequin, roi des menestriers du royaume de France. Computum deauxiliis pro redemptione regis Johannii, A. D. 1367. Pour, une couronne d’argent quil donna le jour de latiphaine au roi des menestriers. And one about six years later than John of Gaunt’s institution is mentioned in Rymer, tom. vii. p. 555, where John Caunz, king of the minstrels, condescends to supplicate for leave to visit foreign countries.

“During the time in which ancient earls and dukes of Lancaster, who were ever of the blood royal, great men in their time, and had their abode, and kept a liberal hospitality here, at their honour of Tutbury, there could not but be a general concourse of people from all parts hither; for whose diversion all sorts of musicians were permitted likewise to come to pay their services; amongst whom, being numerous, some quarrels and disorders now and then arising, it was found necessary, after a while, they should be brought under rules, divers laws being made for the better regulating of them, and a governor appointed them by the name of a king, who had several officers under him to see to the execution of those laws, full power being granted them to apprehend and arrest any such minstrels appertaining to the said honour, as should refuse to do their services in due manner, and to constrain them to do them; as appears by the charter granted to the said king of the minstrels, by John of Gaunt, king of Castile and Leon, and duke of Lancaster, bearing date the 22d of August, in the fourth year of the reign of king Richard II., entitled “Carta le Roy de Minstræ,” which is as follows:

“John, by the grace of God, king of Castile and Leon, duke of Lancaster, to all them who shall see or here these our letters, greeting—Know ye, we have ordained, constituted, and assigned to our well-beloved the king of the minstrels in our honour of Tutbury, who is, or for the time shall be, to apprehend and arrest all the minstrels in our said honour and franchise, that refuse to do the services and minstrelsies as appertain to them to do from ancient times at Tutbury aforesaid, yearly on the days of the Assumption of our Lady; giving and granting to the said king of the minstrels, for the time being, full power and commandment to make them reasonably to justify, and to constrain them to do their services, and minstrelsies, in manner as belongeth to them, and as it hath been there, and of ancient times accustomed. In witness of which thing we have caused these our letters to be made patent. Given under our privy seal, at our castle of Tutbury, the 22d day of August, in the fourth year of the reign of the most sweet king Richard II.” For a further account of this establishment, see Burney’s General History of Music, vol. ii. p. 361, &c. and the article MINSTRELS.
KIRCHEAN MUSEUM at Rome, was founded by father Kircher about the middle of the seventeenth century. This celebrated museum is full of ancient paintings, vases, gems, intaglios, cameos, and other antiquities, which are there in such abundance, that a spectator might fancy himself at Portici; but the curiosities which we were most eager to see and examine, were father Kircher’s musical instruments and machines de scried in his Musurgia. They were almost all out of order in 1770, and in decay; and it is to be feared that time has not improved them. Their construction was not only curious, but manifested the ingenuity as well as zeal of the learned father, in his musical inquiries and experiments.

KIT, in Music, the name of a small violin of such form and dimension as to be capable of being carried in a case or sheath in the pocket. Its length, measuring from the extremities, is about sixteen inches, and that of the bow about seventeen. Small as this instrument is, its powers are co-extensive with those of the violin.

LAMBETH – Editorial note: Concluding paragraph of the article proper

About a century ago, there was a place of entertainment called Lambeth Wells, situated in what is now called Lambeth Walk. A riding-school, for the exhibition of feats of horsemanship, was opened in this parish about the year 1768, by Mr. Philip Astley. At first it was an open area; in 1780 it was converted into a covered amphitheatre, and divided into boxes, pit and gallery. Spring Gardens, Vauxhall, (which is mentioned in the Spectator as a place of great resort) is opened during the greater part of the summer, being illuminated with a great number of lamps; the entertainments consists of a concert of music, performed, in fine weather, in the open air; the price of admission, till 1796, was one shilling; it is now three shillings, and open three times each week during the summer months. Lysons’s Environs of London, vol. i. 4to.

LANGUAGE, Euphony of, for Singing. It seems as if the vocal music of every country depended on the purity of the vowels, neat articulation of the consonants, and easy utterance of the words of which a language is composed; and there can be no doubt but that the dialect which has the greatest number of open vowels mixed with its consonants, is the most favourable for vocal purposes. The tones of voice can only be heard with purity and clearness by the assistance of vowels: as the words, vowels and voice, are equally derived from vocalis, which implies a sound, a musical tone, vocal melody, or modulation. And it is not only from the general facility with which the syllables of a language can be uttered with neatness and articulation that it is rendered favourable to the singer, but from the number of vocal terminations, or words ending with vowels, which allow the voice to expand, and finish a musical phrase with ease and purity.

It is generally allowed that the French language is nasal, the German guttural, and the English sibilating, and loaded with consonants, nasal syllables ending with ng, and other harsh and mute terminations. We have, indeed, filed off the Saxon roughness in words where gh occur: as cough, trough, laugh, plough, through, eight, freight, enough, &c. which used to be pronounced in the Teutonic manner, and which are still guttural words in Scotland, and some parts of England.

But besides the obstructions which the voice meets with in its passage, from clashing consonants in the middle of words, we have a greater number of terms that end with absolute mute and abrupt consonants, than either the French or Germans: such are those which terminate in b, d, g, k, or hard c, f, and t. And it is not easy to defend our language from the hissing of which it is accused by foreigners, on account of the frequent use of the letter s at the end of words, and the great number of words which terminate with a double s. For though the plural number of French nouns is distinguished in writing by an s, as well as the English, yet the final s is never pronounced. The German plurals too are terminated by the letter n: as haus, hauen ; strass, strassen ; pferd, pferden ; &c. in the same manner as house used to be hauen in the plural, hose, hosen; and as the substantive ox still has oxen in the plural. And the letter n being a liquid, renders the words which it terminates less difficult to utter, as well as less offensive to the ear, than the letter s with which we have more words begin and end than with any other letter in the alphabet. Indeed, modern refinements or corruptions in pronouncing our language have greatly augmented the sibilation with which we are justly charged, by changing the eth and ath of verbs into es and as; and saying gives for giveth, has for hath, &c.
The learned Dr. Wallis, a profound musician, in his treatise “De Loquela,” prefixed to his Grammar of the English Tongue, has considered with great exactness the accurate formation of all sounds in speaking, to which few have attended before; but with respect to singing, the work is still to be done.

Dr. Holder, who was a very learned musician and a composer, though he has admirably analysed the principles of pronunciation, and described the organs of utterance, with respect to colloquial language (Elements of Speech; an Essay of Inquiry into the natural Production of Letters, 1669), has not pointed out the means by which the musical voice in articulating words is assisted or impeded in its formation and delivery, or the causes of its arriving at the car with more or less clearness and purity. It was a subject that did not immediately concern the purport of this excellent essay, which was written with the benevolent intention of assisting persons born deaf and dumb to comprehend the speech of others by the eye, from its effect on the external organs; and, therefore, the omission of such inquiries as seem necessary in this place cannot be termed a defect.

Rousseau, in his ingenious and spirited “Lettre sur la Musique Française,” has confined his remarks chiefly to the vices of the French language; but to all, except the natives of France, a less eloquent and forcible writer might easily have proved it unfit for every kind of vocal music, superior to a “Vaudeville,” or “Chanson à table:” for the words of these compositions being their principal merit, the hearer is the less inclined to judge severely of the music, or the singer, provided he loses none of the wit or ingenuity of the poem. And, indeed, it is at the serious French opera, and by the performance of slow music, and airs tendres, that those accustomed to good singing are most offended. However, in the parallel which Rousseau has drawn between the languages of France and Italy, after describing all the inconveniences arising to a singer from the compound, mute, nasal, and dead syllables, of the French language; he asserts, that the paucity of sonorous vowels, and abundance of consonants and articulations, force the lyric poet to exclude many words, and allow the musical composer to give only elementary, or short and single sounds, to the others. There is no language in which all the words of its vocabulary are equally fit for music, or lyric poetry; according to Salvini, out of forty thousand words in the Italian language, only six or seven thousand can be adopted by the writers of serious musical dramas. Indeed, some of these rejected words, by their want of dignity, as well as softness, may be unfit for lyric compositions. Hence, the melody necessarily becomes insipid and monotonous, and its movement slow and tiresome; for if the time of such music be at all accelerated, its velocity resembles that of an angular body rumbling on a pavement. He goes on with his strictures, and supposes, that “such a language as he hath been describing, has a bad prosody, unmarked, without exactitude and precision; that the long and short syllables have no sensible and determinate proportion between them in duration, or numbers, by which the rhythm can be rendered agreeable, exact, and regular; that it has both long and short syllables of an uncertain duration, with others that are neither long nor short; and that the difference between them is wholly incommensurable.

“These vices and inconveniences,” he adds, “have such an effect upon the time or measure of music, when applied to such words, as to render it wholly unmarked, irregular, and disjointed.

His character of the Italian language, and description of its beauties, and advantage over all others, for vocal purposes, are so apposite to the present inquiries, that we shall faithfully translate the whole passage.

“If it should be asked what language is the most grammatical, I should answer, that of the people who reason the best; and if it should be asked what people are likely to have the best music, I should say, those that have the best language for it. Now if there is in Europe one language more favourable to music than another, it is certainly the Italian: for this language is soft, sonorous, melodious, and more accentuated than any other; four qualities peculiarly important to vocal music. It is soft from its articulations being un-compounded; from the infrequency of clashing consonants; and from every word in the language being terminated by a vowel. It is sonorous from most of its vowels being open; its diphthongs uncompounded; from having no nasal vowels; and from its articulations being few and easy, which render the sound of each neat and full. It is melodi-
ous from its own native sweetness, which renders it vocal even in declamation and commons speech, without the assistance of musical notes. But what renders the Italian language more peculiarly mellifluous, as well as more expressive of sentiment, than any other, is the great compass and variety of its tones, and the choice it allows in painting the passions. To prove this, let any one who imagines it to be only the language of love and tenderness, take the trouble of comparing the two following stanzas of Tasso."

"Tenerisdegni e placide è tranquille
Repulse e cari vezzi e liete pace;
Sorrisi, parolette, e dolce filelle
Di pianto e sospir, tromchi e molli bacci
 Fuse tai cose tutte, e poscia unille,
Etal toce tempro di lente faci;
E ne formo quel si mirabil cinto
Di ch'ella aven il bel fianco succinto."

Canto IV. Stanza xiii.

"Chiamà gl' abitator de l'ombre eterne
Il rauc suon de la tartarea tromba;
Tremà le spaziose atre caverne,
E l'ær cieco a quel romor rimbomba;
Ne si stridendo mai de la superne
Regione del cielo il folgor piomba,
Ne fi scossa giammai trema la tarra
Quando i vapor in sen gravida serra."

Canto XVI. Stanza xxv.

It will be found, perhaps, equally difficult to express in any other language the sweetness of the one or the vigour of the other of these stanzas. But the roughness of the last stanza does not consist in hard and uncouth words; they are all sonorous, and, though rough to the ear, easy of utterance.

These stanzas, however, which Rousseau, and, after him, almost all musical writers have instanced as of remarkably easy utterance, should have been confined to reading and declamation; for better lyrical or vocal verses may be found in Metastasio, and, indeed, in al-most all Italian lyric poets, since it has been found that the vowel $a$ is the best for divisions, and all the other vowels have been long in disuse for such purposes, by the best Italian composers for the stage. In the stanza cited as a model of softness, in vocal verses, there are but two words, to which, in a lively air, divisions would be given: Cari, pace. But even these, in which the vowel $a$ occurs in the first syllable, would have no long divisions assigned them, if there was a final syllable terminated by that letter, as in the third person singular of the future tense of verbs, vedrà, ucciderà, farà, darà, flarlerà, contarà, fuggirà; in the elision of the infinitive mood, tri- onfar, rufiosar, scordar, lusingar, naufragar; and in the substantives, fedeltà, fietà, felicità, libertà, crudelità, and Mar.

In setting Metastasio's early operas, till about the middle of the present century, we find the best com-posers giving divisions to the vowels $o$ and $e$, as in morirò, dosorò, fugirò, re, te, fo, freme, speme, vender, voler, è, mercè, &c. but never to $i$ or $u$.

Rousseau declined discussing the accents of the Italian tongue; but if, as has been imagined, the Greek accents were used as a notation of the tone or tune of voice in reading or speaking; the acute accent raising the voice the grave depressing it, and the circumflex keeping it at a middle pitch or tone, the Italian would afford a more varied and pleasing melody than any of the other European dialects.

All tuneable sounds, says Dr. Holder, of which the human voice is one, are produced by a regular and equal vibration of the sonorous body and undulation of the air, proportioned to the acuteness or gravity of the tone. And, according to Dr. Wallis, this gravity, or acuteness of tones in speech, depends on the openness of the aperture in the larynx, which is the seat of the voice; and roughness and smoothness of vocal tones, he refers to the state of this organ.

But as these learned philologers have only dissected our alphabet, and analysed the pronunciation of our language, as far as concerns its articulation in speech, we shall examine it with respect to lyric poetry and singing, to which our remarks will be strictly confined.

If it be considered that of the five vowels in European alphabets, only two, $a$ and $o$, are favourable to the clear emission of vocal sound; that of the nineteen consonants eight are absolutely mute, as $b$, hard $c$ and $g$, $h$, $f$, $q$, $t$; seven semi-mute, that is, allowing only a murmuring noise, but no musical sound, as $s$, $m$, $n$, $s$, $v$, $r$, $z$; that the soft $g$ and consonant $j$ are likewise of this kind; and that the soft $g$ and consonant $j$ are likewise of this kind; and that $r$, though accounted a liquid, only admits of a snarling, canine kind of noise; $l$, indeed, is a true liquid, allowing a continuation of sound after it is formed; and $w$ and $y$ may be accounted semi-vowels; yet so numerous are the impediments to a neat, clean articulation, as well
as sweetness and purity of musical tones, that some care should at least be used by the lyric poet in the selection of words, as well as great precaution by the composer, who gives them a melody.

If our alphabet be critically examined, in order to discover the effect which each letter has upon the voice in singing; it will be found that peculiar letters, as well as combinations of letters, have peculiar vices and tendencies to impede or corrupt musical sounds, both in their formation and passage: that \( f \) admits only of a whisper; for though regarded as a semi-vowel on account of allowing us to breathe after it has been pronounced, without altering the form of the mouth; yet, as Dr. Holder has well observed, “it is one thing to breathe, and another to vocalize that breath.” \( M, n, \) and \( ng \), likewise allow us to breathe; but as it is only nasal breath, the sound we are able to emit is snuffling and impure. \( S, \) and its substitute, soft \( c \), are hissing; \( v \) and \( z \) afford only a jarring buz, by the vibration of the teeth and the under lip, like that of a wasp or bee; \( th \), cannot be uttered without a hisp: and the Saxo-Norman syllables \( bl, cl, fl, gl, kl, pl, tl \), are all unmusical, and of difficult utterance.

The vowel \( a \), according to our manner of sounding it in the words \( all, ball, call, &c. \), affords the purest and most open passage to the voice through the mouth; and long divisions and vocal effusions should be appropriated as much as possible to this vowel, which is still more convenient to the singer when combined with no other letter, which alters the form of the organ. \( O, \) allows a free passage to sound; yet as it separates the lips and teeth less than the letter \( a \), it is in less favour with singers: however the English words \( blow, flow, glow, slow, woe, &c. \) are well calculated for musical divisions. \( E, i, \) and \( u \), partake of the nature of consonants, by putting the organs of speech in motion when they are first sounded; and in dwelling upon these vowels no \( voce di fatto \), no voice can be produced from the chest, as they confine it to a small part of the mouth, or render it nasal. Indeed, the \( u \), by almost closing the lips, allows but a very narrow and in convenient passage to the voice; the \( i \) and the \( e \) are more favourable to a falset, a \( voce da testa, \) or feigned voice, than to a true portamento, or conduct of the voice.

Tosi, in his “Opinioni de’ cantori antichi e moderni, o sieno osservazioni sopra il canto figurato,” or florid song, fourscore years ago, recommended the exercising of the voice upon the three open vowels, which, with the Italians, are \( a, e, o \), equivalent to our \( aw, a, o \). The Italian \( i \), sounded like our double \( e \), and \( u \), as our double \( o \), are never honoured with divisions or long sounds by the best composers or singing masters of Italy.

As open vowels are the most desirable to singers; so distinct, determinate, and uncompounded consonants, are the best crutches for the voice to lean on; for a neat, clear, and articulate pronunciation of consonants is as necessary to the intelligence of what is singing, as open vowels are to its being well sung. The letters \( f, t, k \), for instance are such clear and distinct articulations, that the voice, after any one of them, is delivered with a gentle kind of explosion, which consider-ably augments its force.

The \( i \), in English, as it is sounded in the word \( smile \), and which is so peculiar to English mouths, seems a diphthong, compounded of \( e \) feminine, and \( y \), or the Greek diphthong \( ei \), or rather the German \( ei \), as sounded in \( eisenac, eichner, &c. \), and not a simple or original vowel. Indeed, most of the diphthongs in our language require action in the organ, and spring in the muscles, as \( ay, oy, eu, ou \), in the words \( bay, boy, Europe, our \).

As accent and emphasis have great influence in varying the sound of oral language, they are not indifferent to vocal melody: the Italian tongue, though it is easy to pronounce, and soft and melifluous to the ear, from the openness and frequency of its vowels; yet the articulations of its consonants are more firm, vigorous, and poignant, than in any other language; and as every dialect has peculiar inflections of voice which form a kind of \( tune \) in its utterance, the Italian seems to have a greater compass and variety of intervals in this colloquial \( tune \), or \( cantilena \), than any other with which we are acquainted.

Diomedes calls accent the soul of speech, \( anima voceis \). And every word of more than one syllable in prose, must have one emphatic or accented syllable among the rest. However, in verse, this rule cannot be observed without absurdity.

“Of mān’s first disobedience, and the fruit
Of that forbidden tree,” &c.

“Awake my Saint John, leave all meaner things
To low ambition and the pride of kings.”
In each of these two last verses, were they set in recitative, which is the best musical criterion of accenting any language, there can only be two emphatic, accented syllables: as in Handel's opening of "Alexander's Feast;"

"Twas at the royal feast, for Persia wón."

A syllable in English, as well as Latin, which has two consonants after a vowel, is long, except one of these consonants be mute, and the other a liquid, as in rēgrē, répēlē. Indeed the accented syllable in our words which have double consonants, is short: so that accent and long do not always imply the same thing. In the case of double rhymes this rule should be observed: as pleasure, measure, manner, banner; which should all have short notes. Here accent and quantity certainly differ. By applying Italian melody to English words, we seem to lose in sense what we gain in sound. The universality of double rhymes in Italian poetry must have an influence upon vocal melody, which our single rhymes but awkwardly imitate.

Dacier, in a note to his translation of Plutarch's Life of Lycurgus, says, that "the progress of music, in all times, has ever been proportioned to the genius and language of the people." The ancient Romans, though great in arms, agriculture, and literature, were not successful cultivators of the fine arts; and nothing was achieved in them, throughout their empire, but by Grecian artists. For this, we may, however, account, by the slaves only being allowed to cultivate the polite arts, among the Romans; whereas, in Greece, on the contrary, they were wholly prohibited their use.

No visionary innovation, or fantastical change, is here intended, in a language so excellent as our own for every purpose of reason, science, philosophy, and we may surely add, poetry; all we would recommend, is care to our lyric poets in the selection and arrangement of syllables, as well as unity of subject (see Italian Tour. p. 48, and our articles SONG, SYMMETRY, and UNITY of Melody) and attentive observance to the composers who set them to music, not to dwell on harsh, mute, nasal, or guttural which either preclude or vitiate all musical sound.

Song and sing, unfortunately, the two most common words in our lyric poetry, begin by a hiss, and end with a sound entirely nasal; and if we examine the syllables which terminate each line in Dryden's Ode, on St. Cecelia's Day, the best of our lyric poems, and perhaps the most noble production, to read, of modern languages, we shall find the dead letter d predominates; terminating in the course of the poem no less than two or three and thirty lines; in more than half of which, this hard and dumb letter is preceded by n, which, though it does not wholly silence the voice, yet allows it no passage, but through the nose. However, this junction is not so injurious to vocalized sound, as ng, in the words; or s and z in ears, hears, spheres, comes, drums, prize, skies, &c. which terminate each musical phrase or period with a hiss. The impervious consonant t, in sate, state, fate, &c. preceded by a vowel, is less difficult to pronounce, and less offensive to hear, than the sibilation in breast, opprest, &c.

Admirable and sublime as this ode is in the perusal, some of the lines are extremely difficult to sing, without either injuring the poet or musician; the first, by a languid and inarticulate utterance, or the latter by a pronunciation too rough and violent. The recitative, may, with propriety, admit of a strong accentuation, as only such a portion of sound is wanting as will render the words more audible, and nearer singing, than mere speech: but as recitative is the mere medium between declamation and musical air, some attention seems necessary in selecting the words, and polishing the verses, even for this narrative melody; in shunning harsh alliterations, such as in the lines, thrice he slew the slain—the sweet enthusiast from her sacred store, &c. where there is a constant and unavoidable hissing upon all the accents; and in placing such words at the pause, or hiatus, in the middle as well as at the end of each line or verse, where the punctuation requires a repose, or hiatus, in the middle as well as at the end of each line or verse, where the punctuation requires a repose, or long note, as will neither wholly silence the voice, nor impede its expansion. If such precautions should be thought necessary for words of quick utterance in recitative, still more solicitous should the lyric poet be in the choice and arrangement when he writes an air, where every syllable is lengthened and vocalized, and where the vowel in each is all that the composer can tune, or the singer sweeten and refine.
It is very natural for poets to wish that the language, in setting it to music, should be more respected than it has generally been, particularly in our church compositions, by old masters, which the late Mr. Mason, in his "Anthem Book for York Cathedral," has very justly censured; but he commends Tucker, who was gentleman of Charles IId's chapel, for his very accurate attention to accent and length of syllables; and sums up the excellencies and defects of our ecclesiastical composers brought up in the King's chapel, after the Restoration, by speaking with exact discrimination of "the pleasing melodies of Wise; pathetic airs of Clarke; majestic movements of Blow; and sublime strains of Purcell."

But Purcell, the pride of every Englishman who loves music, was, in general, not only accurate, but happy and touching in the expression of words. Many of his melodies, are, however, now become wholly obsolete and uncouth, from the temporary graces, with which he overloaded them, for the sake of ignorant singers; and indeed, he wrote for no others. But these being the furbelows and flounces of a particular period, are very short-lived, and soon disgrace that melody which they were intended to embellish.

Editorial note: At the end of this sequence of articles about LANGUAGE is another, LANGUAGES Living. This has a couple of paragraphs, clearly by Burney, about language and music:

The language of France, for vocal purposes, may be compared with that of Italy. That the Italian language is favourable to the pure emission of sound, and consequently to singing, and the French the contrary, none but a native of France will dispute. Yet M. Framery, a man of taste and knowledge of music, and who sometimes seem to feel and acknowledge the defects of French music and its language for vocal purposes, says in the Encyclopédie Methodique, p. 235: "de célèbres compositeurs, Messrs. Duni, Gluck, Piccini, Sacchini, ont dit, ontecrit, qu'ils aimaient mieux composer sur la langue Française que sur la langue Italienne!" credat Judaeus. M. Framery never surprised us more, or convinced us less. These composers may have said something flattering to the French, in public about their language, while at Paris; but in private, Gluck and Sacchini, to our knowledge, spoke of French as a musical language with no great respect. The Italians have often pretended, in Scotland, to prefer Scots tunes, and in Ireland, Irish, to Italian music. Geminiani and Tenducci did this in both countries; but in England, and among their own countrymen, they turned to ridicule both these national musics, more than they deserved; for though, when sung by fine singers, they lose their chief merit of originality and simplicity, when sung by the natives, they are extremely pleasing, and often truly touching.

Of all others, the English is said to be the most honest, open, and undesigning language. With all its sublimity, it is gay and pleasant on occasion; but its gayety is still moderated and restrained by good sense; it hates excessive ornaments; and, for the greater simplicity, would almost choose, as some say of the French, to go naked; it never dresses more than decorum and necessity require.

LARGE, synonymous with maxima, the longest note in the first time table, equal to two longs, four breves, and eight semibreves. Its form is an oblong square, with a tail on the right side, thus ■. See CHARACTER. LARGHETTO, Ital, the diminutive of largo. LARGO, in the Italian Music, a slow movement, one degree quicker than adagio, and two than grave. See TIME.

Rousseau makes largo slow in the first degree; but we think erroneously. Adagio is the slowest time in Corelli, and all the old masters; grave the second; and largo the third. In adagios and largos, the time is usually counted by quavers, and in grave by crotchets.

LARIGOT, Fr. an acute stop in the organs of France, a 3d above the major 17th, and an octave above the 12th in our organs, which would be a 19th above the diapason.

LAUDI SPIRITUALI, Ital, the most ancient melodies that can be found in Italy, set to Italian words. It was the opinion of Father Menestrier (sur les Drames en Musique) that hymns, canticles, and mysteries, in the vulgar tongues of Europe, had their origin from the pilgrims who went to the Holy Land. St. Francis d’Assise, born in 1182, is mentioned by Crescimbeni, and other Italian writers, among the first pious persons of that country, who exercised their genius in composing hymns and spiritual songs, called Laudi, in the form of canzonets. Le
laudi, which were likewise called lalde, lodi, cantici, or canticles, are compositions in praise of God, the Virgin Mary, or the saints and martyrs. They resemble hymns as to the subject, but not the character and verification; hymns having been originally constructed on Greek and Roman models; but the laudi, or spiritual songs, are entirely of Italian invention.

A society for the performance of these religious poems was instituted at Florence so early as the year 1310, the members of which were called laudesi, and laudisti. In the fifteenth century this species of sacred poetry was very much esteemed and practised, as is manifest by the various collections that were made of them, one of which was printed 1485. In the next century several volumes of them were published, among which there are many poetical compositions on sacred subjects by Politian, Bembo, Lodovico Martelli, and other eminent poets. (Quadrio, Storia d'Ogni Poes vol. ii. p. 466.) In the 17th century though their favour was somewhat diminished, yet, besides a large volume composed by Serasino Razzi, and published by the author 1608, there were many collections of these spiritual songs printed.

Crescimbeni tells us that the company of laudisti of St. Benedict, at Florence, went to Rome during the time of the grand Jubilee, in the year 1700, and sung through the streets in procession several laudi that were written by the celebrated Filicaia. In most of the ancient collections, the melodies were prefixed to each of these songs. They were at first little more than chants, and without base. However, according to the commentary on Boccaccio, by Sansovino, published at Venice, 1546, they were afterwards sung in many different parts. “There are in Florence” says he “several schools of artizans and mechanics, among which are those of Orsamichele, and Santa Maria Novella. Every Saturday after 9 o’clock these assemble in the church, and there sing five or six laudi, in four parts, the words of which are by Lorenzo de Medici, Pulci, and Giambellari; and at every laud they change the singers, and to the sound of the organ discover a madonna, which finishes the festival. And these singers who are called laudesi have a preceptor, whom they denominate their captain or leader.”

This company still subsisted in 1770, when we frequently heard them sing their hymns, through the streets in three parts, and likewise in their church, accompanied by an organ. Of the antiquity of this institution, as a MS. volume of Laudi Spirituali, which we found in the Magliabecchi library at Florence, is an in-disputable proof, the preface, and a specimen of those ancient melodies, bearing date MCCCXXXVI, have been inserted in the General History of music, vol. ii. p. 327.

LAY, or Lai, the title of the most ancient kind of songs in the French language. It was not till the reign of Philip Augustus that songs became common in that country. Gautier de Coincy, an ecclesiastic of St. Medard de Soissons, composed a considerable number, which are still preserved in MS. among his other writings. “Lays were a kind of elegies,” says M. l’Eveque de la Ravaliere, (Anienté des Chansons, tom. i. p. 225.) “filled with amorous complaints.” The origin of this species of composition is such as rendered it necessarily plaintive: as the word lai is imagined to have been derived from lessus, Latin, which signifies complaints and lamentations. However there are some lays which describe moments of joy and pleasure more than sorrow or pain; and others upon sacred subjects.

Chaucer, who frequently uses the word lay, confines it wholly to songs of complaint and sorrow:

“And in a lettre wrote he all his sorwe
In manere of a complaint or a lay,
Unto his faire freshe lady May.”

Cant.Tales, v 9754

“He was dispeired, nothing dorst he say,
Sauf in his songes somwhat wold he wray
His wo, as in a general complaining;
He said, he loved, and was beloved nothing.
Of swiche matere made he many ayes,
Songes, complaintes, roundels, virelays—”

Cant. Tales t 11255.

“Thus end I this complaining of this lay.”

Ibid.

In Spencer’s time, however, its acceptation was more general, and as frequently applied to songs of joy as sorrow:

“To the maiden’s sounding timbrels sung
In well attuned notes, a joyous lay.”

Fairy Queen.
Lai seems a word purely Francic and Saxon: it is neither to be found in the Armoric language, nor in the dialect of Provence. The French poetess Marie, who in the time of St. Louis, about the middle of the thirteenth century, translated several tales from the Armoric language of Bretagne, calls them lais; but the term is of much higher antiquity. After its adoption by the English poets, it soon became a generical term in poetry for every species of verse, as song is now; but both these words still retain their particular acceptation as well as generical; for by a song is understood a short poem set to a tune, and this was the particular meaning of lay, in the last century, among our musical writers.

Tales and songs, says the editor of ancient Fabliaux et Contes François, were the most common and ancient species of poetry. The French, naturally gay, cheerful, and sportive, were more attached to this species of composition than any other nation, and communicated this love for lyric poetry to their neighbours. They must have been in possession of a great number of these songs and tales, because in all social meetings the custom was for everyone present either to sing a song or tell a story, as appears by the end of the fable of the priest, “qui ot Mere à force.” where we read these verses:

“A cest mots fenist cis fabliaux
Que nous avons en rime mis,
Pour conter devant nos amis.”

And according to John le Chapelain, in his ditty of the Sacristain of Clugny, it was customary for a bard to pay his reckoning with a story or a song.

“Usage est en Normandie,
Que qui hebergiez est, qu’il die
Fable ou charson a son oste
Ceste costume pas n’en oste
Sire Jehans li Chapelains.”

“In Normandy a son: or tale
Is current coin for wine or ale;
Nor does the friendly host require
For bed and board a better hire.”

In the thirteenth century the songs in vogue were of various kinds; moral, merry, and amorous; and at that time, melody seems to have been little more than plain-song, or chanting. The notes were square, and written on four lines only, like those of the Roman church, in the clef of C, without any marks for time. The movement and embellishments of the air depended on the abilities of the singer. The compass of modern music is much extended since by the cultivation of the voice; for it was not till towards the end of St. Lewis’s reign that the fifth line began to be added to the stave. The singer always accompanied himself on an instrument in unison. Poesie du Roi de Navarre, tom. ii.

LEPSIS, in the Greek Music, is a name given to one of the rules of the ancient melopoeia, called also sometimes, euthia; by which the composer discerns in which of the three systems of sounds he should place his melody: in the grave part of the scale, called hyfatoide; the acute, called netoides, or the mean, called mesoides. See MELOPŒIA and USUS.

LEGATURA, Ital. in Modern Music, implies a binding note; as when the bar goes through the middle of the note, or two notes of the same kind are tied together by a semicircle.

-The bar is seldom drawn through the head of the note, except in alla breve time: notes of less value are linked together by a semicircle or tie. See SYNCOPATION.

In old church music, before the use of bars, and when the notes were chiefly square, such as the long, the breve, the laws of ligature constituted the most difficult and tedious part of a practical musician’s study. The value or length of a note, in the fifteenth or sixteenth centuries, was changed, by the position of the tail being up-wards or downwards, on the left or right side of a note, or the middle of the measure. In the music-school at Oxford, a set of mass books is preserved, containing compositions by Dr. Fairfax, Taverner, and other old
English masters, of Henry VII’s and Henry VIII’s time, that are totally unintelligible, except to very curious and studious professors, who have made the ligatures’ their peculiar study.

Ligatures were used by the early contrapuntists, in vocal music, to connect such sounds as were to be sustained or sung to one syllable, as is done at present by semicircular marks, called binding-notes, and slurs. The rules for these are too numerous and vague to be explained without a long discussion, and their powers will perhaps be best comprehended in the examples of ancient composition of different parts, in partition, and barred. However, it may be useful to those who undertake to decypher such music, to remember that all the square notes in ligature, with tails on the right hand, descending, are longs; on the left, breves; and all with tails on the left, ascending, are semibreves. Square notes, without tails, in ligature, are in general breves, though there are some exceptions to this rule, for which it is not easy to assign a cause.

Black, square, and lozenge notes, when mixed with white, are diminished one-fourth of the value they have, while open or vacuate. And a note partially black, or demivacuate, is struck twice, in the following proportions;

**LEMMA**, in the *Ancient Music*, a rest or pause of a short syllable in the catalectic rhythm. See RHYTHM.

**LESSONS for the Virginal, Spinet, and Harpsichord**, have undergone great changes in the denomination and arrangement of their movements, from the time of queen Elizabeth to the present. In that princess’s virginal book, now in the possession of viscount Fitzwilliam, we find *pavana* in general to be the slow movement, and *galliarda* the quick. Now and then a *fantasia*, a *coranto*, and a *gigg*, but as single movements, not parts of a suite of lessons. *Preludium*, or prelude, frequently occurs without leading to any other movement; as does *passamezzo*, *alman*, *toccato*, once; but the rest are chiefly old tunes with variations. These pieces are all written on a staff of six lines.

**Lady Nevil’s Virginal Book.**—This lady was a pupil of our admirable countryman Bird; and all the lessons in her book, a thick quarto, are of his composition. They are admirably transcribed by John Bald-wayne, a singing-man of Windsor, and a celebrated copyist of that time, 1591.

Its contents are: “My Lady Nevil’s *grounde*, with eight variations. *Qui passe*, four variations. March before the battle, 12 military movements. Old tunes varied. Groundes and fancies, with 18 pavans, and two lessons of voluntarie all neatly written on four-staved paper of six lines.

Thus far all our music for keyed instruments was in MS. But in the reign of James I, the following book appeared in print, still on six-lined paper.

“Parthenia, or the Maydenhead of the first Musicke that ever was printed for the Virginalls; composed by three famous Masters; William Byrde, Dr. John Bull, and Orlando Gibbons, Gentlemen of his Majesty’s most illustrious Chapel. Dedicated to all the Masters and Lovers of Musick.” The pieces in this collection seem to follow in *suits*, of which the first is of Bird’s composition; as preludium, *Pavana*, galliard, all in G minor: then a prelude, and a galliard in C; and a pavan, and two galliards in G, by the same.

The next author in the collection is master doctor Bull, whose pieces are arranged in the following order, “A *pavan* and two *galiards* in A minor; prelude, *pavan*, and *galiard*, in G major; two *galiards* in D minor.” Orlando Gibbons’ pieces have little connection, being a galliard in C natural; a fantasia in four parts, in A minor;* Pavan in do.; the queen’s command in C, and a preludium in G. This book was again engraved on copper in1651, fol.

The title of Handel’s two sets of lessons is in French, and the movements of each *suit* have the same denominations as many French composers of lessons had long used in Louis XIVth’s time; as prelude, allemande, courante, gigue, with sometimes adagio, sarabande, allegro, and air with *doubles*, or variations, which include all the technica of the first book.

In the second book, he has prelude, *aria con variatiioni*, minuet, chaconne, and gavotta. The movements of the second book are of a lighter kind than those of the first, as the first and third set of Corelli’s
sonatas are called “Suonate da Chiesa,” and the second and fourth sets, “Suonate da Camesa.”

Scarlatti’s lessons are almost all single pieces, and we believe Alberti’s were the first harpsichord lessons published in England, that were called sonatas. “Suonate da Cimbalo,” which, without accompaniments, is still the general title of what used to be called lessons.

LIBERTÈ de la Musique, is the title of one of the late M. D’Alembert’s Essays in his “Melange de Literature,” published in 1767. After being the champion of Rameau’s system, and his basse fondamentale, he became his opponent, and a convert to Italian music. He enters into all the reasoning of Rousseau against the French style of composition, but in a more guarded manner. Indeed, he appears never to have heard good Italian music well performed. The Suva Paderna of Pergolesi, executed by a troop of Italian burletta singers, not of the first class, was his standard of perfection. He tries hard to persuade the French that their music is bad, without knowing very well in what the Italian was superior. Rousseau had re-sided at Venice a considerable time, and seems forcibly to have felt all the lyric beauties of Metastasio’s poetry, as well as the merit of the great composers and enchanting powers of the great singers of his time. This, D’Alembert only knows by tradition. It was easy for a man of his abilities to ridicule the old French music, and praise the Italian; but he was too little acquainted with its real beauties to know why Italian dramatic vocal music was superior to all other music, and the French inferior. But it may, perhaps, be roundly asserted that the French vocal music was, is, and probably ever will be, inferior to the Italian from bad singing, as well as from the nasal nature of their language, and the national expression founded upon it, by which the vocal organ is vitiated from infancy to age, and its tones in their expression rendered unpleasing to all ears but those of the natives.

The French, since the time of Rameau, have often had fine compositions performed in their theatres, and a well disciplined band to execute them instrumentally; yet, for want of good singers, the vocal part, which is the best and most interesting in an Italian opera, is the worst in the musical dramas of France. And for this there are two causes which affect the composition as well as the performance of French opera songs: the composer, be he a Gluck, a Piccini, or a Sacchini, having no great vocal talents to display, dares not give way to fancy, or aim at new passages, but, of necessity, underwrites the vocal part so much, that the productions of these great masters for the French stage are never in favour elsewhere with their greatest admirers. And even the simple and common passages given to the voice, are so ill sung, that they give pleasure to no ears but those which are accustomed to no-thing better.

In 1767, when D’Alembert wrote in favour of tolerance in the musical religion of France, the accompaniments to what were called songs at the opera were so busy and so loud, that he compares the effect to twenty people reading different books at the same time.

Though D’Alembert and Rousseau quarrelled about the expediency of allowing plays to be acted within the walls of Geneva; yet the mathematician in his discourse on the Liberty of Music, is but a commentator on the citizen of Geneva’s “Letter concerning French Music.

“On the subject of adapting Italian melody to French words, the great geometrician has not taken into his calculation all the objections to its success. In Italian poetry each verse is terminated by a double rhyme; and in the French poetry, the masculine and feminine rhymes are alternate. This must affect the melody. The mute syllables in French poetry (which are dogrel in English) can alone receive Italian melody: the masculine rhymes admit of no imitation.

M. D’Alembert, however, modestly says, that all his reflections are not worth a single fine air in music; and adds (after Rousseau), that “inventing what succeeds is infinitely preferable to philosophical reasoning: a composer never thinks of giving precepts who is able to furnish models: Raphæl produced pictures, not dissertations. In music, we (the French) write reveries; and the Italians compose and execute music.” The two nations, in this respect, resemble the two architects who were candidates at Athens for the erection of a monument which the republic wished to raise to a deceased hero: one of them poke a long while with great eloquence on his art; the other, after listening with great attention, only uttered these words: “What he says, I have done.”
LIBITUM, in Music. Sometimes, in the course of a composition, the Latin words ad libitum occur, which signify, at the pleasure of the principal performer, who is at liberty to do what he pleases, in order to manifest his fancy, taste, and execution; and to return to the text of the composer whenever he pleases: as to the rest of the band who accompany him, they are to remain inactive, and await his return to the written melody. The difference between cadenza, and ad libitum, is, that a cadence, or close, is terminated by a shake, whereas an ad libitum may be allowed to the performer by the composer, at any part of the piece he pleases. These Latin words are likewise joined to some instrument of accompaniment, in the title page of a work; as at the beginning of a piece, to say that such an instrument is non obligato, or not absolutely necessary; as in a symphony, when the corini, or French horns, may be dispensed with; and in a composition for a pianoforte, when the violin has no solo parts or passages that will be missed, notice is then given by the words corini ad libitum, or “with a violin accompaniment ad libitum.”

LIBRARY, Musical. Dr. Burney complains, in the second vol. of his General History of Music, p. 444, that in his travels through France, Italy, Germany, Holland, and the Netherlands, in search of materials for his work, he was able to find no complete musical library. “Something like a chain or series of musical theorists (he says) may perhaps be found at Vienna, where the emperor Leopold I, began to form a musical library; and the elector of Bavaria another at Munich in the seventeenth century. But both have been long neglected, and are now in a very confused and imperfect state. Nor is a complete series of musical compositions by the best masters, from the earliest period of counterpoint to the present time, to be found in any public or private library in Europe, to which I have ever had access. Indeed the collectors of books for royal, collegiate, or public libraries, seem never to have had an idea of forming any regular plan for making such a collection; and though many individuals have been possessed of a rage for accumulating musical curiosities, it has seldom happened that they have extended their ideas to musical productions in general; so that no more than one class or species of composition has been completed by them, and even this, at the death of the proprietor, is usually dispersed.

“In a library, formed upon so large a scale as that of the king of France at Paris, the Bodleian, and Museum in England, it seems as if music should be put on a level with other arts and sciences, in which every book of character is procured. In a royal or ample collection of pictures, specimens at least of every great painter are purchased, and no private library is thought complete while the writings of a single poet of eminence are wanting.”

As the author, in a note upon this passage has given a sketch of such a musical library as he thinks wanting, and which has been inserted in the Encyclopédie Méthodique, we shall give it a place here, in his own words. In forming such a musical library as would assist the student, gratify the curious, inform the historian, and afford a comparative view of the state of the art at every period of its existence, it were to be wished that the books, when collected, were classed in a way somewhat like the following:

<table>
<thead>
<tr>
<th>Masses</th>
<th>In Latin</th>
<th>From the infancy of music</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motets</td>
<td>In words</td>
<td>of counterpoint</td>
</tr>
<tr>
<td>Madrigals</td>
<td>In modern languages</td>
<td>to the year 1560</td>
</tr>
<tr>
<td>Songs in parts</td>
<td>To English words, as well as those</td>
<td></td>
</tr>
<tr>
<td>and single songs</td>
<td>of other languages</td>
<td></td>
</tr>
</tbody>
</table>

The same continued to the year 1600; to which should be added:

<table>
<thead>
<tr>
<th>Services and full anthems</th>
<th>Modern languages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verse and solo anthems</td>
<td>To English words, as well as those</td>
</tr>
<tr>
<td>Psalmody, in two parts</td>
<td>of other modern languages</td>
</tr>
<tr>
<td>or more parts</td>
<td></td>
</tr>
</tbody>
</table>

The same classes completed to the year 1700, with the addition masques, intermezzi, serenatas, operas, serious and comic, oratorios, cantatas, fantasias and recercari, for various instruments.

All the above continued to the present time, with an addition of full:

| Concertos, symphonies, and overtures |
|-----------------------------|--------------------------|
| Concertos, with solo parts for particular instruments |
| Quintets |
| Quatuors |
| Sonatas, or trios, duets, and solos for every instrument for which music has been composed, including voluntaries for the organ, and lessons for every species of keyed instrument. |
The music published in single parts should be scored, and that published in partition transcribed, in single parts; to be alike ready for the eye or the ear, for the theorist to examine, or the practical musician to perform.

And in order that science and criticism may keep pace with the mechanism and practice of the art, all the treatises, tracts, and essays, both in the dead and living languages, should be collected, arranged chronologically, and assigned a particular portion of the library.

The Bodleian library, the Museum, and Royal Society, with some other libraries, have copies of new books sent to them, by the Stationers’ company, and by individuals either by law or by courtesy; and when once such a foundation of old music is laid as we have here sketched out it would soon become a custom, or might be made one by the legislature, for copies of all music that is published in England, as well as books on the subject, to be presented by the authors or editors to the public library. And the same means should be used for procuring all foreign musical publications as are employed in accumulating books from all parts of the globe, where the press is at work.

The librarian, custode, or keeper of these books, should be a good practical musician, as well as theorist and scholar, in order to know the worth of the productions he has in charge, and to be enabled to give instructions at least how to draw single parts from a score, and score single parts; to explain difficulties to the ignorant, and display curiosities to the learned; to know the rank each composer should hold in every class, and perhaps record the degree of respect that has been paid to him by his contemporaries, and which is due to him from posterity.

LICENCE, in Music, a seeming breach of rule.

There are licences in harmony as well as in melody. As the laws of counterpoint were at first arbitrary, and formed of narrow and contracted principles, they became subject to change at the caprice or taste of the composer, and at all times, the breach of an old rule by a great master became the establishment of a new one for a composer of inferior fame. At present, except the two fundamental prohibitions of two 5ths and two 8ths in regular progression, there is no rule that has not been happily infringed, at one time or other, by some man of genius; so that it may be said, perhaps, that whatever does not offend a cultivated ear in harmony or melody, is allowable in music. Of the disallowances of former times, there was none that seemed so inviolable as false relation, such as naturals against sharps, or sharps against naturals: in the perfect concords, as a redundant 5th, a diminished 4th, or a false octave. Yet these licences, of late years, have been so frequently practised, as almost to establish them into rules. The good or bad effect determines the expediency.

If the effect be good, it is a licence, if bad, a fault. Emanuel Bach, we believe, was the first who ventured to hazard a false 8th, or a sharp against a natural in melody. But Haydn and Mozart having since frequently violated the rule with effect, it almost ceases to be a licence, and every sonatueur in composition assumes the same privilege. These licences, however, can only be defended on the principle of appoggiaturas, as they are certainly inharmonic.

LICHANOS, in the Ancient Music. is the name of the 3d sound of the two lowest tetrachords in the system of the Greeks; as this sound was produced by the index or fore-finger, which was called lichanos. The 3d sound of the lowest tetrachord ascending, was that of the hypate, and called lichanos-hypaton, sometimes hypaton-diatonos, enharmonic, or chromatic, according to the genus. That of the 2d, or mean tetrachord, was called lichanos-meson, or Meson diatonos.

LIEGE

Editorial note: the article about the city is concluded with an account by Burney of an arts college in Rome established for the citizens of Liege.

Citizen Gretry, the eminent composer of French comic operas, a native of that city, in his Memoirs, vol. i. p. 125, gives an account of the college established at Rome for the reception of students in all the arts from the city of Liege. There was a time, before Rome was bereaved of its models of perfection, that we should have devoutly wished for an English college of arts, similar to that of France and Liege, where our young artists of promising talents, pining to visit Italy, but unable to bear the expense, might have an asylum in which they could be received and supported during a certain number of years, while they were pursuing their studies. Such an establish-
ment would reflect honour on an opulent and learned nation, always disposed to patronize, and collect specimens in all the fine arts, particularly in painting, music, sculpture and architecture.

LIGATURE, Ligatura, in the Italian Music, signifies a tying or binding together of notes. Hence syncopes are often called ligatures, because they are made by the ligature of many notes. There is another sort of ligatures for breves, when there are many of these on different lines, or in different spaces, to be sung to one syllable.

To understand this, it must be observed, that only breves are capable of this species of ligature, because their figure admits of their being placed so close together, as to seem one character only, though placed on different degrees, unless there be occasion to place a semicircle either above or below them, to shew that they are tied. This kind of ligature regards common time only. Breves again must be considered as simple, as having a tail, and as being of different colours. First, if they be simple and ascend, they contain their natural quantity, i.e. each two semi-breves, as in example A. But if they descend, then each is equivalent to four semi-breves, if only two follow one another, as in B. If there are three or four following ones, the first and last contain each four semi-breves, and those in the middle but two, as in C

Secondly, if they have tails E, and the tail be turned upwards, the breves contain only one measure, as well ascending as descending. See Ex. D. But if it be marked downwards, the breve then contains its natural quantity. See Ex. E. This species of ligature was invented only because the minim, being round, could not be used in this manner. And the semicircle was not at that time in use.

It may be here remarked, that ordinarly the first breve alone of every ligature has a tail, and that usually placed on the left side. Lastly, if they be of different colours i.e. if the first be white, or open in the middle, and the second black, the first contains a semi-breve, and the second apointed minim. Example F.

These are the principal ligatures, besides which there are many others, for which see CHARACTER. See also LEGATURA.

Vol 21 Lighthouse-Machinery (part)

LIMMA, or LEIMMA: an interval of the Greek Music, which is a comma less than the semitone major, and, retrenched from a tone major, leaves behind the Apotome; which see.

The ratio of the Limma is 243 to 256, and is generated by beginning at C, and moving by 5ths to B; for then the quantity by which the neighbouring C exceeds B, is precisely in the ratio which we have established.

Philolaus, and all the Pythagoreans, made the limma a diatonic interval, which answered to our semitone major: for after two conjunctive tones major, there remains only that interval to complete the true 4th, or tetrachord. So that, according to them, the interval from E to F♯ was less than that from F to F sharp. Our chromatic scale gives quite the contrary; Rousseau.

The abbé Roussier has given the musical etymology of the word leimma, according to Aristoxenus. Mem. sur la Mus. des Anc. p. 142.

LITURGY

-Editorial note: Concluding paragraphs by Burney.

Of all the forms which Christianity has taken in different parts of the world, of all the sects which refuse communion with regular establishments, music, or rather chanting, has been the language of devotion. It has been sarcastically asked, whence this impulse to cry aloud originated; was it from the thundering music of the singers of Joshua round Jericho, the sweet strains of the harp of David, the pompous and proud clangor and vociferating of the myriads of musicians at the temple of Solomon, or the pious chant of the canticle which Jesus Christ and his apostles sung at the first institution of prayer, that we derive our choirs, hymns, psalms, and spiritual
songs, which in every communion of Christians constitute, and always have constituted, a considerable part of the public worship regulated by liturgies: We have no doubt but that the primitive Christians, when their religion as founded on that of the Jews, (at least as far as the belief and worship of one God,) in opposition to Paganism and idolatry, sung the Psalms of David, which they had adopted, in imitation of the royal psalmist and his nation.

But there was no Pagan temple, or sacrifice at an altar, without music, and at present, even the savages of America honour their divinities with singing. Indeed songs, of which the subject and poetry correspond with the rites and ceremonies of the Pagans, constituted all their liturgies, to the exact celebration of which it is well known they were scrupulously attached. It is true that the Christians differ very much in their musical tastes. The Quakers have no liturgy; they wait till the spirit moves them to speak, and never sing; they only sigh and groan. Calvin stript music of harmony and measure, and allowed of nothing but unisonous and syllabic singing in the conventicles, without the assistance of that box of whistles, as the Scotch reformers used to style the organ. The modern methodists like light, airy, and familiar music so much better than solemn strains of supplication, that they admit ballad and barrel-organ tunes out of the street to be adapted to their hymns. The music à cappella, in the cathedral service of the Roman Catholics and Protestants of the sixteenth and seventeenth centuries, seems the most solemn and reverend species of music with which to address the divinity; at least it is the most grateful to cultivated ears. In parish churches, under the guidance of a powerful organ, or a judicious chantor, psalmody in parts, provided some respect were paid to accent, and distinction were made between long and short syllables, as in the 104th psalm and other melodies in triple-time, would cease to be absurd and ridiculous to lovers of music, and rendered a gratification, instead of a torture, to cultivated ears.

LITUUS, in Roman Antiquity. The Romans had a crooked military musical instrument called a lituus, in the form of the augural staff, whence it had its name. It was a species of clarion, or octave trumpet, made of metal, and extremely loud and shrill, used for the cavalry, as the straight trumpet was for the foot. Horace distinguishes it from the *tuba*, or trumpet.

> “Multos castra juvant, et lituo tubae
> Permistus sonitus, ————
> Od. i. 23.

as Claudian does from the flute:

> “Tibia pro lituis, et pro clangore tubarum
> Molle lyrae, fustumque canant.”

On our music plates are engraved a double lituus and a straight trumpet, from an ancient bas-relief in the Witaleschi palace at Rome, representing a sacrifice: as is a genuine ancient metaline lituus, now in the possession of the right honourable sir Joseph Banks, K.B. and president of the Royal Society.
man flutes, and has been well gilt. Its length is upwards of four feet, though the upper end has been evidently broken off.

An instrument of this kind, made of cast brass, was found in digging a well, near Battle in Sussex, and was then filled with small shells. We have an engraving of it in Grose’s Military Antiquities, vol. ii. A similar trumpet is engraved in Montfaucon’s Roman Antiquities.

This instrument frequently appears on ancient medals as a symbol of war, and is terminated with the head of a boar, and sometimes with that of a snake, as on an ancient family medal of Albinus, struck during the time of the republic, between the first Punic war and the reign of Augustus.

LITYERSA, the song of the reapers, in the Ancient Music. Theocritus, Apollodorus, Julius Pollux, Suidas, and others, mention this song, and call it Lityersa, from Lytiursas, the natural son of Midas; a rude and ferocious prince, who obliged strangers to work with him in the fields at harvest-time, and those who were too feeble and unable to work, he put to death. Hercules killed him in the life-time of his father.

Julius Pollux says that this song was mournful, and sung round the shearers, to console Midas for the death of his son.

LOCRIAN, in Ancient Music, the seventh species of the diapason. It was also called hypodorian, and common.

LOCUS, among Ancient Musicians, was used to signify the interval between one degree of acuteness or gravity of sound and another. The Greeks used the word τοπος in the same sense, for the space through which the voice moved. See MOTION.

This motion the Greeks distinguished into two kinds; one continued, συνεχη, the other disjunct, διαςηματιϰη. In-stances of the first kind are in speaking; of the second, in singing; and this they called melodic motion, or what was adapted to singing. Ptolemy in like manner divides sounds of unequal pitch, ψοφονς άινσοτονυς, into continued and discrete, and says the first kind are improper, and the second proper, for harmony.

Aristides Quintilianus interposes a third kind of motion between the two here mentioned, such as that of a person reciting a poem.

LOLICHMIUM, in Greek Music, according to Pausanias, was the name given to the gymnasium at Olympia, which was always open for those who wished to contend in literature, poetry, or music; and ælian tells us, that in the 91st Olympiad, Euripides and Xenocles disputed the prize in dramatic poesy at the Olympic games; at which time they were accompanied by instruments.

LONDON Places of Public Amusement.

Editorial note: This is part of a very long article about London. It refers to events in 1808 and 1809, when Burney is regarded as having completed writing his musical articles. It may be this is by another writer.

Considering the vast extent, population, and wealth of London, it certainly contains fewer places of public amusement than any metropolis in Europe. Whether this be the result of accidental causes, or is to be referred to the genius and habits of the people, may, perhaps, be a matter of some doubt. But whatever deficiency exists with respect to number, it yields to no city in the world in the splendour and excellence of those it possesses. Our dramatic authors are not less conspicuous for the brilliancy of their compositions, than our actors are for the judgment and effect which they display in their representation. Mrs. Siddons is, perhaps, the most effective and powerful actress of the present, or of any former age; while her brother, Mr. John Kemble, must be allowed to possess talents of the first rate description. In the walk of tragedy many other players have evinced very considerable abilities; among the deceased may be named Garrick, Barry, Betterton, Henderson, Booth, Quin, Ryan, and J. Palmer; and those of the present age, most entitled to historic record, are Cooke, Young, and C. Kemble. It may be safely asserted that the comedians of the London theatres have advanced the mimetic art nearly to the height of perfection. The names of the late Messrs. Lewis, King, Parsons, Woodward, Shuter, and Edwin are justly honoured in the annals of the drama; and those of the following actors are entitled to the unqualified commendation of the theatrical critic: Dowton, Munden, Bannister, Fawcett, Emery, Knight, Matthews, Johnson, Lovegrove, Liston, Simmons, and Blanchard. Many actresses of the present age possess very considerable dramatic powers; particularly messdames Jordan, Edwin, Duncan, C.
Kemble, Gibbs, S. Booth, Davenport, Liston, and Storace. The English stage has many other performers of merit; but their talents are of a more limited nature than the preceding. In the operatic department, or singing, it has long been the fashion to introduce Italian, or foreign singers to the London boards; although many of our native performers unite to fine and powerful voices much science. Mrs. Billington, Mr. Braham, Madame Storace, Mrs. Mountain, Miss Bolton, Mrs. Martyr, Mrs. Bland, Mrs. Dickons, Miss Kelly, Mr. Incledon, Mr. Phillips, and Mr. Bellamy, are justly admired, and have acquired much professional fame. In action or pantomimia representations, many eminent performers are to be found on the London boards. Besides these there are many others very little inferior. Indeed it may be justly observed, that the companies at the principal theatres consist in general of highly respectable performers. The musical votary never had the means of gratifying his taste with a higher relish than at the present period. New compositions of considerable merit daily issue from the press. The list of our vocal performers comprises the names of some of the first singers in Europe. Our instrumental performers are no less celebrated; and our bands in general exhibit specimens of the highest taste and manual skill.

Appropriated chiefly to dramatic performances are the theatres of Drury-lane, Covent-garden, the Lyceum, and the Haymarket. Of these, the two first are upon a style of magnificence and grandeur, scarcely to be surpassed by any theatre in Europe. The last is on a small scale, and opens in summer, when the others close. The King’s theatre, or Opera-house, situated in the Haymarket, was originally intended solely for the representation of Italian operas. Of late years, however, dancing has constituted a prominent part of its amusements, to the great injury of the operas, which are generally curtailed of an act to allow time for the ballets. The decorations of this theatre are splendid, and its band is considered as inferior only to that of the Opera-house at Paris. The concert of ancient music, generally called the King’s concert, is held in the great room Hanover-square, every week from the beginning of February to the end of May. It owes its origin to a secession from the Academy of Music, another celebrated musical institution. The following is a list of the theatres, and other places of public amusement, now occupied in London, and open to the public; a more particular description of some of these will be given in subsequent parts of this work, under the heads THEATRE and WESTMINSTER.

Covent-garden Theatre is the most eminent for size and dramatic exhibitions. The present building was erected in the year 1809, from designs by Mr. Smirke, jun. architect. It occupies the site of a former theatre, with connecting houses, which were consumed by fire in September 1808; and it is worthy of remark, that the whole of the present edifice was raised and finished within one year. It is on a large scale, and the whole stage management is vested in Mr. John Kemble, who has certainly made many improvements, and interesting reforms in the internal economy, science, and costumic representation of dramas.

Drury-lane Theatre is now in the progress of building from designs by Mr. B. Wyatt, architect; whose model evinces much skill and judgment. Though not on so large a scale as the theatre of Covent-garden, it combines many conveniences and advantages not to be found in that building; and for seeing and hearing it promises to be very satisfactory to the audience. Mr. Whitbread has taken a very active part in causing this theatre to be rebuilt. A former theatre, built by Mr. Holland, was burnt in 1809.

Theatre Royal Haymarket is a small, inconvenient house, and is allowed to be opened to the public from the 15th of May to the 15th of September.

The Lyceum Theatre, called the English Opera-house, is at present occupied by the Drury-lane company of performers under the management of Mr. Arnold and Mr. Raymond. Operas and comedies are chiefly represented here; and some of these are acted in the best style. Many new dramas have been produced at this house.

The Opera-house, in the Haymarket, is appropriated to Italian operas, spectacles and dances. The management of this house has occasioned several legal litigations and is still involved in dispute. Its principle is uncongenial to the English character, and it would be a memorable and laudable act to abolish it. Another similar establishment, arising out of the
cabals of the former, and originating with some
speculating adventurers, has lately been opened at
The Pantheon in Oxford-road; but after a few
nights representation, and after debts of some thou-
sands of pounds had been contracted in fitting up,
and adapting the house, to the purpose, the theatre
is again closed.

Sadler’s Wells is a theatre appropriated to pantomimes, burlettas, spectacles, dancing, &c. and com-
cesses its season on Easter Monday. The stage per-
formances are invented and written by Mr. C.
Dibdin, jun., who has displayed a peculiar and or-
iginal talent in this species of composition. The mu-
sical department is conducted by Mr. Reeve, and the
scenery painted by Mr. Andrews. A novelty has
been introduced at this theatre, i.e. of filling the
whole space beneath the stage with water, by which
means some splendid and curious aquatic exhibi-
tions have been displayed. It partly resembles the
naumachiae of the Romans.

Astley’s Amphitheatre, near Westminster-bridge, is
also a summer theatre, where pantomimes, burlet-
tas, and various feats of horsemanship are dis-
played. This house also commences its season on
Easter Monday, and generally closes in October,
when the company remove to another theatre, called

Astley’s Olympic Pavilion, in Newcastle-street, where
the same species of entertainments are exhibited.

The Surrey Theatre, in St. George’s-fields, is de-
voted to a similar class of dramatic representations;
but since Mr. Elliston has been proprietor and man-
ger of this house, he has adopted a novelty, in
abridging and versifying many celebrated dramas,
and playing the same with the accompaniment of
music.

Another theatre in Wellclose-square, called the
Royalty Theatre, is occasionally opened; and others
are situated in Tottenham-street, in the Strand, and
in Bridges-street, Covent-garden.

Vauxhall Gardens are opened twice a week in the
summer months, when they are ornamented with an
immense number of lamps, and a large concourse of
visitors are entertained by vocal and instrumental
music. Besides the foregoing, London abounds with
many other places of amusement; such as tea-gar-
dens, exhibitions for ingenious inventions, and dis-
play of works of fancy, &c.

Editorial note: This section is concluded with accounts of
museums and art galleries, so omitted.

LONGA, Ital. Longue, Fr. A long, Engl. in Music, is
a character for time in the first time-table, half the
duration of the maxima or large, and twice the length
of the breve. The long is formed thus: \( \text{\( \min – \)} \), or John de Muris and his contemporaries had longs
of three several kinds; the perfect, with a tail on the
right side, thus: \( \text{\( \min – \) -} \),
or equal to three pointed breves; it is called perfect,
says de Muris, on account of its numerical ratio with
the Trinity. The imperfect long is of the same figure
as the perfect, and is only distinguishing by the
mood or character for time at the beginning of a
movement. It was accounted imperfect, from its be-
ing incomplete without a breve to precede or follow
it. The double long contains two imperfect breves: it
is like the long, only of a much larger size. John de
Muris quotes Aris-

A long

is

totle to prove that this
note is not used in canto fermo. At present, the term
long is only correlative with short, in scanning
verses.

LONGSPIEL, a very ancient musical instrument,
found by sir Joseph Banks and Dr. Solander in Ice-
land, when they visited that country in 1773. This in-
strument, of a long and narrow form, and strung
with four strings of copper, is extremely rude and
clumsy. One of the four strings is used as a drone,
the rest are played with a bow. Pieces of wood are
placed at different distances on the finger-board, to
serve as frets. It seems, indeed, to have been the
primitive idea of a fiddle, and is a proof that the use
of the bow, that wonderful engine, which the an-
cients, with all their ingenuity and musical refine-
ments, had never been able to discover, and which
has been rendered so miraculous, was known by the
Scalds in Iceland, at least as early as in any other
part of Europe. See SCALDS.

LOURE, in French Music, a kind of dance, of
which the tune is rather slow, and generally in the
measure of 3, or six crotchets in a bar. Loure is is-
like the name of an instrument resembling a bag-
pipe, to the music of which the tune is danced

LOURER is a verb, which implies sustaining and
cherishing the times of a movement, in opposition to
détaché, separated.
LUTE, Leuto, Ital., Laute, Germ., a musical stringed instrument, of which, though the shape or sound is now hardly known, yet during the sixteenth and seventeenth centuries it was the favourite chamber instrument of every nation in Europe, and in the beginning of dramatic music the recitatives were accompanied by the arch-lute, or theorbo, instead of the harpsichord.

Sir Thomas Wyat, the elder, one of our best early poets, has left us a sonnet to his lute, written very early in the sixteenth century; and Congreve, at the end of the seventeenth, has celebrated the performance of Mrs. Arabella Hunt on that instrument.

The earliest mention of the lute that we have found among the moderns is in Boccaccio, Giornata firima, where the singing is generally said to have been accompanied by the lute. In Chaucer’s Pardoner’s tale, we are told:

“In Flanders whilom was a compagnie
Of younge folk that haunted in folie,
As hazard, riot, stewes and tavèrnes,
Whereas with harpès, lutes, and guitèrnes,
They daunce and play.”

In Shakspeare’s first part of Henry IV, Mortimer tells his lady, who can speak no English, that her tongue

“Makes Welsh as sweet as ditties highly penn’d,
Sung by a fair queen in a summer’s bower,
With ravishing division to her lute.”

And in lord commissioner Whitelocke’s MS. narrative of a masque given in 1633, to Charles I, and his queen, by the four inns of court, he says, that “he engaged forty lutes, besides other instruments and voyces of the most excellent kind in consorte.”

There was a lute at the Italian opera in England, to the end of Handel’s regency. And the place of lutenist in the king’s chapel was continued till the death of Giglier, about the middle of the last century.

It seems as if in France there had been a time when there was no other instruments in use than lutes, as luthier not only implies the maker of lutes, but violins, violoncellos, and other instruments of the same kind.

There has been no satisfactory etymology given to the word lute, though Scaliger and Bochart have tried to find or frame one, deriving it from the Arabic allaud, whilst others have derived it from the German laute, or lauten, Sonate.

The stringed instruments of the ancients were so numerous, and so various in their forms, that we know not the precise difference between the lyre and cithara. The testudo, among poets, not only implies the lyre, said to have been originally made by Mercury of the back or hollow shell of the testudo aquatica, or sea tortoise, but music itself.

As to the different names that may have been given to the same kind of instrument by the ancients, such as vol. φοινικός χελύς, testudo, cithara, &c. we shall leave the dispute, says Mersennus, to grammarians, who may consult Athenæus, Julius Pollux, Aristides, Quintilianus, and other Greeks; for since we are in possession of the instrument, they may give it what name they please.

Vincenzo Galilei (Dial.) says the best lutes were made in England.

The lute consists of four parts, the table, the body or belly, which has nine or ten sides, the neck or finger-board, which has nine or ten frets or divisions marked with catgut or bowel strings, and the head or cross, where the screws or pins for tightening or relaxing the strings in tuning are fastened. This is called the lute with two necks, or the theorbo, which has sometimes only one string to each note. In the middle of the belly or table, there is a rose or passage for the sound. There is also a bridge, to which the strings are fastened, and a piece of ivory between the head and the neck, to which the other extremities of the strings are fitted.

In performing on the lute, the strings are struck with the right hand, and pressed upon the frets with the left.

Whoever wish to teach themselves to play upon this instrument, as it will be difficult now to find a good master, may attain considerable knowledge in the practice of it by a perusal of Père Mersenne’s Harmonie Universelle, printed at Paris in 1636, folio, livre ii. des Instrumens, p. 45; and Mace’s Musick’s Monument, folio. 1676, Grassineau. This last book is written in a style amusingly quaint; but it probably contains all the essential rules known at the time it was written, both for playing, judging of the goodness of the instrument and strings, placing the frets, &c. But after the decease of honest Thomas Mace, whose style much resembles that of Anthony Wood,
though he exceeds him in quaintness and simplicity, there were probably many refinements discovered by great players, both in composing for the instrument and in performing upon it, which are now quite lost.

The inhabitants of Congo have a lute of a singular kind. The body and neck of this instrument resemble ours; but the belly, that is, the place where the rose or sound-hole has place in our lutes, is of very thin parchment; which probably implies that the whole table or belly of this instrument is covered with parchment instead of wood. It is strung with the hair of an elephant's tail, the strongest and the best that can be chosen; or else with the bark of the palm-tree. The strings reach from one end of the instrument to the other, and are fastened to rings fixed at different places of the lute one above the other. To these rings are suspended small plates of iron and silver of different sizes and different tones. In thrumming the strings these rings are put in motion, which likewise move the little metal plates, and the whole forms a kind of murmuring harmony, or rather a confused noise, which is pretended not to be disagreeable. The inhabitants likewise add, that in thrumming the strings of this instrument in the way we produce sound from the harp, the musician expresses his thoughts as clearly as if he were speaking.

Encycl. Suppl. folio.

LUTE, archi (See ARCILUTO
LUTE, Theorbo. See THEORBO
LYDIAN, the name of one of the modes in Greek music, which occupied the middle place between the aeolian and Hypodorian. It was also sometimes called the Barbarian mode, from its being invented by a people of Asia. See MODE.

Euclid distinguishes two Lydian modes; that of which we have been speaking, and another called a low Lydian, and which is the same as the aeolian mode, at least as to its fundamental. The character of the Lydian mode was animated and interesting, yet melancholy, pathetic, and proper for voluptuous occasions; on which account Plato banished it his republic. It was said that by this mode Orpheus tamed wild beasts, and that Amphion built the walls of Thebes. Some say that it was invented by Amphion, the son of Jupiter and Anthiope; others by Olympus the musician, and disciple of Marsyas; while there are still others who assign it to Melampides. Pindar says, that it was first used at the nuptials of Niobe.

LYDIAN Lyre, in the Ancient Music. The Trigon instrument or harp of the Asiatics or Barbarians was usually so called.

Julius Pollux, c. 10 of l. iv. Onomast. speaks of a Lydian harmony, mode or tune, proper for the flute, of which he ascribed the invention to Anthippus; and a little further, he says, that the Lydian name proper for the flute was invented by Olympus or Marsyas. For the scale and names or characters of the notes in the Lydian mode, see MUSIC of the Greeks, and NOTATION. The Lydian mode corresponded with our key of E.

LYRE, Δυρα, Lyra, in the Ancient Music, a musical instrument of the string kind, so dear to the Greeks, that they have by turns attributed its invention to Mercury, Apollo, Linus, Orpheus, and Amphion; making it the symbol of all excellence in poetry and music. The poets and historians of fabulous times, however, seem most to agree in ascribing the invention to Mercury. And among the accounts of the several writers of antiquity who have mentioned this circumstance, and confined the invention to the Egyptian Mercury, that of Apollodorus (Bibliotheca, lib. ii.) seems the most intelligible and probable. “The Nile,” says this writer, “after having overflowed the whole country of Egypt, when it returned within its natural bounds, left on the shore a great number of dead animals of various kinds, and, among the rest, a tortoise, the flesh of which being dried and wasted by the sun, nothing was left within the shell but nerves and cartilages, and these being braced and contracted by desiccation, were rendered sonorous; Mercury, in walking along the banks of the Nile, happening to strike his foot against the shell of this tortoise, was so pleased with the sound it produced, that it suggested to him the first idea of a lyre, which he afterwards constructed in the form of a tortoise, and strung it with the dried sinews of dead animals.”

Censorinus, however (De Die Nat. cap. 22), attributes to Apollo the first idea of producing sound from a string, which was suggested to him by the twang of his sister Diana’s bow. Ψαλλειυ is strictly to twang a string, and Ψαλμος; the sound which the
bow-string produces at the emission of the arrow. Euripides in Bach. v. 782. uses it in that sense,

“τοιου χειρι
Ψαλλωνας νευρας”

“Who twang the nerve of each elastic bow.”

Father Montfaucon says it is very difficult to determine in what the lyre, cithara, chelys, psaltery, and harp differed from each other; as he had examined the representations of six hundred lyres and cytharas in ancient sculpture, all which he found without a neck, and the strings open as in the modern harp, played by the fingers. (Antiq. Expl. tom. iii. lib. 5. cap. 3.) But though ancient and modern authors usually confound these instruments, yet a manifest distinction is made by Arist. Quintil. in the following passage, p. 101. After discussing the characters of wind-instruments, he says, “Among the stringed instruments, you will find the lyre of a character analogous to masculine, from the great depth or gravity, and roughness of its tones; the sambuca of a feminine character, weak and delicate, and from its great acuteness, and the smallness of its strings tending to dissolve and enervate. Of the intermediate instruments, the polypythongum partakes most of the feminine; but the cithara differs not much from the masculine character of the lyre.” Here is a scale of stringed instruments; the lyre and sambuca at the extremes; the polypythongum and cythara between; the one next to the sambuca, the other next to the lyre. He afterwards just mentions that there were others between these. Now it is natural to infer, that as he constantly attributes the manly character to gravity of tone, the cithara was probably the more acute instrument of the two; less loud and rough, and strung with smaller strings. Concerning what difference there might be in the form and structure of the instruments, he is wholly silent. The passage, however, is curious as far as it goes, and decisive. The cithara may, perhaps, have been as different from the lyre, as a single harp from one that is double; and it seems to be clearly pointed out by this multiplicity of names that the Greeks had two principal species of stringed instruments; one, like our harp, of full compass, that rested on its base; the other more portable, and slung over the shoulder, like our smaller harp or guitar, or like the ancient lyres represented in sculpture.

Tacitus, Annal. xvi. 4. among the rules of decorum observed by public performers, to which Nero, he says, strictly submitted, mentions, “That he was not to sit down when tired.” Nefessus resideret. It is remarkable that he calls these rules, Cithara Leges, “The Laws of the Cithara;” which seems to afford a pretty fair proof of its being of such a size and form as to admit of being played on standing.

The use of the phorminx in Homer, leads rather to the rough, manly, harp-like character. But a passage in Orpheus, Argon. 380, seems to make phorminx the same as chelys, the lutiform instrument of Mercury. It is there said of Chiron, that he “sometimes strikes the cithara of Apollo; sometimes the shell-resounding phorminx of Mercury,

Ἀλλοτε δ᾽ αυ φοιβός κιθαριν μετα χειριν αρασσων
Ηλιοευη φορμυγγα τοξωυ χερι

This passage is curious; for though the Argonautics were not written by Orpheus himself, they have all the appearance of great antiquity.

The belly of a theorbo, or arch-lute, is usually made in the shell-form, as if the idea of its origin had never been lost; and the etymology of the word guitar seems naturally deducible from cithara; it is supposed that the Roman C was hard, like the modern K, and the Italian word chitarra, is manifestly derived from Κιθαρα, cithara.

In the hymn to Mercury, ascribed to Homer, Mercury and Apollo are said to play with the cithara under their arms, ver. 507. ὁ δ᾽ ὑπολευνοι κιθαριν, sub ulna cithară-ludebat, “ played with the cithara under his arm.” So in ver. 432. ὑπολευνοι, at his arm, should, according to the critics, be ὑπολευνοι, as it is afterwards. This seems to point out a guitar more than a harp; but the ancients had lyres, citharas, and testudos of as different shapes from each other, as our harp, spinnet, virginal, and pianoforte.

These passages in old authors are a kind of antique drawings, far more satisfactory than those of ancient sculpture; for we have seen the syrinx, which had a regular series of notes ascending or descending, represented with seven pipes, four of one length, and three of another, which of course would furnish no more than two different sounds. The cymbals too, which were to be struck against each
which see.

the articles PROSLAMBANOMINOS and SYSTEM; creased the number to sixteen, that is, fifteen prin
tenth, and eleventh string. Others after him in
consonant. Timotheus afterwards added a ninth,
added to it an eighth string, to render the extremities
time of Pythagoras, or, according to others, Lycaon
Terpander, a seventh. It remained in this state till the
ded a fourth, Corebus, a fifth, Hyagnis, a sixth, and
strings, which consisted of B C D; that Apollo ad
ited it by chance, and that it had only then three
been built. It is pretended that Mercury first inven
herent stories relative to the lyre, its inventors and
other, and crowding together all the wild and inco
progress of the lyre chronology in the most short
ilar example of such a junction occurred elsewhere.
Brossard seems to have abridged the history and
of the lyre was the lyre; though we are at present certain that he never played on, or
even saw a lyre, except in wood or stone.

In one of the ancient paintings at Portici, we saw
lyre with a pipe or flute for the crossbar, or bridge
at the top. Whether this tube was used as a flute to
company the lyre, or only a pitch-pipe, we know
not; nor in the course of our enquiries has any sim
examples of such a junction occurred elsewhere.

Mr. Barnes, in the prolegomena to his edition of
Anacreon, has an inquiry into the antiquity and
structure of the lyre; of which he makes Jubal the
first inventor. For the several changes this instru
ment underwent, by the addition of new strings, he
observes, that, according to Diodorus, it had origin
ally only three, referring to the three seasons of the
year as the Greeks counted them, viz. spring, sum
mer, and autumn; whence it was called τριχορδος.
Afterwards it had seven strings; as appears from
Homer, Pindar, Horace, Virgil, &c. Festus Avienus
gives the lyre of Orpheus nine strings. David men
tions an instrument of that sort strung with ten, in
psalterio decachordo. Timotheus of Miletus added four
to the old seven, which made eleven. Josephus, in
his Jewish Antiquities, makes mention of one with
twelve strings; to which were afterwards added six
others, which made eighteen in all. Anacreon him
self says, p. 253, of Mr. Barnes’s edition, canto viginti
totis chordis. As for the modern lyre, or Welsh harp, it
is sufficiently known. (See HARP.) From the lyre,
which all agree to be the first instrument of the
strunged kind in Greece. there arose an infinite num
ber of other, differentin shape and number of
strings; as the psalterium, trigon, sambncus, pectis,
 magadis, barbiton, testudo (the two last uses,
epigonium, simmicium, and pandura;
which were all struck with the hand, or a plectrum.

See PSALTERY, SAMBUCA, MAGADIS, BAR
BITON, and CITHARA.

LYRE, Lydian. See LYDIAN Lyre.

LYRE of the Muscovite. This is a rude and coarse
instrument, in the form of the ancient lyre of six
strings, as thick as packthread, which are thrummed
with the naked fingers after the manner of the lute.

LYRIC, something sung or played on the lyre or
harp.

LYRIC is more particularly applied to the ancient
odes and stanzas; which answer to our airs or songs,
and may be played on instruments. See the next art
icle.

LYRIC Poetry, verses written for music; which,
with the ancients, implied verses to be sung to the
accompaniment of the lyre. In the supplement to the
first edition of the folio Encyclopédie, there is a very
long article on the subject. We have often admired
the ingenuity, refinement, and apparent feeling,
This species of poetry was originally employed in celebrating the praises of gods and heroes; though it was afterwards introduced into feasts and public diversions: it is a mistake to imagine Anacreon, as the Greeks do, the author of it; since it appears from scripture to have been in use above a thousand years before that poet. Mr. Barnes shews how unjust it is to exclude heroic subjects and actions from this sort of verse, lyric poetry being capable of all the elevation and sublimity such subjects require; which he confirms by the examples of Alcaeus, Stesichorus, Anacreon, and Horace, and by his own essay, a triumphal ode inscribed to the duke of Marlborough, at the head of this edition: he concludes with the history of lyric poetry, and of those ancients who excelled in it."

The characteristic of lyric poetry, which distinguishes it from all others, is dignity and sweetness. As gravity rules in heroic verse; simplicity, in pastoral; tenderness and softness, in elegy; sharpness and poignancy, in satire; mirth, in comedy; the pathetic, in tragedy; and the point, in epigram; so in the lyric, the poet applies himself wholly to soothe the minds of men, by the sweetness and variety of the verse, and the delicacy and elevation of the words and thoughts; the agreeableness of the numbers, and the description of things most pleasing in their own nature. See ODE and POETRY.

LYRODI, among the Ancients, a kind of musicians who played on the lyre, and sung at the same time. LYRODI was also an appellation given to such as made it their employment to sing lyric poems, composed by others.

MACBETH. This admirable tragedy of our matchless dramatist, Shakspeare, from the songs of the witches, as set by Matthew Lock in the time of Charles II, was regarded as a kind of opera. See DRAMATIC Music.

MACHINE for taking down extemporaneous pieces of music, commonly called voluntaries. Such a contrivance has been long among musical desiderata of the most important kind. To fix such floating sounds as are generated in the exaltic moments of enthusiasm, while "bright-eyed fancy"

"Scatters from her pictured urn,
Thoughts that breathe, and notes that burn,“.

with which the French treat the subject of dramatic music. Even in the feuds and discussions of the Gluckists and Piccinists, many of the tracts and pamphlets seem to breathe the purest taste and most profound reasoning of which the theme is capable. The Italians, who have so long furnished models of perfection to the rest of Europe in composition and performance, have not half so much to say in defence of their talents as the French in attacking them.

The article Lyric Poetry in the supplement to the first edition of the Encyclopédie, written long before the firm adherents to Lulli and Rameau were extinct, is of great length, and seems to flow from a writer who had read, meditated, and felt, with enthusiasm, all the inspirations of the lyric bards of Greece. He has taken a wide range in treating the subject, and considered the union of poetry and music, not only with more enlarged views than any other modern, but perhaps than the ancients themselves. He begins in the following manner: "The lyric Poetry of the Grecians was not only sung, but composed to the chords of the lyre. This was at first the characteristic distinction of all that was called lyric poetry by the Romans, and their descendants and imitators in later times. The poet was a musician, he called upon the god of verse, and animated himself with a prelude. He fixed upon the time, the movement, and the musical period; the melody gave birth to the verse; and hence was derived the unity of rhythm, character, and expression, between the music and the poem that was sung. Thus the poetry became naturally subservient to number and cadence, and thus each lyric poet invented not only the proper kind of verse, but also the strophe analogous to the melody which he himself had created, and to which he composed it."

In this respect, the lyric poem or ode with the Latins and with modern nations, has been nothing more than a frivolous imitation of the lyric poem of the Greeks; they say, I sing, but never do sing; they speak of the chords of the lyre, but have never seen a lyre. No poet, since Horace inclusively, appears to have modelled his odes upon a melody. Horace adopting, by turns, the different formulae of the Greek poets, seems so much to have forgotten that an ode ought to be sung, that he has often suspended the sense at the end of the strophe, where the air ought to repose, to the beginning of the next stanza."
would be giving permanence to ideas which reflection can never find, nor memory retain.

The first idea of such a contrivance being practicable was suggested to the Royal Society of London, in a paper written by the late Rev. Mr. Creed, and sent to the president, 1747, under the following title:

“A demonstration of the possibility of making a machine that shall write extemopore voluntaries, or other pieces of music, as fast as any master shall be able to play them, upon an organ, harpsichord, &c. and that in a character more natural and intelligible, and more expressive of all the varieties those instruments are capable of exhibiting, than the character now in use.”

This paper was published the same year in the Philosophical Transactions, N° 183, and, afterwards, in Martyn’s Abridgment, vol. x, p. 266; and the author’s idea always appealed to us so feasible, that we have long wondered at its not having been executed by some ingenious English mechanic.

The first mention that we can find to have been made at Berlin, of such a contrivance, was in 1752, in a printed “Weekly Account of the most remarkable Discoveries in Nature and science.” In 1753, an ample description of such a machine appeared in the same weekly publication: aid here, in an elaborate preface, the author points out the great want of such a piece of mechanism, its utility, and properties; and concludes with saying, that this machine, so big with advantages to music and musicians, is the particular invention, Besondere Erfindung of M. Unger.

The description preceded the execution some time. The invention was here only recommended to the public, and offered to be completed, and applied to a keyed instrument, at a small expense. It was M. Hohlfeld who afterwards constructed the machine, and rendered it so perfect, that we were assured by a great performer, who tried it upon a clavichord, that there was no refinement in music which it could not express, except tempo rubato.

The description of the Berlin machine so much resembles that proposed by Mr. Creed, that we shall not insert it here, but refer our readers to the Philosophical Transactions, where he will find that the machine was to consist of two cylinders, which were to be moved by clockwork, at the rate of an inch in a second of time; one of these was to furnish paper, and the other was to receive it when marked by pins or pencils, fixed at the ends of the several keys of the instrument to which the machine was applied. The paper was to be previously prepared with red lines, which were to fall under their respective pencils.

The chief difficulties in the execution, which have occurred to English mechanics, with whom we have conversed on the subject, were, the preparation of the paper for receiving the marks made by the keys; and the kind of instrument which was to serve as a pencil, and which, if hard and pointed, would, in the forte parts, tear the paper; and if soft, would not only be liable to break when used with violence, but would be worn unequally, and want frequent cutting.

In the Berlin machine the pencils were approximated according to Mr. Creed’s idea, and made to terminate in a very narrow compass, so that paper of an uncommon size was not requisite; but it was not found necessary to prepare the paper, as proposed in the Philosophical Transactions; for the degree of gravity or acuteness of each sound was ascertained by a ruler applied to the marked paper, when taken off the cylinder.

About the year 1780, the late ingenious and marvellous mechanic Merlin, stimulated by the reports of this machine having been successfully constructed in Germany, and by our earnest recommendation of the undertaking, went to work, and apparently vanquished all the difficulties of construction, except the time inevitably necessary for its completion; as he was never able to simplify the mechanism so much as to render its appropriation within the reach of great composers and voluntary players in general, to whose use only it seems to belong; he disposed of his model to a foreign nobleman, who had it conveyed to Germany, and we believe never fabricated another machine of the same kind. See MERLIN.

MACHINERY, in the Lyric theatre, or Opera-house. In the early operas of Italy, during the 17th century, is seldom happened that the names of the poets, composers, or singers, were recorded in printed copies of the words; though that of the machinist was seldom omitted; and much greater care seems to have been taken to amuse the eye than the ear or intellect of those who attended these spectacles.

In 1675, we are told, in the Theatrical Annals of Venice, that a musical drama, called La Divisione del
Mondo, written by Giulio Cesare Corradi, and set by Legrenzi, excited universal admiration, by the stupendous machinery and decorations with which it was exhibited. And in 1680, the opera of Berenice, set by Domenico Freschi, was performed at Padua in a manner so splendid, that some of the decorations recorded in the printed copy of the piece seem worthy of notice in this article. The musical drama consisted of poetry, music, dancing, machinery, and decorations; and it would be curious to point out the encroachments which any one of these constituent parts at different periods has made upon the rest. In the beginning it was certainly the intention of opera legislators to favour poetry, and make her mistress of the feast; and it was a long while before Music absolutely took the lead. Dancing only stepped into importance during the last century; but very early in the 17th century, machinery and decorations were so important, that little thought or expense was bestowed on poetry, music, or dancing, provided some means could be devised of exciting astonishment in the spectators, by splendid scenes and ingenious mechanical contrivances.

In the opera of Berenice just mentioned, there were choruses of one hundred virgins, one hundred soldiers, one hundred horsemen in iron armour, forty cornets of horse, six trumpeters on horseback, six drummers, six ensigns, six sacbutts, six great flutes, six minstrels playing on Turkish instruments, six others on octave flutes, six pages, three sergeants, six cymbalists, twelve huntsmen, twelve grooms, six coachmen for the triumph, six others for the procession, two lions led by two Turks, two elephants by two others, Berenice’s triumphal car drawn by four horses, six other cars with prisoners and spoils drawn by twelve horses, six coaches for the procession. Among the scenes and representations in the first act, was a vast plain, with two triumphal arches; another, with pavilions and tents; a square prepared for the entrance of the triumph; and a forest for the chase. Act II, the royal apartments of Berenice’s temple of vengeance; a spacious court, with a view of the prison; and a covered way for the coaches to move in procession. Act III, the royal dressing room, completely furnished; stables with one hundred live horses; portico adorned with tapestry; a delicious palace in perspective. And besides all these attendants and decorations, at the end of the first act, there were representations of every species of chase: as of the wild boar, the stag, deer, and bears; and at the end of the third act, an enormous globe descends from the sky, which opening divides itself into other globes that are suspended in the air, upon one of which is the figure of Time, on a second that of Fame, on others, Honour, Nobility, Virtue, and Glory. Had the salaries of singers been at this time equal to the present, the support of such expensive and puerile toys, would have inclined the managers to enquire, not after the best, but the cheapest vocal performers they could find; as splendid ballets often oblige them to do now; and it is certain, that during the 17th century, the distinctive characteristic charm of an opera was not the music, but machinery. The French established musical dramas in their court and capital during the rage for mythological representations, to which they have constantly adhered ever since: and when they are obliged to allow the musical composition and singing to be inferior to that of Italy, they comfort themselves and humble their adversaries by observing, that their opera is, at least, a fine thing to see: “c’est au moins un beau spectacle, qu’un opera en France.”

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MACHUL, an instrument of music among the Hebrews; Kircher apprehends that the name was given to two kinds of instruments, one of the stringed and the other of the pulsatile kind. That of the former sort had six chords. Though there is great reason to doubt whether an instrument requiring the aid of the hair-bow, and so much resembling the viol, be so ancient. The second kind was of a circular form, made of metal, and either hung round with little bells, or furnished with iron rings, suspended on a rod or bar that passed across the circle. Kircher supposes that it was moved to and fro by a handle fixed to it, and thus emitted a melancholy kind of murmur.

MADRIGAL, is likewise a musical term for a vocal composition, seldom in less than four parts. The etymology of this word has been much disputed. But it seems as if its first application had been to short religious lyric poems, or hymns addressed to the virgin, alla Madre; whence madriale and madrigale; but being afterwards applied to poems on love and
gallantry, by the Italians, French, and Spaniards, the original import has been forgotten. Indeed, the words of all the madrigals which we have seen of the 16th century, when they were most in favour, seem to belong to the mother of love and gallantry; alià madre, della gaia, madre galante, mater latitie, than to the Virgin, or religious subjects. It never can have meant a morning song, as some have imagined; the Italians having been long in possession of the term matinata, a lover’s matins Under the windows of his mistress; as they have of serenata, an evening song. This species of music seems to have been brought to its highest degree of perfection in Italy, by Luca Marenzio, at the latter end of the 16th century, after which time it soon declined, and lost the favour of the public. Few Italian composers of eminence produced madrigals after Luca Marenzio, except Stradella, and Alessandro Scarlatti, which are admirable.

MAGADIS, MAGAS, from μαγαδιξ, to sing, or play in unison or octave, the name of a musical instrument in use among the ancients.

There were two kinds of magades, the one a stringed instrument, formed of twenty chords, arranged in pairs, and tuned to unison or octave, so that they yielded ten sounds; the invention of which is ascribed by some to Sappho; by others to the Lydians; and by some to Timotheus of Miletus.

The other was a kind of flute, which, at the same time, yielded very high and very low notes. The former kind was, at least, much improved by Timotheus of Miletus, who is said to have been impeached of a crime, because, by increasing the number of chords, he spoiled and discredited the ancient music.

Among all obscure terms in the ancient Greek music, which have bewildered modern inquirers, few have perplexed them more than this, and its meaning is still so far from settled, that we have yet to learn whether it was a wind or a stringed instrument; or, indeed, whether it was any instrument at all, or anything more than a monochord, or the bridge of an instrument. Rousseau assures us, that the verb, to magadire, in the Greek music, implied to sing in the octaves, as a man and a woman, or a boy, naturally do; and adds, that as the word comes from magas, the bridge of an instrument, by extension it was applied to an instrument with double strings tuned octaves to each other, like the unisons and octave in our old double harpsichord.

MAGGIORE, an Italian adjective, from major, Lat, a word now naturalized in the English language, and synonymous with greater, as a major 3d implies a greater or sharp 3d, as a minor does a less or a flat 3d. These degrees of comparison are of very frequent use in music, the variable intervals amounting to five; as the semitone, the tone, the 3d, the 6th, and the 7th. With regard to the tone and the semitone, their difference of major and minor can only be expressed in numbers, as we have no notes to express them in our system. The semitone major is the interval of a second minor, as from B to C, or E to F, and its ratio is 15 to 16. The major is the difference between the 4th and 5th, and its ratio 8 to 9. The three other intervals, namely, the 3d, 6th, and 7th, differ constantly from each other by a semitone from the major to the minor. Thus, the 3d minor consists of a tone and a half, and the 3d major of two tones. There are some still smaller intervals, which are called major and minor in theory, as the quarter tone, and the comma; but as these intervals can only be expressed in numbers, they are imaginary distinctions, and useless in practice.

A mode or key is also said to be major, when the 3d above the key note is major; that is, consisting of four semitones above the base. To modulate from a major key to a minor, and e contra, are common musical expressions.

MAITRE à CHANTER, Fr., a singing-master. Rousseau has so well pointed out the functions of a singing-master in teaching the elements of the vocal art, that we shall translate the chief part of his article on the subject. He includes the master’s task in two principal objects. The first regards the cultivating and forming the voice, by making it capable of all that belongs to singing, with respect to compass, truth of intonation, clearness and sweetness of tone, execution, swelling and diminishing the notes, hitting distances with precision, and acquiring a free and open shake.

The second object regards the study of musical characters; that is, acquiring a facility in reading music at sight, as accurately and readily as a printed book, in the student’s own language.

A third part of a master’s business is to enforce the duty of pronouncing and articulating the words
with accuracy and energy; because defects in pronunciation are much more sensible in singing than speaking; as the singer is expected to tune and soften the harsh syllables, and render the soft still more sweet.

Millico used to say, that a voice should be so cultivated and exercised in solfeggi, as to resemble a ball of wax, so long tempered in the hand that it can receive any impression.

Rousseau says nothing of expression, but that must come from the heart as well as the voice. It is perhaps only to be learned by imitation, and taught by example. There are many clear and powerful voices which give the hearer no pleasure, however accurately they may execute the notes; while a feeble voice has often the indefinable power of affecting us by a natural pathos and interesting expression that touches and delights us the instant it is heard. See CANTARE, SOLFEGGIA, and EXPRESSION.

MAJOR and MINOR in Music. See MAGGIORE

MANHEIM School of Music. About the year 1759, the band of the elector palatine in this city, and at Schwetzingen, was regarded as the most complete and best disciplined in Europe. We found it to be, indeed, all that its fame had made us expect; power will naturally arise from a great number of hands; but the judicious use of that power, on all occasions, must be the consequence of good discipline; indeed, there were more solo players and good composers in this than perhaps in any other orchestra in Europe; it was an army of generals, equally fit to plan a battle as to fight it.

But it was not merely at the elector’s great opera that instrumental music had been so highly cultivated and refined, but at his concerts, where this extraordinary bad had full liberty to display all its powers, and to produce great effects without the impropriety of destroying the greater and more delicate beauties peculiar to vocal music; it was here that Stamitz, stimulated by the productions of Jomelli, first surpassed the bounds of common opera overtures, which had hitherto only served in the theatre as a kind of court-cryer, with an “O Yes!” in order to awaken attention and bespeak silence at the entrance of the singers. Since the discovery which the genius of Stamitz first made, every effect has been tried which such an aggregate of sound can produce; it was here that the crescendo and diminuendo had birth; and the piano, which was before chiefly used as an echo, with which it was generally synonymous, as well as the forte, were found to be musical colours which had their shades, as much as red or blue in painting.

In 1772, the band of his electoral highness consisted of near a hundred hands and voices, among whom were Hotzbauer, Canabich, Charles and John Toeschi, Bapt. and Charles Wendling, and the late excellent performer on the violin and leader, Cramer. There were twenty-three vocal performers in this band, among whom Mad. Wendling, Mad. Danzi, afterwards married to Le Brun, a celebrated performer on the hautbois, Mad. Cramer, the mother of the present admirable performers now in England, and Allegranti; with the Italian vocal performers, Roncaglio, Pesarini, and Saporosi. His electoral highness of that period was himself a good performer on the German flute; and the operas executed at Mannheim in winter were represented in one of the largest and most splendid theatres in Europe, capable of containing 5000 persons. His electoral highness’s suite at Schwetzingen, during summer amounted to 1500 persons, who were all lodged in this little village at his expense. To a stranger walking through the streets of Schwetzingen at this time it must seem to be inhabited only by a colony of musicians, who are constantly exercising their profession: at one house, a fine player on the violin is heard; at another, a German flute; here an excellent hautbois; there a bassoon, a clarinet, a violoncello, or a concert of several instruments together. Music seems to be the chief and most constant of his electoral highness’s amusements; and the operas and concerts, to which all his subjects have admission, form the judgment, and establish a taste for music, throughout the electorate.

MARCH, in Music, a military air played by martial instruments to regulate and mark the steps of the soldiery, to which the drums usually beat time. There are military pieces for field instruments on the parade, which are called marches, though the regiment or corps is stationary.

In Persia, according to Chardin, when a building is to be pulled down, the ground to be levelled, or any work to be performed that requires despatch, and the united efforts of a multitude, all the inhabitants of a district are assembled, who work to the
sound of instruments, and the business is done with more zeal and promptitude than it would be in silence.

Marshal Saxe, in his Reveries, shows, that the effect of drums is not confined to a mere useless noise; but as the pulsations are more or less rapid, they naturally inform the soldier to accelerate or retard his pace. It may also be said, that the melody or movement of marches should have different characters, according to the occasions upon which they are played; and this is implied by the names given to certain beatings of the drum, as the general, the retreat, the charge, &c.; but all the advantages of such signals have not been taken that might be. The measures that are beaten or played, have hitherto been confined to one style, to suit the common beat of the drum. And there are many airs that are denominated marches which fulfil that object very imperfectly. The French troops (said Rousseau, in 1768) having few military instruments for the infantry, except fifes and drums, have likewise very few marches, and these, in general, ill composed; but how admirable are those in the German troops. It is only the infantry and light horse that have particular marches. The kettle-drums of the cavalry have no regular march; the trumpets have only a single note sometimes, and never more than a tantare, or flourish. The march, pace, or movement, in music, is used figurately by the French in speaking of the succession of sounds in melody, which follow each other in a certain order; as the base and treble proceed by contrary motion, the base moves in quavers, the treble in semiquavers, &c. For the agreement between the musical air and the military steps, Rousseau has given the first part of the march of the Mousquitaires of the king of France at the time when his Dict. de Mus. was printed, which we have copied in our musical plates. It was found by English travellers, four or five years after Rousseau’s Dict. was published, that the French military music in Flanders was very much improved by the adoption of the instruments and style of music used in the bands of the Walloon and German regiments in the Austrian Netherlands. German Musical Tour, vol. i.

In the Supplement to the first edition of the Encyclopédie, it is truly said, that a march should be always composed in common time, with an odd crotchet or quaver at the beginning; and that it is almost impossible to march in cadence to a movement in triple time, unless it is composed in such a manner that the casura is felt at the end of every two bars; that is to say, unless the composer has written an air in common time, as if it were in triple.

The arsis, or up part of the bar, naturally marks the lifting up of the foot in marching; on which account the air usually begins with an odd note.

Of the marches and military music of our ancestors, we may form some judgment by the remains of our venerable composer, William Bird, transcribed in the Virginal book of lady Nevil, which is still preserved, and in the possession of Dr. Burney. This book, curiously written in 1591, contains no less than forty-two pieces by the admirable Bird; among which are the following military movements, set for the Virginal by that venerable composer, and very neatly copied on six-line paper.

The orthography of the names of the tunes, and of the copyist’s termination of the MS. are here preserved.

The March before the Battell.
The Battell,
The March of Footmen.
The March of Horsemen.
The Trumpetts.
The Irishe March.
The March to Fighte.
Tantara.
The Battells bejoined.
The Retreat.
The Galliarde for the Victorie.

We shall give the motivo, or subject of some of these pieces, on one of the music plates.

The copyist of this curious MS. having terminated his labour, has made the following record of his achievement.

finished and ended the seventh of September in the year of our lord God, 1591, and in the: 33 d yeare of the raigne of our soveraigne lady Elizabeth, by the grace of God queen of Englaunde, etc.

By me Jo : Baldwine of Windsore
Laudres Deo,

MASQUE, or Mask, a theatrical drama, much in favour in the courts of princes during the sixteenth
and seventeenth centuries, in the latter particularly in England.

According to Hall’s Chronicle, the first masque performed in England was at Greenwich, 1512, “after the manner of Italy;” and Hollingshed says, that “there was not only a masque, but a good comedy of Plautus performed in 1520.” In 1530, a masque was performed at Whitehall, “consisting of music, dancing, and a banquet, with a display of grotesque personages and vol. XXIII, fantastic dresses.” This piece seems only to have wanted machinery to fulfil the idea of a complete masque, such as were afterwards written by Ben Jonson and others, which, with a constant musical declamation in recitative, mixed with air, would have formed an opera exactly similar to the musical drama of Italy, in the ensuing century.

Shakspeare and Beaumont and Fletcher, have frequently introduced masques into their plays. Of the fourteen comedies of Shakspeare, there are but two or three in which he has not introduced singing; even in most of his tragedies, this wonderful and exquisite dramatist has manifested the same predilection for music.

The French and German writers on our musical dramas, confound masque with masquerade, and mascherata and interlude with the Italian intermezzo; but we had interludes long before the Italians had intermezzi, and our poems, or dramas, called masques, bear no resemblance to an Italian mascherata. M. de Missy, who in the Bibl. Brit. 1740, has given a regular series of our masques, more especially those of the seventeenth century, is constantly mistaken in these particulars.

Masques were certainly the precursors of operas in England, and to the chain of dramas which completed the union of poetry and music on our stage: and it does not appear, on examination, that the Italian Mascherate, published by Lasca, which have been thought their prototypes, were dialogue or performed on any stage. They seem to have been only processional songs, sung through the street by the representatives of different professions and trades, masqued, during carnival time. And the interludes which de Missy and Riccoboni, and their translators, think we had from the Italian intermezzi, seem to want analogy: as interlude, with us, was a general name for every species of stage representation, out of the church.

Masques in England certainly bear some resemblance to operas: as they are in dialogue; performed on a stage; ornamented with machinery, dances, and decorations; and have always music, vocal and instrumental. But then the essential and characteristic criterion, recitative, is wanting, without which the resemblance is imperfect. Our musical pieces, which are sometimes honoured with the name of opera, differ in this particular so much, that they more resemble masques than the dramas which are entitled to that appellation; for, in English musical dramas, the dialogue is all declaimed or spoken in the same manner as in our old masques; and in Italy, whence we have both name and thing, an opera consists of both recitatives and airs, and is sung from the beginning to the end.

Riccoboni says, that James I., on coming to the crown in 1603, granted a licence to a company of players, in which patent interludes are included; but an interlude then was another word for a play, whether comedy, tragedy, or farce. Masques are not mentioned in this patent; but as masques, at this time, were court entertainments, or performed in the houses of the nobility, on particular occasions of festivity, the necessary machinery and decorations rendered such exhibitions too expensive for the ordinary public theatres. Indeed, the several parts in the masques of the sixteenth and seventeenth centuries were usually represented by the first personages in the kingdom; if at court, the king, queen, and princes of the blood often performed in them.

Masques appear to have been still more the amusements of the court during the early and tranquil part of Charles I.’s reign than in that of James; and the queen, who seems to have brought with her from France at least as great a love for dramatic exhibitions as she found here, frequently represented the principal character in the piece herself. Most of the court masques were written by Ben Jonson, who, in his station of poet-laureat, seems to have furnished more of these dramas, than birth-day or new-years odes. And though the masques of this reign are frequently said, in the title page, and dramatis personæ, to have been performed by the king, queen, and nobles of their court, yet it does not appear that these great personages often took part in
the dialogue or songs of the piece; but generally appeared on the stage in the splendid ballets only, as dancers, representing mythological or allegorical characters. Indeed, the queen, at the time of the first masques of this reign, can hardly be supposed sufficiently exercised in our language to undertake a part in which declamation was necessary.

In 1633, there were no less than five masques performed at different places before the king and queen, and personages of the court. A very circumstantial account of one of these has been left in a MS. by lord commissioner Whitelock, written by himself. It was acted at Whitehall, and the whole expence defrayed by the gentlemen of the four inns of court.

The whole narrative of this masque is curious, and may be seen in Burney’s General History of Music, vol. iii.

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MEASURE, in Music, the interval, or space of time, which the person who beats time, takes between the raising and falling of his hand or foot, in order to conduct the movement, sometimes quicker, and sometimes slower, according to the kind of music, or the subject that is sung or played.

The measure is that which regulates the time we are to dwell on each note. See TIME.

The ordinary or common measure is one second, or sixtieth part of a minute, which is nearly the space between the beats of the pulse or heart; the systole or contraction of the heart answering to the elevation of the hand; and its diastole, or dilatation, to the letting it fall. The measure usually takes up the space that a pendulum, of two feet and a half long, employs in making a swing or vibration. The measure is regulated according to the different quality or value of the notes in the piece; by which the time, that each note is to take up, is expressed. The semibreve, for instance, holds one rise, and one fall; and this is called the measure, or whole measure; sometimes the measure-note, or time-note; the minim, one rise, or one fall; and the crotchet, half a rise, or half a fall, there being four crotchets in a full measure.

MEASURES, Musical, are now much simplified, compared with those which our ancestors described, we cannot say used, as some of them are impracticable. In the musical MS. of Waltham holy cross, in the possession of the marquis of Lansdowne, N° 9, by Chiliton, we have not only double and triple proportions, but quintuple, sesquialterate, and sesquioctavan; that is, when one minim in the base is as long as a semibreve, or two minims in the treble; as three minims; as five; as one and a half; as 16 to 12, or 12 to 9.

Whether all these measures were ever received in practical music, does not appear; but we can be very certain, if they were, that the result would be nothing but dislocation and confusion.

All measures and species of time in modern music are reduced to two proportions; the binary, dual, or even measure, in which the rise and fall of the hand are equal; and the ternary, triple, or odd measure, in which the fall is double to the rise. The first, usually called common time, is the measure consisting of two semibreves, two minims, or two crotchets; the second, or triple time, of three minims, three crotchets or three quavers.

To this purpose the number 3 is placed at the beginning of the lines, when the measure is intended to be triple; and a C, when the measure is to be common or double. This rising and falling of the hands was called by the Greeks ἀρσις, and δεσις. St. Augustine calls it plausus, and the Spaniards compas. See ARSIS and THESIS.

There is likewise a mixed or compound measure of 6 or 12 crotchets or quavers in a bar, indicated at the beginning of a movement, thus: $\frac{6}{4}$, or $\frac{12}{7}$, or $\frac{9}{2}$. But as all these measures move in triplets, for each portion of a bar, they are reducible to binary and ternary measures.

MEDICINA MUSICA, or the medicinal Power of Music; being an essay on the effects of singing, music, and dancing on the human frame, revised and corrected. To which is annexed, a new essay on the nature and cure of the spleen and vapours, by Richard Browne, apothecary at Oakham, in the county of Rutland, small 12mo, London, 1729.

This is the title of a small tract but little known; but as it is not devoid of merit, we shall give some account of the author’s principles. We feared we should have had the old stories over again, of Orpheus, Linus, Amphion, and Terpander; but their names do not once occur in the work. The author
does not ascribe any miraculous powers to music, as
the Greeks, the Chinese, and the Arabians have
done; who pretend to cure many diseases with the
instrument called Oïd, resembling our lute: he only
points out its mechanical effects on the nerves and
animal spirits. He is moderate in his demands, and
modest in his assertions. It is not elaborate composi-
tion, or exquisite performance, that is required to
operate the effects which he describes; but the dulce
linimen of Horace.

The gentle exercise of the lungs in singing, as
well as the gratification of the ear in hearing sweet
tones well accented, are among the prescriptions.
And for this he only requires the patient to have an
ear well organized, and the vocal performance to
consist of gay and lively strains, so that the body
and the mind may be reciprocally affected by the
production and sensation of sound. As the motion of
the blood is accelerated or retarded during the rise
or fall of the mercury in the barometer; so in singing,
the pressure of the air upon the lungs is greater than
in common respiration.

The author supports his opinions ably and ana-
tomically. He seems to have loved and understood
music, though he never speaks of it with the enthu-
siasm of a rapturist.

Among the possible evils of too frequent and too
violent exercise of the lungs, we wish the author had
cautioned parents not to let their children, whatever
disposition they may discover for singing, begin to
exercise the voice seriously in difficult songs, or
solfeggios, till arrived at their teens: as we have fre-
frequently known a promising voice sung away, by
tearing and straining the vocal organ beyond its
power. Let them hum a tune, or sing a light and
pleasing ballad if they please; but leave different in-
tervals, and long and high notes, to a more robust
and mature age. In asthmatic complaints, when the
tone of the stomach is relaxed, and appetite fails;
and in nervous disorders, as music raises the spirits,
and diverts our attention from ourselves and our
woes, real or imaginary, singing is not only amusing
but salutary.

The author, however, seems to think that nervous
and low-spirited persons should refrain from
pathetic, melancholy, and languid airs, which, in-
stead of exhilarating and enlivening the spirits,
rather tend to their depression. But on the contrary,
in affliction, pain, and sorrow, as well as in hypo-
chondriac and calamitous cases, when gay and
lively music is to the last degree offensive, we rather
enlist with those who think grave music, if it cannot
radically cure, can soothe, alleviate, and afford a
temporary relief.

And among the medicinal effects of modern mu-

sic that border on the marvellous, we read in the
memoirs of the Acad. des Sciences at Paris, that a
musician was cured of a violent fever, by a concert
of well selected and well executed music in his bed-
chamber. And the effect which Farinelli’s singing
had on Philip V, king of Spain, who like Saul seemed
to have been troubled with an evil spirit, has, never
been disputed.

As to the author’s Medictna Gymnastica, as a spe-
cific for spleen, vapours, and hypochondriac affec-
tions, we shall leave the consideration of these mys-
terious disorders to the profound sons of Æscu-
aplius, who peradventure may be perfectly acquain-
ted with their nature and existence. Mr. Browne,
who has not defined them very clearly, prescribes,
however, after other preparatory medicines, dancing
to a good band of music for the completion of the
cure. And as the music is meant to exhilarate and ex-
cite notion, the whole process seems reduced to the
two most simple of all Hygeia’s agents, Air and Ex-
cise.

To these Armstrong adds Sun-shine.

“Cheer’d by thy kind invigorating warmth,
We court thy beams, great majesty of day:
If not the soul, the regent of this world,
First-born of heaven, and only less than God”

MEDLEY, in Music, during the early part of the
last century, a piece of pleasantry, or rather musical
buffoonery, was frequently practised, by English
composers in composing symphonies from frag-
m ents of vulgar tunes and popular compositions,
which were called medley-overtures. Charke, Jack
James, and even Arne, in his early days, condescen-
ded to divert himself, more, perhaps, than the pub-
lic, by these musical salmagundies; of which, how-
ever, no one of these musicians can be styled the in-
ventor. Dr. Pepusch seems to have given them the
hint in his pleasant and appropriate overture to the
Beggar’s Opera; of which the first movement is a
burlesque of the beginning of Handel’s overture in
Otho; and the subject of the fugue in the first part of
“I’m like a skiff in the ocean tost,” and the solo pas-
sages for hautbois, the second part.

MELODIA, Lat. and Ital., Melodie, Fr., Μέλωδια, Gr., from μέλος; and ὀνομα, continuata sonorum con-
nexios Melody, Eng.

To describe all the rules and prohibitions in fram-
ing melodies, would require a code of laws equal to an art of
poetry.

Dr. Pepusch (Treatise on Harmony) gives a very short, but intelligible definition of melody; which, he
says, “is the progression of sound proceeding from one
note to another successively in a single part.”

Rousseau is eloquent on the subject. Melody he
defines, “the succession of sounds according to the
laws of rhythm and modulation, so as to form mu-
sical phrases agreeable to the ear; vocal melody is
called chant by the French, instrumental is called
symphonic.”

The Italians called melody cantilena; by the Eng-
lish it is termed air, tune, principal or treble part.

A series of sounds only becomes melody by be-
ing in some specific time, or measure, that is by be-
ing arranged in regular proportions of time, called
bars, which, however divided and subdivided into
notes of different value, must be performed iso-
chronally, that is, in equal time, and these bars have
their laws likewise, and are governed by accents. See
ACCENT and BAR.

Though melody is so necessary in the treble part
of a composition, it is not necessary in the base, at
least of the same kind. A polyphonic composition is
admired by masters when all the parts sing, that is,
when each part has a series of notes that may be
called melody; unless in fugues and imitations, it is
not necessary that the inferior part should move in
the same kind of notes as the principal. For as only
thirds and sixths can move together in a regular as-
cent or descent in the same kind of notes diaton-
cally, they soon tire, and manifest a want of resources
in the composer. And though melody is admired
and expected in the several parts, it is best when of a
different character from the principal part.

It is in the following periods that the eloquence,
feeling, refined taste, and enlarged views of
Rousseau appear in this article.

“Melody,” he says, “is founded on two different
principles: considered in the relations which the
sounds of a key bear to each other, it has its prin-
ciple in harmony, as it is an harmonical analysis,
which gives the degrees of the gammut, the chords
of the key, and the laws of modulation, the only ele-
ments of melody. Upon this principle all the force of
melody is confined to the flattering the ear with
agreeable sounds, as the eye is flattered by an agree-
able change of colours, without their representing by
their mixture any particular object or design. But
considered as an art of imitation, by which we can
awaken different images in the mind, move the heart
with different sentiments, excite and calm the pas-
sions, operate, in short, moral effects beyond the im-
mediate empire of the senses, we must seek another
principle; for no such effects as these can be derived
from harmony.

“What then is the second principle: It is in nature
as well as the first; but it can only be discovered by
more subtle and penetrating observation, to which
nature only gives birth, and which cannot be taught.
It is instinctive, and often unknown to the possessor.
This principle is the same as that which varies the
tone of voice in speech, according to what we say,
and what we feel in saying it. It is the accent of lan-
guages which determines the melody of every coun-
try; it is the accent which speaks in singing; and we
speak with more or less energy, as the language has
more or less accent. The language in which the ac-
cent is most marked, produces a melody the most
lively and impassioned; and that which has little or
no accent, can only suggest a languid cold melody,
without character and without expression. These are
the true principles. When we quit them, and speak
of the power of music over the human heart, we
know not what we talk about. If music only paints
by the power of melody, and derives from melody
all its force, it follows that all music which does not
sing, however harmonious it may be, is not an imita-
tive music; for as it can neither move the affections
nor paint with its fine chords, it soon tires the ear
and leaves the heart cold. It follows, then, that in
spite of the multiplicity of parts which harmony can
furnish, and which is so often abused, as soon as
two melodies are heard at once, they mutually en-
feeble and efface each other, however excellent they
may be in themselves.”
This is the language which the Chinese, and every people not accustomed to harmony, talk. See CHINESE Music.

Rousseau is a champion for melody, and M. Laborde for harmony; but we think now, as we did forty years ago, that melody and harmony are as imperfect when separate, as an animal formed by nature with two legs or two arms, is with one. In music, melody and harmony have each distinct and peculiar beauties; but after being heard together, nothing can compensate for their separation. Melody should be polished, and harmony purified; but it was one of the paradoxes of the ingenious Jean Jacques, in asserting “that harmony was an imperfection, a Gothic and barbarous invention; only wanted by the gross and obtuse organs of northern regions.”

Rhythm is as necessary to melody, as that the sounds should follow each other in a manner agreeable to the ear. Sounds of the same length can form no interesting melody; they must be broken into notes of different duration, must be phrased, and have some sense given them, as well as words in literature and grammar.

MELODIEUX, Fr. Melodious. This epithet is seldom applied with accuracy: A sweet-toned voice in speech or song may be called melodious; but to say that an air, or tune, or a piece of music is melodious, is a pleonasm that borders on vulgarity: as these words themselves imply melody; therefore to say that an air or tune is melodious, is saying that melody is melodious.

MELO-DRAMA, Lat., a drama written for music. In 1772, when a few persons in France began to perceive that it was possible for operas to be set to better music than that of Lulli and Rameau, an anonymous treatise was published at Paris, under the title of “Traité du Melo-drame, ou Reflexion sur la Musique Dramatique,” 8vo.

In 1765, a small tract was published by the chevalier de Chastellux, “On the Union of poetry and Music,” and in 1772 the anonymous “Treatise on Musical Drama.” The former had a correspondence with Metastasio on the subject of his book. The poet’s answers to his letters are preserved in later editions of his works, and translations inserted in the memoirs of his life and writings published in 1796. In the tract of M. de Chastellux, he gives in his parallel between music and poetry, the pas to the former. In the treatise on the melodrama, the preference is decidedly given to poetry; and music degraded into his menial servant, with no better employment than that of rendering the voice of declamation more audible than that of common speech.

These two writers were the precursors of the Gluckists and Piccinists at Paris. And the dispute is reduced to this simple question; Which, in an opera or musical drama, is to be the tyrant, and which the slave? Metastasio long since with reason and good taste determined in his dramas that no tyranny or slavery should subsist; but that the two sisters should mutually assist each other. He gave all the business of the fable to recitative, or musical declamation, and the embellishing sentiment to the airs in a recapitulation of the dialogue at the end of each scene.

Though the poetry of Metastasio’s operas has always been admired as the best, and almost the only poetry truly lyrical in modern languages; yet it must be allowed that beautiful air, impassioned strains, picturesque music, grateful harmony, fine voices highly cultivated, and great vocal talents, have rendered operas more attractive and captivating than the poetry alone, with all its high polish and beautiful sentiments could have done. Metastasio in his latter days joined in the complaints of French reformers of the Italian operas, against fine music and fine singing. No such jealousy appears in his letters to Farinelli, or to any other correspondent, till he had ceased writing, when musical composition and vocal talents were much more admired and applauded that at present.

MELOPŒIA, gr., Melopée, Fr., a term in the music of the ancients, which implied the selection and arrangement of such sounds as were fit for song. The word is derived from μελος, canto, οιεω, facio, singo, fabrico, compono, “to build the lofty rhyme.”

Melopœia had its particular rules, several of which are come down to us, and are still clear and intelligible: such as that an air, or piece of melody, should be composed in some particular genus, and be chiefly confined to the sounds of some certain mode. As to the succession, or order of these sounds in the course of the air; that was in general confined to four kinds, which Euclid specifies in his Harmonic Introduction. These we shall endeavour to de-
scribe with exactness, as they may throw some light upon ancient melody.

Euclid tells us, first, that sounds may move either ascending or descending regularly; as thus:

which was called ἀγωγή; secondly, by leaps of greater intervals than a second; thus, vol.

which was called πλοϰη, interwoven; thirdly, by repeating the same sound several times, which was called πετιεια, iteration; as in singing these notes,

and fourthly, that sounds may be sustained in the same tone, which we call a holding note, and which the Greeks expressed by the word τουη.

There were many rules to be observed in moving by leaps, or disjunct degrees, the principal of which was to prefer, in general, consonant to dissonant in intervals. It was likewise enjoined not to divide any two semitones into quarter tones, together, or two successive tones into semitones, nor were two major thirds to follow each other.

But these, and a great number of other rules laid down by Aristoxenus, with respect to the succession of intervals, were all derived from the genera, the rules for which were rules for melody. The diatonic genus of the ancients resembled our natural scale in every particular; and it is allowed by Aristoxenus even that three tones may succeed each other, ascending or descending, which is all that is allowed in our diatonic, except in minor keys, where we ascend to the octave of the key note by a sharp seventh, which the ancients seem never to have admitted.

A further detail or explanation of these rules would not make the matter much clearer; however, there are some particulars collected together in the first book of Aristides Quintilianus, that seem to merit attention.

He sets off by dividing Melopœia into three species, taken from the great and general system, which he names after the sounds called hypate, mese, and neta; that is, lowest, middle, and highest; and these denominations resembled, with respect to melody, our distinctions of base, tenor, and treble.

With regard to modulation in melody, he has the same distinctions as Euclid for the several species, though he differs a little from him in his manner of defining them; but these differences are of small importance to us now; and indeed the authority of Euclid is so superior to that of Aristides Quintilianus, that nothing which can be cited from him would have weight sufficient to invalidate the testimony of so exact and respectable a writer.

However, the moral distinctions of Melopœia to be found in Aristides Quintilianus are so curious and fanciful, that we shall insert a few of them here.

He allows of three modes (τροποι) or styles of Melopœia: the dithyrambic, or bacchanal; the nomic, consecrated to Apollo; and the tragic; and acquaints us that the first of these modes employed the strings, or sounds, in the middle of the great system; the second, those at top; and the third, those at the bottom.

These modes had other subaltern modes that were dependent on them; such as the erotic, or amorous; the comic; and the encomiastic, used in panegyrics. All these being thought proper to excite or to calm certain passions, were, by our author, imagined to have had great influence upon the manners (ἠθη); and, with respect to this influence, Melopœia was divided into three kinds: first, the systaltic, or that which inspired the soft and tender passions, as well as the plaintive, or, as the term implies, such as affect and penetrate the heart; secondly, the diastatic, or that which was capable of exhilarating, by kindling joy, or inspiring courage, magnanimity, and sublime sentiments; thirdly, the besuchastic, which held the mean between the other two, that is, which could restore the mind to a state of tranquillity and moderation.

The first kind of Melopœia suited poetical subjects of love and gallantry, of complaint and lamentation; the second was reserved for tragic and heroic subjects; the third for hymns, panegyrics, and as a vehicle of exhortation and precept.
All these rules concerning the ancient Melopœia afford only general notions, which, to be rendered clear and intelligible, would require particular discussions, as well as illustrations by example; but the Greek writers on music have absolutely denied us that satisfaction, reserving, perhaps, when they published their works, all such minutæ for the lessons which they gave their scholars in private; for in no one of the seven treatises upon ancient music, collected and published by Meibomius, is a single air or passage of Greek melody come down to us; which is the more extraordinary, as there are few treatises upon modern music, without innumerable examples in notes, to illustrate the precepts they Contain.

But whatever were the rules for arranging different sounds in such order as would flatter the ear in the most agreeable manner, it is easy to imagine that this regular disposition, and beautiful order of sounds, constituted nothing more than the mere body of melody, which could only be animated and vivified by the assistance of rhythm or measure. See MUSIC of the Greeks.

MELOS and Melodius, which Meibomius has rendered by the Latin words, modulatio and cantilena, had no other signification than the change of sounds in singing, or, as we should call it, melody; and this is clear from a passage in Bacchius senior, where, in his Introduction to the Art of Music, by question and answer, it is asked, How many kinds of modulation there are: He answers, four; and these, he says, are rising, falling, repeating the same sound to different words, and remaining upon, or holding out, a musical tone. See MELOPEIA.

MENDICANTI, the title of one of the Music schools at Venice for girls, known by the name of conservatorios. The maestro di capella of the hospital de Mendicanti, in 1770, was the worthy Bertoni, by whose favour we were admitted into the interior of this admirable seminary, to an extra concert of two hours, by the best vocal and instrumental performers of this hospital; it was really curious to see, as well as to hear every part of this excellent concert, performed by females, violins, tenors, bases, harpsichord, French horns, and even double bases; and there was a prioress, a person in years, who presided: the first violin was very well played by Antonia Cubli, of Greek extraction; the harpsichord sometimes by Francesca Rossi, maestra del coro, and sometimes by others: these young persons frequently change instruments. The singing was truly excellent in different styles; and the whole was very judiciously mixed; ne two airs of a sort followed each other, and there seemed to be great decorum and good discipline observed in every particular; for these admirable performers, who are of different ages, all behaved with great propriety, and seemed to be well educated. It was here that the two celebrated female performers, the Archiapate, afterwards signora Guglielmi, and signora Maddalena Lombardini, afterwards madame Sirman, who received such great and just applause in England, had their musical instructions.

MENESTREL, a musician, whose name and employment have been recorded by Pithou in his “History of the second Race of Kings of France,” who tells us, that it was during the reign of Pepin that the chapel royal was established at Paris, under a music-master named Menestrel; which, perhaps, may have been the origin of the name of Menestrel, or Minstrel, being given, in after times, to musicians in general. Pepin died in 768.

MENESTRELS were the singers, and Menetriers the instrumental performers in France, who, in the time of king Robert, formed themselves into a society of musicians, in imitation of the ancient bards; they composed and executed the music to the poetry of the trouvers, troubadours, or romancers, who composed poems in rhyme. Others were called jongleurs, and chantores or memestrels.

In a tariff of St. Louis to regulate the toll at the entrance into Paris, it is said that the jongleurs should be excused paying the toll, upon condition that they sung a song (hence, perhaps, the proverb of paying for anything with a song) or made their monkies dance (whence, probably, the French have derived another proverb, “payer en monnoie de singe.”)

MENUET, Fr. MINUET, Engl., the name of a musical movement in triple time of three crotchets or three quavers in a bar, which is a guide to a graceful dance in the slowest time of any movement that is danced of the stage at public or private balls, since the louvre has totally lost its favour.

The minuet, according to Brossard, had its origin in Poitou. The melody of the minuet is usually divided into two parts, or strains, consisting of eight
bars each, of which the first ends on the fifth of the key, and the second on the key note.

There is so much dignity and grace in this dance, that it is to be lamented it has ceased to be a part of education, and to be discontinued at private balls and assemblies, where elegance and decorum used to be observed. In learning the steps and figure of the minuet, other things necessary in polished society used to be taught; such as the bow, the curtesy, the entrance into a room and departure from it with ease and grace, the presenting to or receiving from a superior; indeed the whole carriage of a person used to be regulated in learning the minuet, in a manner not, as we can discover, included in the Scotch step, or Irish lilt, the cotilion or the waltz. Those who never had the courage or intention to exhibit their persons in a ball room, public or private, have been discovered to have learned to dance by standing still or walking in the street, as a peasant discovers himself to have been drilled in the same situations.

MESOCHOROS, μεσοχορος, among the ancients. The mesochori were musicians who presided in concerts, and by beating a desk in a regular manner with their feet, directed the measure of the music. For this purpose in the theatre they wore wooden clogs on their feet, that they might better be heard, which were called by the Greeks erupezia.

MESOCHORUS, among the Romans, was also used for a person in public assemblies, appointed to give the signal for acclamation at the proper time, that all might join in it at once.

MESOIDE, in the Greek Music, a kind of meloporia, the notes of which were confined to the two middle strings of the meson tetrachord.

MESON, in the Ancient Greek Music, is the name given to the second tetrachord from the bottom, and it was likewise the name by which the four strings of that tetrachord were distinguished: as the first string was called hypate-meson, the second parhypate-meson, the third lichanos-meson, or meson-diatonos, and the fourth mese. Meson is the genitive case plural of mese, mean or middle; because the meson tetrachord is the middle between the first and third tetrachord, or rather because the string or sound mese gives the name to the whole tetrachord, of which it is the highest note. See Plate of the Greek Diagram.

METROMETER, Fr., a machine to determine the time of a piece of music. It requires a pendulum, which, while a movement is performing, may be lengthened or shortened at the pleasure of the composer, till the oscillations exactly agree with the bar, or any of its accented parts. The length of the pendulum must be specified at the beginning of a piece. Many attempts at such an expedient have been made; but we believe it has never been brought to perfection: if it had in Handel’s time many of his compositions would not be frequently injured by being performed too fast or too slow, to satisfy those who remember his works performed under his own direction.

MEZZA PAUNA, in the Italian Music, half a pause, intimates that the part wherein it is found must be still the time of a semibreve in common time. See PAUSE.

MEZZA Tirata. See TIRATA.

MEZZO, an Italian adjective, which means half; as mezzo forte, mezzo piano, mezza voce, which imply nearly the same thing, i. e. a middle degree of piano, or soft. Mezzo sopran, a pitch of voice between the soprano or treble, and counter-tenor. See CLEFS, and COMPASS of voices.

MI CONTRA FA, in Counterpoint, was long regarded as a solcism in harmony. The natural diatonic scale consisting of tone, tone, and semitone, as C D e, f, or ut, re, mi, fa; G A b, c, or sol, la, mi, fa; if the 4th fa, in the key of C, or C in the key of G, was made sharp, it would be called tritonus, or a dissonant series of four whole tones; which, before the ear was accustomed to crude intervals, in the infancy of counterpoint, was so offensive, that it used to be said, Mi contra fa est diabolus. Alluding to this in King Lear, act i. sc. 7, there is a passage which has much embarrassed the commentators: “O, these eclipses portend these divisions! Fa, sol, la, mi.” Shakspeare, however, shews by the context, that he was well acquainted with the nature of the musical intervals contained in the tritonus, or sharp 4th, which, consisting of three tones without the intervention of a semitone, is extremely difficult to sing, and disagreeable to uncultivated ears when sung, if mi or fa terminate the passage.

The false 5th is only an inversion of the sharp 4th, as B F or F B, which were held in equal horror by our forefathers; though at present the chief beauties of
melody and harmony are derived from these intervals.

MICROLOGUS, Μικρολογιος, from μικρος par-vus, and λογος, ratio, fermo, that which gives reasons for obscure and minute things, a minute enquiry into latent things: the title given by Guido d’Arezzo to his treatise on music, in which his system is unfolded.

The most curious part of the micrologus is the chapter “De Diaphonia. et Organi jura;” as it shews the state of music at the time it was written, and gives such specimens of the first rude attempts at harmony as may be safely pronounced authentic. See GUIDO, HEXACHORD, and COUNTERPOINT.

MICROPHONES, instruments contrived to magnify small sounds, as microscopes do small objects.

MILIEU HARMONIQUE, in French Music, is the name sometimes given to the 3d of a common chord or triad, as being the mean or middle between the key note or fundamental base and its 5th.

MILITARY Music, before the introduction of firearms, served to animate the soldiers in battles and assaults of places, as well as for purposes of signals for the different manoeuvres and duties in camp and garrison; and therefore there is no reason to doubt its having been used in our ancient armies. The common military instruments of music were the trumpet, drum, fife, and horns of different kinds. See an account of each under its proper title. In modern times, kettle-drums and trumpets have been chiefly appropriated to the horse. The dragoons long had the hautbois and side-drum, but about the year 1759 changed these for the trumpet; the infantry had only the drum, till the introduction of fifes. Since the introduction of light infantry, many of these companies have used the bugle-horn.

Of late years, in addition to the drums and fifes, each regiment of infantry has had its band of music. The instruments are chiefly hautbois, clarinets, French horns, bassoons, trumpets, cymbals, and in some the tabor and pipe. The band is usually composed of men borne upon the establishment of the regiment as privates, and allowed some additional pay from the non-effective fund of the field-officers and captains of companies. These officers also defray the charge for instruments, extra clothing, music, &c. though in many corps the money paid for discharges has been applied to the support of the regimental band. Grose’s Mil. Ant. vol. ii.

MIME, MIMUS a term in the ancient comedy, signifying a buffoon, or mimic, who acted by postures suitable to the person or subject he represented.

The word comes from the Greek μιμος, imitator; formed of μιμεομαι, I imitate. The same comedians were also sometimes called pantomimes, because of their counterfeiting all manner of postures and gestures.

According to Lucian (de Saltatione), a single dancer, or mime, was able to express all the incidents and sentiments of a whole tragedy or epic poem by dumb signs, but still to music, as in the ancient recitation, and in modern pantomime entertainments; though Aristotle expressly says, that dancers want neither poetry nor music; as by the assistance of measure and cadence only, they can imitate human manners, actions, and passions. See BATHYLLUS and Plyades.

Plutarch (Sympos. 1. vii. probi. 8.) distinguishes two kinds of pantomime: one was called υποθεςειν, the subject of which was decent and decorous, as well as the manner of expressing it, and this nearly approached to comedy. Buffoonery and indecency constituted the other.

Sophron of Syracuse, who flourished in the time of Xerxes, was reputed the inventor of serious and decorous pantomime, replete with lessons of morality. Plato had great pleasure in the perusal of the pantomimes of this author. But the Greek drama was scarcely formed, ere theatrical writers and actors endeavoured more to divert the people by farces and representations of vicious scenes and characters, than to improve their morals. Such were the means by which interludes on the stage were rendered agreeable to the people of Greece.

The Romans were equally pleased with pantomime, and formed of it a fourth species of drama. The actors distinguished themselves by a licentious imitation of the manners of the times, as appears by the following verse of Ovid.

“Scribere si fas est imitantes turpia Mimos.”

The mimes usually acted without socks or stockings, whereas the three others wore socks or buskins. Their heads were close shaved, like the fools on mountebank stages; their dress, like that of our har-
lequins, was composed of bits of cloth or linen of different colours. This dress was called *Panniculus centumculus*. They sometimes also appeared in magnificent senatorial robes of purple, to divert the people by the ridicule and contrast of a senator's robe, and a shaved head and socks. Thus harlequin sometimes on our stage is bedight in the garb of a gentleman. To this dress they joined licentious language, and all kinds of ridiculous postures, neglecting nothing that could amuse the populace.

This kind of diversion was given even at funerals, and the actors were called *Archimimes*. They went before the coffin, and described by their gestures the actions and manners of the deceased: his virtues and vices, all were exhibited. The propensity which the mimes had to raillery, inclined them rather to reveal their frailties, than paint their virtues, or any thing that could redound to their honour.

The applause given to the pieces of Plautus and Terence, did not prevent even the better sort from admiring these pantomimic farces, when enlivened by wit, and not debased by indecency. The Mimeographic poets of the Romans, who chiefly distinguished themselves in these dramatic exhibitions, were Sneius Mattius, Decimus Liberius, Publius Syrus, under Julius Caesar; Philistion, under Augustus; Silo, under Tiberius; Virgilius Romanus, under Trajan; and Marcus Marcellus, under Antoninus. But the most celebrated of all these were Decimus Liberius, and Publius Syrus. The first diverted Julius Caesar so much that he made him a Roman knight, and conferred on him the privilege of wearing gold rings. He had such a wonderful talent at seizing ridicule, as to make every one dread his abilities. To this Cicero alludes, in writing to Trebutius, when he was in Britain with Julius Caesar, telling him, that “if he is absent much longer inactive, he must expect to be attacked by the mime Liberius.” Publius Syrus, however, gained so much more applause, that he retired to Puzzoli, where he consoled himself for his disgrace and the inconstancy of the people, and the transient state of human affairs, by the following admirable verse:

> “Cecidi ego: vadct qui sequitur ; laus est publica.”

We with difficulty can imagine some of the grave and judicious reflections of Syrus to be extracta from the pantomimes which he exhibited on the stage: we should rather take them for maxims moulded on the sock or buskin. Encycl. 1st edit.

> “Sweet Polhymnia, see advance,  
> Mother of the graceful dance:  
> She who taught th’ ingenious art  
> Silent language to impart:  
> Signs for sentiment she found,  
> Elocuence without a sound;  
> Hands loquacious save her lungs,  
> All her limbs are speaking tongues.”

MINIM, in *Music*, from *minimus*, Lat., the least. In the first time-table that was framed, where the semibreve was the shortest note, and the first in a round form, the rest were square. But as the art of counterpoint was improved, and different parts in notes of different value were attempted, it was found necessary to divide the semibreve in two equal parts, diminishing the length of a semibreve one half, by adding a tail to it. This invention has frequently been ascribed to Vitriaco; but it seems more properly to belong to Franco, as appears by a manuscript tract in the Bodleian library at Oxford. Franco flourished 200 years before Vitriaco. See MUSICA Mensurabilis, TIME, MEASURE, and Musical CHARACTERS.

MINIM, Sextuple of the. See SEXTUPLE

MINIME, in Old French *Music*, was the same character for time as is now called *une blanche*. See MINIM and TIME-TABLE.

MINNIN, a stringed instrument of music among the ancient Hebrews, having three or four chords to it. Though there is reason to question the antiquity of this instrument; both because it requires a hair-bow, which was a kind of plectrum not known to the ancients, and because it so much resembles the modern viol. Kircher took the figure of this, the machul chinnor, and psaltery, from an old book in the Vatican library. Hawkins’ Hist. Music, vol. i. p. 255.

MINOR, in *Music*, is applied to certain concords, which differ from, or are lower than, others of the same denomination by a lesser semitone, or four commas. Thus we say, a third minor, or lesser third: or a sixth major and minor.

Concords that admit of major and minor, i. e. greater and less, are said to be imperfect concords.

MINSTREL, an ancient term for a fiddler, or player on any other kind of musical instrument.
Borel derives the word from *manus* and *histrio*, one who diverts with the hand; or from *minor histrio, little buffoon*: Du-Cange from *ministellus*, a diminutive of *minister*, because the minstrels were anciently ranked among the lower officers, ministers, or servants.

According to Dr. Percy, in his Essay on the Ancient English Minstrels, the word is derived from the French *menestrier*; and was not in use here before the Norman conquest; and it is remarkable, that our old monkish historiam do not use the words *citharædus, cantator*, or the like, to express a minstrel in Latin; but either *minus, histrio, joculator*, or some other word that implies gesture. Hence it should seem that the minstrels set off their singing by mimicky or action; or, according to Dr. Brown’s hypothesis, united the powers of melody, poem, and dance. These minstrels were probably the genuine successors of the ancient bards, who joined the arts of poetry and music, and sung verses to the harp of their own composing. After the conversion of the Saxons to Christianity, the poets and minstrels became two separate professions: and the latter continued to be a distinct order of men, and got their livelihood by singing verses to the harp at the houses of the great; where they were hospitably and respectfully received, retaining many of the honours shewn to their predecessors, the Bards and Scalds. And though some of them only recited the compositions of others, many of them still composed songs themselves, and all of them could probably invent a few stanzas on occasion.

Mr. Ritson, in his Introduction to “Ancient English Metrical Romances,” blends the English minstrels with the jugglers, whose tricks of legerdemain formed another branch of the amusement of our ancestors. Although it be allowed, that the same person might occasionally practise both arts, yet we see no reason for doubting, that they were separate and distinct professions; nor can we admit the supposition of Mr. Ritson, that the minstrels, whose profession was music and the recitation of poetry, were not frequently themselves poets. Their daily bread depended upon their stock of tales and songs; and it must have been as natural for them to have composed the romances which they sung, as for a modern musician to compose the pieces which he performs. Above all, we cannot see why the arts of composition, which are admitted to have been exercised by the minstrels of France, should be supposed unattainable by those of England. Subsequent to the reign of Edward III., most of the popular French romances were translated into English, which then became the language, as well of the nobles as of the vulgar. Why the minstrels, who were most interested in these translations, should be deemed unequal to the task of accomplishing them, we can see no good reason for believing. As a wandering and idle race of men, attendant on the barons who went to war in France, they had time to acquire both languages; and the art of rhyming must have been easy to persons who almost every day of their lives were employed in poetical recitation. Minstrels and bards are often employed as synonimous terms, although the poetic powers of the bards are indisputable. As late as the reign of queen Elizabeth, this combination occurs in the poem of a Scottish satirist describing London.

“Bot yet the menstrallis and the bairdis,
Thair trowand to obtain rewardis,
About his ludgene loudlie played.”

Legend of the bishop of St. Androis.

A proof how far the task of the poet and of the reciter were required from the minstrel, occurs in a very ancient poem, of which there is one MS. in the British Museum, and another in the library of Peterborough cathedral. It contains the history of an intrigue betwixt Thomas of Erceldoune, called the Rhymer, and the queen of fairies, by whom, as every one knows, he was transported to the “Lond of Färie,” and gifted with those supernatural powers of poetry and prophesy, by which he was afterwards distinguished. The following dialogue passes betwixt the bard and his færy leman upon this memorable occasion.

“To harp and carpe, Thomas, wher so ever ze gon,
Harping, he said, ken I non,
That I may say I spake with the —
Gif me sum tokyn, lady gaye,
If thu wil spelle, or talys telle,
For tong is chefe of mynstralcie.—
Thomas thu shal never make lye;
From this decisive declaration, which a poet and minstrel made on the nature of his own profession, it appears plainly, that, in more ancient times, the minstrel's principal and most honourable occupation referred to poetry, rather than music; and the Rhymer might have been justly described as one "who united the arts of poetry and music, and sung verses to the harp, of his own composing," if he had not disdained the musical skill to which it was Mr. Ritson’s persuasion that the talents of the minstrels were exclusively limited. See Edinb. Rev. No. XIV. p. 394, &c.

Mr. Ellis, in the Introduction to his "Specimens of early English Metrical Romances," has given us a plain and comprehensive view of the rise and progress of the minstrels and their poetry. Of his account we shall avail ourselves in the compilation of this article.

Normandy appears to have been the cradle of minstrelsy. The Northmen who wrested that province from the feeble successors of Charlemagne, had, doubtless, like all other barbarous people, especially the Scandinavian tribes, their national poets, under the name of scalds, or by whatever other term they were distinguished. On their settling in Neustria, their native speech speedily melted down into the more commodious and extended language used by the inhabitants of Northern France, which was called romance, being, in fact, a corrupted Latin, introduced by the Romans into their Gallic province. In this language, the minstrels composed most of their works, until, from that circumstance, the word romance, from signifying the early Norman-French, came at length to mean those chivalrous tales usually composed in that tongue. "

It appears likely," says Mr. Ellis, "that they were carried by Rollo into France, where they probably introduced a certain number of their native traditions; those, for instance, relating to Ogier le Danois, and other northern heroes, who were afterwards enlisted into the tales of chivalry; but that, being deprived of the mythology of their original religion, and cramped, perhaps, as well 'by the sober spirit of Christianity, as by the imperfection of a language whose tameness was utterly inapplicable to the sublime obscurity of their native poetry, they were obliged to adopt various modes of amusing, and to unite the talents of the mimic and the juggler, as a compensation for the defects of the musician and poet. Their musical skill, however, if we may judge from the number of their instruments, of which very formidable catalogues are to be found in every description of a royal festival, may not have been contemptible; and their poetry, even though confined to short compositions, was not likely to be void of interest to their hearers, while employed on the topics of flattery or satire. Their rewards were certainly, in some cases, enormous, and prove the esteem in which they were held; though this may be partly ascribed to the general thirst after amusement, and the difficulty experienced by the great in dissipating the tediousness of life; so that the gift of three parishes of Gloucestershire, assigned by William the Conqueror for the support of his joculator, may, perhaps, be a less accurate measure of the minstrel's accomplishments, than of the monarch's power and of the insipidity of his court.

"To the talents already enumerated, the minstrels added, soon after the birth of French literature, the important occupation of the diseur, or declaimer. Perhaps, the declamation of metrical compositions might have required, during their first state of imperfection, some kind of chant, and even the assistance of some musical instruments, to supply the deficiencies of the measure; perhaps, the aids of gesture and pantomime may have been necessary to relieve the monotony of a long recitation: but at all events it is evident, that an author who wrote for the public at large, during the eleventh, twelfth, and thirteenth centuries, was not less dependent for his success on the minstrels, than a modern writer of tragedy or comedy on the players of the present day. A copyist might multiply manuscripts for the supply of convent libraries; but while ecclesiastics alone were able to read, there was no access to the ears of a military nobility, without the intervention of a body of men who travelled in every direction, and were every where welcomed as the promoters of mirth and conviviality.

"The next step was easy. Being compelled to a frequent exercise of their talent in extemporaneous compositions, the minstrels were probably like the improvisatori of Italy, at least equal, if not superior, to more learned writers, in the merely mechanical parts
of poetry; they were also better judges of the public taste. By the progress of translation they became the depositaries of nearly all the knowledge of the age, which was committed to their memory: it was natural, therefore, that they should form a variety of new combinations from the numerous materials in their possession; and it will be shewn hereafter, that many of our most popular romances were most probably brought by their efforts to the state in which we now see them. This was the most splendid era of their history, and seems to have comprehended the latter part of the twelfth, and perhaps the whole of the thirteenth century. After that time, from the general progress of instruction, the number of readers began to increase; and the metrical romances were insensibly supplanted by romances in prose, whose monotonous neither required nor could derive much assistance from the art of declamation. The visits of the minstrels had been only periodical, and generally confined to the great festivals of the year; but the resources, such as they were, of the ponderous prose legend were always accessible. Thus began the decline of a body of men, whose complete degradation seems to have been the subsequent result of their own vices. During the period of their success they had most impudently abused the credulity of the public; but it is a whimsical fact, that the same fables which were discredited while in verse, were again, on their transfusion into prose, received without suspicion. It should seem that falsehood is generally safe from detection when concealed under a sufficient cloak of dulness."

This history solves a difficulty which Mr. Ritson, already cited, found in reconciling the degraded state of the minstrels to the high rewards and countenance which they sometimes received, even in preference to those of the clerical profession. It appears, on one occasion, that two mendicant friars soliciting soliciting hospitality at the gate of a convent, were received with acclamation under the idea of their being minstrels, and kicked out again when they announced their real character. It is also proved, we believe, that one minstrel received four shillings for his performance, and six priests only sixpence, at the same festival. But such instances of extravagant reward to individuals of a class which dedicates personal exertions to public amusement, are consistent with the general disrespect to which this body in general is condemned.

There are two remarkable facts in history, which prove that the profession of a minstrel was held in great reverence among the Saxon tribes, as well as among their Danish brethren. In the year 878, when king Alfred wished to learn the true situation of the Danish army, which had invaded his realm, he assumed the dress and character of a minstrel, *singens se joculatorum, assumpta cithara*, &c. and under this character, though he could not but be known to be a Saxon, obtained an honourable reception. About sixty years after, a Danish king made use of the same disguise to explore the camp of our king Athelstan. The minstrel was, therefore, a privileged character with both these people: and so late as the reign of Edward II. the minstrels were easily admitted into the royal presence; an instance of which is mentioned by Stow (Survey of Lond. 1703, p. 469.) In the fourth year of Richard II. John of Gaunt erected at Tutbury, in Staffordshire, a court of minstrels, with full power to receive suit and service from the men of this profession within five neighbouring counties, to enact laws and determine their controversies, &c. for which they had a charter. See Plott’s Hist. Staff. p. 435, &c.

The minstrels continued down to the reign of Elizabeth; in whose time, however, they had lost much of their dignity, and were sinking into contempt and neglect; yet still they sustained a character far superior to any thing we can conceive at present of old ballads. Towards the end of the sixteenth century this class of men lost all credit, and were sunk so low in the public opinion, that in the thirty-ninth year of Elizabeth, a statute was passed by which minstrels, wandering abroad, were included among rogues, vagabonds, and sturdy beggars, and were adjudged to be punished as such. This act seems to have put an end to the profession, for after this time they are no longer mentioned. Judge Blackstone observes, that in some manors, the copyholders were bound to perform many servile offices for the lord, who found them meat and drink, and sometimes (as is still the use in the Highlands of Scotland) a minstrel or piper for their diversion. Comm. b. ii.

The first compositions of the minstrels, according to Mr. Ellis (ubi supra), seem to have been un-
adorned annals or histories, reduced to measure for the convenience of the reciter, who was to retain them upon his memory. This field, however, soon became too barren and uninteresting. Other sources of narration were sought for. Some occurred in the ancient songs of the scalds, the legitimate productions of the minstrels. Others of Arabian origin found their way to France through Spain. But a much more numerous class was derived from the tales of the Armoricans, the neighbours of the Normans, who derived themselves from a Welsh colony. From this source, the minstrels probably drew their first accounts of

______________—What resounds
In fable or romance, of Uther’s son,
Begirt with British and Armoric knights.”

This theme, however, acquired its chief popularity after the acquisition of England by William the Conqueror. It is now completely proved, that the earliest and best French romances were composed for the meridian of the English court, where that language continued to be exclusively used, at least till the time of Edward III. When the Norman race of monarchs had once secured themselves on the throne of England, and identified the honour of that country with their own, they began to feel an interest in its early history, and to listen with applause to the feats of its heroes. The legends of the Welsh, on these occasions, were much more acceptable than those of the Saxons. The latter were the people whom the Normans had conquered, and whose kings they had dispossessed: the praise, therefore, of their departed heroes revived sentiments of discord, better forgotten by all parties. But the exploits of the British were carried back to so ancient a period, and so intermingled with Celtic fable, that they recalled no sentiments of ancient independence, and suggested no ideas dangerous to the Norman race. The exploits of Arthur were therefore unanimously adopted as the subject of tales and romances without end; and these were drawn by the Norman minstrels from the British traditions flowing from Wales, and floating in what had lately been the British kingdom of Cumberland; but especially from the works of Geoffrey of Monmouth.

Mr. Ellis shews, that the state of Wales, during the eleventh, twelfth, and thirteenth centuries, was favourable to an exchange of literary materials betwixt the bards of that country and the Norman minstrels, as well as between the former and their brethren of Armorica.

But as there is reason to believe that the British lays were seldom if ever committed to writing, it might be expected that different minstrels would tell the same story with some variations; that, unable to retain in their memory the whole of a long narrative, they would carry off, in the first instance, detached adventures, which they would afterwards connect as well as they were able; and that a system of traditional history, thus imperfectly preserved through the medium of a very loose translation, and already involved in much geographical and chronological confusion, would assume the fabulous appearance which we find in the French narratives called romances. See ROMANCE.

MINUET, or MENUET, in Music, a composition answering to a kind of dance of the same name, said to be invented at Poictou; the motion of which is triple, with three crotchets in a bar ¾, though it is commonly performed in the time $\frac{3}{8}$. It has commonly two strains, each played twice over; the first has four or eight bars, the last note of which should be either the dominant or mediant of the mode, never the final; and the second has eight bars; it usually ends on the final of the mode, with a pointed minim or whole bar.

The word is said to be derived from the French menu, little, and signifying a small pace.

It seems as if the air and dance of that name, in such high favour and use during the last century in all the courts of Europe, as well as that of France, whence it was adopted, was either unknown to Brossard, or its character must have been very much changed since his time. In his Dict. de Mus. he defines minuetto, or menuet, Danse fort gaye, a very lively dance. But so far from lively and gay was this dance, that its characteristics were grace and gravity. It has been even said to be the only grave dance since the disuse of the louvre, fit for persons of high rank and dignity to dance alone at courts or great balls. But as the countrydance, at the latter end of the last century, was supplanted by the cotillon, the cotillon by the waltz, the instrumental minuet by the jig, the dance itself of the slow minuet is wholly abolished. For a further account, see MENUET.
MINUETTO per Ballo, Ital. a dancing minuet.
MISSA Papæ Marcelli, is the title of a celebrated
mass in Music, composed by Palestrina, and said to
have prevented music from being banished
the church. Concerning this production, it has been re
lated by Antimo Liberati, in his famous letter to Ovi
dio Persapegi, and after him, by Adami, Bernardi,
and other musical writers, that the pope and con
clave having been offended and scandalized at the
light and injudicious manner in which the mass had
been long set and performed, determined to banish
music in parts entirely from the church; but that
Palestrina, at the age of twenty-six, during the short
pontificate of Marcellus Cervinus, intreated his holi
ness to suspend the execution of his design till he
had heard a mass, composed in what, according to
his ideas, was the true ecclesiastical style. His re
quest being granted, the composition, in six parts,
was performed at Easter, 1555, before the pope and
college of cardinals; who found it so grave, noble, el
egant, learned, and pleasing, that music was re
stored to favour, and again established in the celeb
ration of sacred rites. This mass was afterwards prin
ted, and dedicated to the successor of Marcellus,
pope Paul IV., by whom Palestrina was appointed maestro di capella at the pontifical chapel.

The friends of choral music will doubtles be curi
ous to have a faithful and minute account of a com
position which had sufficient power to preserve
their favourite art from disgrace and excommunica
tion; and having, before us, an accurate score of it,
which Signor Santarelli, the pope's maestro di capella, himself procured out of the archives of the Sistine chapel, where it is still performed, we can venture to assert, that it is the most simple of all Palestrina's works: no canon, inverted fugue, or complicated measures, have been attempted throughout the composition; the style is grave, the harmony pure, and by its facility the performer and hearer are equally exempted from trouble.

MIXIS, Mixture, in the Ancient Music, was one of the parts of Greek melopœia, by which the composer was instructed how to combine intervals properly, and distribute them in different genera and modes, according to the character of the melody proposed. See MELOPoeiA

MIXO-LYDIAN, the name of one of the modes of ancient music, called also Hyper-Dorian; which see.
The mixo-lydian mode was the most acute of the seven modes to which Ptolemy had reduced all the modes of the Greek music. (See MODE.). This mode was said to be affecting and passionate, exciting great emotions, and therefore applicable to tragedy. Aristoxenus assures us, that it was invented by Sappho; but Plutarch avers, that ancient fables ascribe it to Pytoclides. He also says that the Argians fined musicians who first adopted it, and who had intro
duced into music the use of seven strings; that is, making the seventh string a key-note.

MIXTURE, MESCOLANZA, a connection in the modes of canto-fermo, in chants which go higher or lower than the octave, and modulate into another mode, participating both of authentic and plagal. The mixture is only practicable in modes that go in pairs, as the first mode or tone and the second, the third with the fourth, the plagal with the authentic, and reciprocally.

MIXTURE, the name of a stop in the full organ, repeating the same intervals of the octave in the key of C throughout the scale. See FURNITURE.

MODAL, in Music. The characters of time in the first stages of figurative music or counterpoint were called modal signs for the moods.
The different modes or moods for ascertaining the quantum of each tact, or pulsation of time in mu
sic were the following.

- \( \text{O} \) \( \text{O} \) \( \text{3} \), for a perfect long, or the breves.
- \( \text{O} \), a prefect breve, or three semibreves.
- \( \text{C} \), two imperfect breves, and in the compositions of Tallis and Bird, sometimes three minimis.
- \( \text{G} \), an imperfect breve, or two semibreves.

Besides these, there were others for a species of jig time in which semibreves or minimis were tern
ary, moving up to triplets, while the longer notes were binary: \( \text{O} \text{3} \), \( \text{O} \text{2} \), \( \text{C} \text{3} \), etc. Zacconi. Prat. Mus. Lib. ii., cap. 54 makes the modal signs amount to 14.

MODE, Fr. a key in Music. In plain-chant the modes are numbered.
The ecclesiastical modes are called authentic, when the In plain-chant the modes a 5th is above the principal, as \( \text{e} \); and plagal, when the 4th \( \text{A} \) d is
above the principal, and the 5th below its octave, as
\[ \text{d} \]
\[ \text{G} \]
\[ \text{D} \]

See CANTO-FERMO, and TONES of the CHURCH.

MODES of the Ancient Greek Music. The ancients differ extremely among themselves in defining their modes; obscure in all parts of their music, upon this subject they are nearly unintelligible. They all agree that a mode is a certain system or constitution of sounds, and it seems as if this constitution was in itself nothing more than an octave filled with all the intermediate sounds according to the genus.

In high antiquity, the Greeks had but three modes, at the distance of a tone from each other, which was national: the lowest being called the Dorian, the middle the Phrygian, and the highest the Lydian.

Afterwards, in dividing the tones into semitones, two other modes were obtained, as the Ionian and the æolian; the first being inserted between the Dorian and the Phrygian, the second between the Phrygian and the Lydian.

In process of time the system being extended above and below, musicians established new modes at both extremities, which took their denomination from the first five, adding the prepositions hyper, above, and hypo, below. Thus the Lydian mode was followed by the hyper-Dorian, the hyper-Ionian, the hyper-Phrygian, the hyper-æolian, and the hyper-Lydian, ascending; and after the Dorian mode, came the hypo-Lydian, the hypo-æolian the hypo-Phrygian, the hypo-Ionian, and the hypo-Dorian, in ascending. These fifteen modes are all enumerated in Alypius. See the plate, where their order and intervals are expressed in Greek characters, and by equivalent notes in the Guido scale.

Editorial note. The following extract from the plate does not accord with Burney’s text in that there are no Greek characters.

But it must be remembered, says Rousseau, that the hypo-Dorian was the only mode which was used to its whole extent. In proportion as the others mounted, the upper notes were avoided, in order
not to exceed the natural compass of the voice. These observations are necessary for the clearing up some passages in ancient authors, which seem to imply that the lowest modes had the highest notes, which indeed was true, in having in their melodies more notes above the key-note. For want of this knowledge, Doni is extremely embarrassed by these apparent contradictions.

Greek theorists differ in the number of modes: while with some they amount to 15, Aristoxenus, according to Euclid, admitted only 13, suppressing the two highest 5 the hyper-æolian, and hyper-Lydian. But in the work of Aristoxenus that is come down to us, he only specifies six, concerning which he relates the different sentiments of the times.

At length, Ptolemy reduced the number of these modes to seven; saying that modes were introduced in music in order to vary the melodies by the contrast of grave and acute; for it is evident that they may be multiplied far beyond 15; but these seven suffice to facilitate the transition from one mode to another, by consonant intervals easy to produce.

He therefore includes all the modes in the compass of an octave, of which the Dorian mode was the centre; so that the mixo-Lydian was a 4th above, and the hypo-Dorian a 4th below. The Phrygian a 5th above the hypo-Dorian; the hypo-Phrygian, a 4th below the Phrygian: whence it appears, that to count from the hypo-Dorian, which is the lowest mode, there was the distance of a tone to the hypo-Phrygian; from the hypo-Phrygian to the hypo-Lydian, another tone; from the hypo-Lydian to the Dorian, a semitone; from that to the Phrygian, a tone; from the Phrygian to the Lydian still a tone, and from the Lydian to the mixo-Lydian, a semitone, which extend to a seventh, in the following order:

1 — F — Mixo-Lydian.
2 — E — Lydian.
3 — D — Phrygian.
4 — C — Dorian.
5 — B — Hypo-Lydian.
6 — A — Hypo-Phrygian.
7 — G — Hypo-Dorian.

Ptolemy retrenched all the other modes, pretending that these seven occupied all the sounds of the diatonic octave. From these seven modes of Ptolemy, with the addition of the hypo-mixo-Lydian, it is sup-
cient Grecian Music." Sir Francis in this dissertation endeavours to prove, that the ancients had a double doctrine of the modes, an harmonic and a musical doctrine. By the harmonic doctrine, the modes were all one and the same series of intervals, such as the general system furnishes, only at different pitches; by the musical, they consisted of so many different arrangements of intervals, or species of octave. Sir Francis regarded the harmonic doctrine as only a tuning trick, to produce more readily the different species of octave between the fixed sounds.

He explains this in a diagram, taking his pitch, according to Ptolemy, at hypate meson, our E in the base, and makes all his mutations between that sound and its octave, nete die zeugmenon. And this, according to sir F. E. Stiles, is the diapason chosen by Ptolemy, cap. 2, lib. ii. for the purpose of exhibiting his divisions of the several species.

Sir Francis gives quotations from the ancient Greek writers in confirmation of his doctrine, several of which indeed seem favourable to it; at least they imply a difference on some occasions from the intervals in the natural or great system: this difference he imagines to be expressed by the term μεταβολη, mutation.

He very truly asserts, that no transposition of the same melody into a higher or lower key, can have so powerful an effect as a change in the modulation, or succession of intervals; and observes, that modern music has but two considerable changes in the same key; these are from major to minor, and from minor to major. The first seems reserved for pathetic effects.

Sir Fr. Haskins Eyles Stiles falls foul on all his predecessors. After his opinion, we have that of Rousseau, the chief part of whose article in his Dict. de Mus. we have translated, and given whatever is most new and useful in former and subsequent articles, and his opinion on the ancient Greek modes and other articles peculiar to the music of the ancients.

Metastasio, in two letters to Saverio Mattei on the Grecian music, has considered it with his usual elegance, candour, and clearness; but he does not treat of the modes in particular, so much as on ancient Greek music in general. We shall therefore reserve our extracts from these two letters, till Greek music and music of the ancients are considered at large. See SYSTEM.

MODERÉ, Fr, in Music, see MODERATO
MODERATO, Ital. in Music, implies a time neither quick nor slow ; much resembling andante, but somewhat quicker. See AND ANTE.

MODERN Music, Musica Moderna, may be divided into two parts: first, antiquo moderna, which is generally a serious sort of music, consisting of many parts; and which has been in use from Guido's time to the beginning of the last century. Secondly, the modern, which has been used in the two last centuries: it is very different from the antiquo moderna, being brisker, lighter, gayer, and more sprightly.

The characteristics of the first state of counterpoint, or music in parts, were plain simple harmony, consisting of common chords, of note against note; then figurative harmony, or notes of different lengths, consisting of different figures or characters moving
at the same time. After this was found to be possible, the more artificial contrivances were cultivated of fugue and canon, but without air or melody, except in fragments of canto-fermo, and tunes "...such popular ballads as were sung in the streets, and upon which most of the early masses in four parts were constructed,

MODULATION, from Modulatio, Lat., in Music, is one of the most important terms of a musical dictionary. In the articles COMPOSITION and COUNTERPOINT, it has been treated after our own ideas and experience; here we shall give our readers the rules laid down by others, not to confute, but to confirm and strengthen our own. And first, we should give Padre Martini's instructions, and those of Dr. Pepusch on the subject, as the most profound contrapuntists of Italy and Germany during the early part of the last century, if these learned theorists had not adhered so religiously to the ecclesiastical modulation of the old masters, founded on the modes or tones of the church, so as to preclude all the modulation of secular music, which has been extended, and in many instances improved, during the last hundred years. We shall, therefore, now chiefly translate and confine ourselves to the article Modulation in the dictionary of Rousseau, in which it is amply and clearly treated, according to the practice of the best masters at the time of his writing; that is, 30 or 40 years ago. See works on the same subject by subsequent writers "still living, such as Frike, Bemitzrieder, Kollman, &c.

But first we must observe, that to modulate during the sixteenth century, implied nothing more than a change of voice from one sound to another; but the ingenious citizen of Geneva, more consonant to present practice in music, defines modulation, "the manner of establishing and treating a key; but adds, that the word, at present, generally implies the art of conducting melody and harmony, successively, into many keys, in a manner agreeable to the ear, and according to rule. If the key is announced by harmony, it is from harmony that the laws of modulation arise.

These laws are easy to conceive, but difficult rigorously to observe. To modulate properly in the same key, we must begin first by running through all the notes of that key in good melody, frequently repeating its essential chords, and strongly marking them. That is, passing from the chord of the 7th to the 5th, or \( \frac{5}{2} \) of the 7th to the key-note; but in various ways to avoid monotony. Secondly, to make no closes, nor to repose but upon those two chords, or at most on that of the 4th of the key, called by the French the subdominant, or 5th below the key. Thirdly, never to alter any of the sounds of the principal key by a flat or sharp, which would lead to another key.

But to pass from one key to another, which is now understood to be the principal business of modulation, analogy must be consulted, with respect to the relation of keys, and the number of chords appertaining to two keys.

Let us begin by a major key, or key with a sharp 3d. Whether we consider the 5th of the key as being more immediately related and connected with it of any sound except the octave of the key-note; or whether we regard it as the first sound that is heard in the resonance of the key-note, the 5th will always be found the most agreeable interval upon which to establish a modulation the most analogous to that of the key-note.

The 4th of the key, if not a part of the chord of the key-note, the key-note is at least a part of the chord of the 4th. For if C E G form the chord of the key-note, that of the 4th will be F A C; thus C is the bond of union between the two keys. Indeed it is only necessary to change one sound of the principal key to form the scale of its 5th above, and 5th below, or 5th and 4th of any major key. In the key of C, an F♯ or a B♭ does the business.

There are two minor chords in the key of C, in which only one note differs from the chord of C, as Ace, and e g B. But the sharp 7th, and other accidents which happen to the chords and melody of these minor keys, changes their character so much, that the double relation between the chords of C and A, and C and E is soon effaced.

As all the sounds of the scale of C are comprised in the chords of the key note, and its two 5ths.

See plates throughout this article.
5th above C, which shows the great analogy between these two keys, and facilitates the means of passing from one to the other by one alteration only.

The key of the 5th is, therefore, the first which presents itself after the key-note in the order of modulation.

The same simplicity of relative sounds between the keynote and its 5th above is also found to subsist between the keynote and its 5th below, or 4th above.

Though the modulating from C to A minor, its 6th, and from C to E minor, its 3rd, is only by the change of one note in the chords, the sharp 7th must be heard in one of the chords of these minor keys, to make either A or E a key-note.

These immediate modulations furnish the means of passing to more remote keys by the same rules, and of returning afterwards to the keynote, of which we must never lose sight.

We have four regular modulations from the key of C major; E F G A. To modulate into D, wholly unrelative to C, it must be brought about by means of a consonant movement of the fundamental A with a sharp 3d.

But we must dwell but an instant in this modulation, lest the key of C is forgotten, which itself is altered in going into D. A long period in D would require intermediate modulations to return to C, into which it would be dangerous to wander. No good modulation into B, the sharp 7th of C, can have place, at least immediately, as it has no true 5th, and would lead to a harmony too sudden and remote from that of the principal key. In every modulation, all the parts must change the key at the same instant, to avoid carrying on two modulations at the same time. Huygens, says Rousseau, has well remarked, that the prohibition of two successive 5ths has this rule for its principle; for it is impossible to have many perfect successive 5ths between two parts, without modulating into two unrelative keys. The hexachords are composed of pure harmony to fundamental bases, without modulation. The descending scale in the *regle de l'octave*, modulates into the 5th of the key. But, in fact, only three notes in the base can ascend in one key, diatonically; the 4th note arrives at a new key to the top of the scale, which produces a perpetual modulation by 4ths, from C natural into all the 23 keys.

To modulate on a keyed instrument, is usually done in arpeggio, by preluding extempore, of which the variety, to a man of science, is unbounded. Abel, no less-son-player on the clavichord or harpsichord, possessed this talent to a wonderful degree.

MONOCHORD, a musical instrument with which to try the variety and proportion of musical sounds.

The monochord, according to Bœthius, is an instrument invented by Pythagoras, for measuring geometrically, or by lines, the quantities and proportions of sounds.

The ancient monochord was composed of a rule divided and subdivided into divers parts, on which there was a string pretty well stretched upon two bridges, at each extremity. In the middle between both was a moveable bridge, called *magas*, by means of which, in applying it to the different divisions of the line, the sounds were found to be in the same proportion to one another, as the divisions of the line cut by the bridge were.

The monochord is also called the *harmonical canon*, or *canonical rule*; because serving to measure the degrees of gravity, and acuteness of sounds. Ptolemy examines his harmonical intervals by the monochord.

There are also monochords with divers strings, and a multitude of fixed bridges; but the use of all these may be supplied by one single moveable bridge; by only shifting it under a new chord or string, which is placed in the middle, and represents
the entire sound, or open note, answering to all the divisions on the other bridges.

When the cord was divided into equal parts, so that the terms were as 1 and 1, they called them unisons; if they were as 2 to 1, octaves, or diapasons; when they were as 8 to 2, fifths, or diapentes; if they were as 4 to 3, they called them fourths, or diatessarons; if the terms were as 5 to 4, diton, or a greater third; if as 6 to 5, demi-diton, or a lesser third; lastly, if as 24 to 25, demi-diton, or diesis.

The monochord being thus divided, was probably what they call a system, of which there were many kinds, according to the different divisions of the monochord.

Dr. Wallis has taught the division of the monochord in the Philosophical Transactions; but that instrument is now disused, the modern music not requiring such division.

Censorinus informs us that Apollo found the monochord in the sound of the string of his sister Diana’s bow; and it seems at least probable, that the first stringed instrument was a monochord, and that that single string was the string of a bow.

Aristides Quintilianus says that the monochord was recommended by Pythagoras on his death-bed as the musical investigator, the criterion of truth. It appears to have been in constant use among the ancients, as the only means of forming the ear to the accurate perception, and the voice to the true intonation of those minute and difficult intervals which were then practised in melody.

Monochord, Μουοχορδος formed of waves, μουος, single, and χορδη, chord, is also used for any musical instrument, consisting of only one chord or string.

The monochord, called also the vielle, and vulgarly the hurdy-gurdy, has frets which are raised by the action of the fingers on a row of keys; and instead of a bow, the string is made to vibrate by the motion of a wooden wheel: there is also a second string serving as a drone, producing always the same sound: this is furnished with a bridge loosely fixed, which strikes continually against the sounding board, and produces a peculiar nasal effect. The trumpet marine, or trumpet Marigni, was a string of the same kind, which was lightly touched at proper points, so as to produce harmonic notes only; it was impelled by a bow. The Æolian harp is also an instrument, which, when agitated by the wind, affords a very smooth and delicate tone, frequently changing from one to another of the harmonics of the string, according as the force of the wind varies, and as it acts more or less unequally on different parts of the string. See ÆOLUS’S harp.

MONODY, MONODIA, compounded of μουος solus, and ωδη, a song, in the Ancient poetry, a kind of mournful song or ditty, sung by a person alone, to utter his grief.

MONODY, in Music, a song for a single voice, in opposition to what the ancients called chorodies, or music executed by a chorus.

MONOTONOUS, MONOTONY, used figuratively in music, except in speaking of drums, implies dull, psalmodic strains, always in the same style or key.

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MOOD, or Mode, in our old Music, was a term only applied to the divisions of time or measure, which was so embarrassing a study, that a very considerable portion of Morley’s treatise is bestowed on that subject. Previous to the use of bars, all measures, however complicated, were determined by the modal signs placed after the clef of every composition. These signs were circles, semicircles, pointed, or without points, followed by the figures 2 or 3 differently combined. See MODE, MODAL, and PROLATION.

Rousseau gives twelve examples of ancient characters of quantity; but as these were characters referred to notes now out of use, as the maxima, the long, and the breve, these explanations can be of little consequence but to those who are ambitious of knowing the state of measured music at every period of its cultivation.

MOOD, in Philosophy and Music. See MODE.

MOSTRA, Ital. in Music, is a character or sign, placed at the end of the staff of five tones, equivalent to an index, or character, to point out the notes which begin the next line. Its form is the following:

MOTET, Fr. Motetto, Ital. formerly signified a studied composition, enriched with all the beauties of the art; such
were the motets of Bassani, regarded at the end of the 17th and beginning of the 18th century, at which time they were in the highest favour in all concerts where there was good singing. See BASSANI.

At present the name of motet is given to every composition set to Latin words; such as hymns, psalms, or any small portion of scripture in the Romish church. As mot, in French, implies a phrase, or short sentence, so motet implies a verse or short period taken from the sacred writings, as the text of what we should call an anthem, and the Germans a sacred cantata. Though a cantata, in Italy and elsewhere, generally implies a vocal composition for a single voice, yet there are motets and cantatas in the service of the Romish church, from one to eight parts. As the verse or sentence is usually short, the too frequent repetition of the words is objected to in the construction of motets. (See CANTATA.) In the Lutheran church, what the Roman Catholics call motets, and the church of England anthems, are called cantaten.

MOTION, in Music, denotes the manner of beating the measure, to hasten or slacken the time of the words, or notes. See TIME.

The motion, in songs composed in double time, differs from that in those in triple time. It is the motion that distinguishes courants and sarabands from gavots, borees, chacones, &c.

MOTION, Moto, or Movimento, in the Italian Music, has many significations; sometimes it means only a motion or passage from one note to another, at whatsoever distance, as a second, third, or any other interval; and is the same whether the intermediate degrees (if there are any) be sounded, or only the extremes of them, as the first and last sound of any given interval. Sometimes it regards the quickness and slowness of such motions, as a brisk, slow, lively, or languid motion; and in this sense it is used with regard to minutes, gavots, sarabands, &c. See each article in its proper place.

But the most common, and indeed the most important acceptation of the word, is with respect to harmony; those above described only regarding melody.

With regard to harmony, it is the comparing the manner wherein an upper or treble part moves from one sound to another, with that wherein a lower or bass-part moves; this is to be done three ways. The first is when the upper and lower parts both move the same way, either upwards or downwards, and is called moto retto. The second is when in comparing the upper with the lower part, the one ascends while the other descends, or è contra, and hence called moto contrario. The last is when one of the parts holds out, or continues a sound, while the other rises or falls on any note whatsoever; and this is called moto obliquo.

MOTION, in the Ancient Music, was used to signify the transition of the voice, from an acute to a grave sound; or the contrary. This they expressed by κατα τοπον κατεξοματι See LOCUS.

Meibomius translates it moveri in loco.

MOTIVO, in Italian Music, implies the theme, subject, or two or three first bars of a composition. This technical term is chiefly used by composers in speaking of particular movements. It expresses the primitive and original idea upon which a composer forms an air or movement, and arranges his design. It is the motivo, or first conception, that inclines him to seize the pen in order to fix or imbody one text or thought upon paper in preference to another; it resembles the prima intensione of painters. In this sense the principal motivo or subject ought to be continually in the composer's mind, not should he suffer it to be forgotten by the audience. A composer is said "to be beating about the bush," when he loses sight of the motivo, and is stringing passages together without sense or connection with each other.

Besides the motivo, which is only the leading idea of the piece, there are particular traits which naturally arise out of the subject and modulation, which, by being interwoven in the texture of the harmony, discover the author's ability and resources; or, if not perceptible, his want of science and invention.

MOUVEMENT, Fr. Movement, Engl., and Movimento, Ital. in Music, are all of nearly the same import in all the three languages. They imply the degree of motion, whether quick or slow, of a melody or musical composition. (See MEASURE and MOTIVO.) The style and character belonging to each movement, are generally expressed by some peculiar denomination: as allemande, minuet, gavot, saraband, jig, &c. and every kind of measure that has been used as a dance. All the Italian terms that have been adopted by the rest of Europe, will be explained in their alphabetic place; such as adagio,
largo, lento, andante, moderato, allegro, presto, &c. which have likewise their shades, their augmentations and diminutions: as largo, larghetto, allegro, allegretto, adagio, pici adagio, presto, pici presto, &c.

Though slow movements are generally appropriated to sorrow and melancholy, and animated movements to cheerfulness and mirth, there are frequent modifications by which one passion speaks in the tone of another; it is, however, true, that gaiety cannot be expressed by slow sounds; but grief, pain, and despair, have often the language of impatience and fury. Rousseau’s five degrees of movement established in music, are adagio, largo, andante, allegro, and presto; which see.

MUSETTE, in Instrumental Music, a bagpipe. It was called by the Latins tibia utricularis. This instrument has two pipes on one side, two flutes or two pipes pierced with four or five holes, and on the other nine pipes, which appear fixed in one piece of wood. These pipes are disposed like reeds of the syrinx or Pan’s pipe, always diminishing in length. All nations claim this instrument. The Greeks and Romans had it. The Scots and the Irish dispute the title to it, as they do of Ossian’s poems.

MUSIC, as well defined by Rousseau, is the art of combining tunable sounds in a manner agreeable to the ear. This art becomes a profound science, when geometry is called in to find and to ascertain the principles of these combinations, and the ratios of those affections which they excite. Aristides Quintilianus defines music the art of finding the beautiful and decorous in musical tones, and in their measure. It is not surprising, that with definitions so vague and general, the ancients have given a latitude so extensive to the art which is thus defined.

It is generally supposed, that the word music comes from musa, because it was imagined that the art was invented by the Muses; but Kircher, from Diodorus Siculus, derives the title from an Egyptian word, pretending that it was in Egypt that music began to be cultivated after the deluge, and that the first sound that was heard came from the reeds on the banks of the Nile, when blown into by the wind. Whatever etymology may be adopted, the origin of the art certainly came from something nearer man, and if speech has not begun by singing, it is certain at least, that whenever men speak, they sing.

Music naturally divides itself into theoretical or speculative, and practical. Speculative music may, perhaps, be called a knowledge of musical materials, that is, of the different ratios of grave and acute, quick and slow, harsh and sweet, loud and soft, of which sounds are susceptible; relations which comprehend all the combinations possible of sounds and of music, and seem also to include every cause of those impressions which their succession can make upon the ear and the soul.

Practical music is the art of applying and judiciously making use of speculative principles, that is to say, of conducting and disposing sounds with respect to their consonance, duration and succession, in such a manner, that the whole may impress upon the ear the effect proposed; it is this art which is called composition, which see. With respect to the natural production of sounds by voices or instruments, which is called execution, it is merely a mechanical operation, which only supposes the faculty of producing just intervals, accurate duration of notes, and giving to each sound the degree prescribed by the key, and the value required by the time; all which rigorously requires no other knowledge than that of musical characters, and the habit of expressing them.

Speculative music consists of two parts; knowledge of the ratio of sounds or their intervals, and of their relative duration, with respect to time or measure.

The first is what the ancients called harmonics. It teaches in what melody consists, and marks what is consonant, agreeable or displeasing in modulation. It shews, in short, the different ways by which sounds affect the ear by their quality of tone, their force, and their intervals: all which is equally applicable to their accord and succession. The second has been called rhythmic, because it treats of sounds with respect to time and quantity. It contains the explication of rhythm, of time, of long and short measures, lively and slow, of times and their different proportions into which they are divided, in applying them to sounds in their succession.

Practical music, likewise, divides itself into two parts, which correspond with the two preceding.

That which answers to harmonic music, and which the ancients called melopœia, contains the rules for combining and varying intervals, conson-
ant and dissonant, in an agreeable and melodious manner. See MELOPŒIA.

The second division, which answers to rhythmic music, and which is called rhythmopœia, contains rules for the application of accents, feet, and measures, indeed for the practice of rhythm. See RHYTHM.

Porphyry gives another division of music, confined to motion, whether silent or sounding; and without distinguishing it into speculative and practical, he finds the six parts following:

Rhythmic, for dancing movements.
Metrical, for the cadence and numbers in versification.
Organic, for the practice of instruments.
poetic, for the tones and accents of poetry.
Hypocritic, for the attitudes of pantomimes, and Harmonic for melody.

Music, at present, divides itself more simply into melody and harmony; for with rhythmic we have no longer any concern, and very little with the metric, as our verses in singing take their measure solely from music, and lose the little they have in themselves.

By the melody, we direct the succession of sounds in such a manner as to produce agreeable airs. See MELODY, AIR, and MODULATION.

Harmony consists in uniting to each of these sounds, in a regular succession, two or more other sounds, which striking the ear at the same time, flatter it by their concord. See HARMONY.

We might, and we ought, perhaps, to divide music still further, into natural and imitative; the first, confined to the mere physical property of sounds, and acting only upon the sense, does not carry its impression to the heart, and can only give sensations more or less agreeable. Such is the music of songs, hymns, canticles, and all the airs which are only combinations of melodious sounds, and in general, all music which is only harmonious. (1)

The second by lively inflexions or passages accented, and in a manner speaking, which express all the passions, paint all scenes, represent all objects, submit all nature to its learned imitations, and thus penetrating the heart of man with sentiments which have the power to move it. This music, truly lyrical and dramatic, was that of the ancient poems. And it is that of our own times, in which we try to dramatise in song. It is only in this music, and not in mere harmony and agreeable combinations that we should seek to account for the agreeable effects it produced formerly. As long as we seek for moral effects from physical causes of sound, we shall never find them, and only reason without knowing what we are talking about.

Ancient writers differ very much among themselves concerning the nature, object, extent, and departments of music. In general they give to this word a sense much more extensive than that which it retains at present. They not only comprehend under music, as we have elsewhere observed, dancing, gesture, and poetry, but even the aggregate of all the sciences. Hence all that sublime music of which philosophers speak; music divine, human music, celestial music, terrestrial music, active music, contemplative music, music enunciative. intellectual, oratorical, &c.

It is under these vast ideas that we must understand many passages of the ancients concerning music, which would be unintelligible in the sense which we give this word at present.

It appears that music has been one of the earliest arts; we find it among the most ancient monuments of human kind. It is also very probable that vocal music was found before instrumental, if ever there was among the ancients any music purely instrumental, that is, composed purposely for instruments. Not only before any instrument was found, men must have observed a difference in the tone of human voices, as well as early learned, from the natural concerts of birds, to modify their voices in a melodious and agreeable manner: after that, wind instruments might have been first invented; Diodorus and other authors ascribing the invention to observations that were made of the whistling of the wind in reeds, and in the pipes of other plants. This was also the opinion of Lucretius.

“At liquidas avium voces initarier ore
Ante fuit multò, quain laevia carmina cantu
Concelebrare homines possint, aureisque juvare;
Et zephyri cava per calamorum sibila primum
Agresteis docuere cavas infare cicutas.”

With respect to other instruments, sounding strings are so common, that men must have observed their different tones very early; and this of
course must have given birth to stringed instruments. See STRING.

Instruments of percussion, such as tabors and drums of different kinds, must have originated from the sonorous ringing of hollow bodies, when struck.

It is difficult to divest ourselves of these general ideas, in order to have recourse to other means for the invention of music as an art. Without mounting higher in the history of the world than the deluge, many of the ancients attribute the invention of music itself to Mercury, as well as the lyre. Others make the Greeks obliged to Cadmus, who, in flying from the court of the king of Phœnicia, brought Hermione, or Harmony, into Greece. Whence it follows, that the art was known in Phœnicia before the time of Cadmus. In one part of Plutarch's Dialogue on Music, Lycias says that it was invented by Amphion; in another place, Soterius says that it was Apollo; and in still a third place, he seems to give the honour to Olympus. They hardly ever agree on the subject, nor is it of much importance that they should.

To these first inventors succeeded Chiron, Demoocus, Hermes, and Orpheus, who, according to some, invented the lyre. After these came Phœmius; then Terpander, contemporary with Lycurgus, who furnished rules for music. Some ascribe to him the invention of the first modes. At length Thales is added, and Thamyris, who is said to have been the inventor of instrumental music.

Most of these great musicians lived before Homer. Others more modern were Lasus of Hermione, Melanippides, Philoxenus, Timotheus, Phryn尼斯, Epigenius, Lysander, Simmicus, and Diodorus, who have all considerably contributed to the perfection of music.

It is pretended that Lasus was the first writer on the art, in the time of Darius Hystaspes: that Epigonus invented the instrument with four strings, which bore his name. Simmicus invented also an instrument of thirty strings called Simmicium.

Diodorus perfected the flute, and increased the number of holes; and Timotheus the lyre, by adding a new string to it, for which he was fined by the Lacedaemonians.

As ancient authors explained themselves very obscurely concerning the inventors of musical instruments, they are also very unintelligible concerning the instruments themselves, of which we know little more than the names. See INSTRUMENT.

Music was in high estimation among many people of antiquity, but principally the Greeks; and this esteem was proportioned to the power and surprising effects which they ascribed to the art. Their authors thought they could not exalt it sufficiently, without lifting it up to heaven, and assuring us that it was the principal amusement of the gods, and reward of the blessed.

Plato has the courage to say, that no change can be made in music, without affecting the constitution of the state; and pretends that there are sounds which excite meanness of soul, insolence, and their contrary virtues. Aristotle, who seems to have written his Politics only to oppose the sentiments of Plato, agrees with him, however, concerning the power which music has over morals. The judicious Polybius tells us, that music was necessary to soften the manners of the Arcadians, who inhabited a country where the air was cold and impure; that those of Cynethia, who neglected music, surpassed all the Greeks in cruelty, aid that there was no city in which so many crimes had been perpetrated. Athenæus assures us, that formerly all laws divine and human, exortations to virtue, knowledge of what concerned the gods and heroes, the lives and actions of illustrious men, were written in verse, and sung publicly in chorus to the sound of instruments. And we see by our sacred books, that such were, from the earliest times, the usages among the Israelites, as more efficacious had not been found. of engraving in the mind of man the principles of morality and love of virtue; or rather, this was not the effect of a premeditated plan, but of the grandeur of sentiment and elevated ideas, which sought by proportionate accents to form a language worthy of them. (2.)

Music made a part of the study of the Pythagoreans: they used it to inspire the heart with laudable actions, and to inflame it with the love of virtue. According to these philosophers, our soul was in a manner composed of harmony; and they believed that they could establish, by means of the harmony of sense, the intellectual harmony and primitive faculties of the soul; that is to say, that which, according to them, subsisted in its pre-existent state before it animated our bodies, and when it
inhabited the heavens. Music is at present fallen from this degree of majesty and power, so low as to make us doubt of the truth of those wonders which it operated formerly, though attested by the most judicious historians and most grave philosophers of antiquity. However, we find in modern history some similar facts. If Timotheus excited the fury of Alexander by the Phrygian mode, and calmed it by the Lydian, a music more modern is said to have extended this power still farther, in exciting in Eric, king of Denmark, such a fury as to kill his best domestics. Doubtless these unfortunate domestics were less sensible to the charms of music than their prince, otherwise he might have run the risk of sharing half the danger. D'Aubigny relates another story, quite similar to that of Timotheus. He says, that in the reign of Henry III of France, the musician Claude le Jeune, playing at the nuptials of the duke de Joyeuse in the Phrygian mode, animated, not the king, but a courtier, who forgot himself so far as to put his hand to his sword in the presence of his sovereign; but the musician, hastening to calm him, had recourse to the Hypo-Phrygian mode. This is said with as much confidence, as if the musician Claudius knew exactly in what the Phrygian mode and the Hypo-Phrygian consisted!

If our music has but little power over the affections of the soul, it is at least capable of acting physically upon the body: witness the history of the tarantula, too well known to be mentioned here. (3.) Witness, too, the Gascon knight, mentioned by Boyle, who at the sound of a bagpipe, could not retain his water; to which we must add, what the same author relates of those females, who burst into tears when they heard a certain tune, which had no uncommon effect on the rest of the audience. Rousseau adds, “and I knew at Paris a woman of condition, who could not bear any kind of music, without being seized with an involuntary and violent fit of laughter.” We read, in the History of the Academy of Sciences, of a musician who was cured of a violent fever by a concert at his bed-side. Sounds act even upon inanimate bodies, as is manifested by the vibrating and resonance of a sonorous body, when another, with which it is perfectly in tune is caused to sound. Morhoff mentions a certain Dutchman, of the name of Petter, who broke a glass by the sound of his voice. Kircher speaks of a great stone, which vibrated at the sound of a certain organ-pipe. Pere Mersenjne also speaks of a certain flag-stone in the pavement of a church, which trembled at the sound of an organ, as much as if there had been an earthquake. Boyle adds, that the stalls tremble often at the sound of the organ in a cathedral; that he has felt them tremble under his hand, at the sound of the organ or a voice; and he has been assured, that those which were firmly put together, vibrated at some determinate tone. Every one has heard of a famous pillar in the church at Rheims, which trembles sensibly at the sound of a certain bell, while the other pillars remain motionless; but what bereaves sound of the marvellous in this case is, that this same pillar equally shakes, when the clapper is taken from the bell.

All these examples, the chief part of which belong more to sound than music, and of which physics can give some explanation, render not the marvellous and almost divine effects, which the ancients attributed to their music, more intelligible or worthy of credence. Many authors have tormented themselves in trying to account for this. Wallis attributes it greatly to the novelty of the art, and the exaggeration of authors. Some bestow all the honour upon poetry; while others again suppose that the Greeks, having more sensibility than we, from the constitution of their climate or their manner of living, might be moved by things which we never feel. M. Buret, even in adopting all these tales, is of opinion that they prove nothing as to the perfection of the music that has produced them: he sees nothing in their performance but what miserable village scrapers might have achieved, according to him, as well as the first musicians in the world.

Most of these sentiments arise from our persuasion of the excellence of modern music, and from the contempt which we have for the ancient. But is this contempt as well founded as we imagine: It is a subject that has often been discussed, and which, from the obscurity of the matter, and from the insufficiency of the judges, is still in need of better discussion. Of all those who have entered the lists in this conflict, Isaac Vossius, in his treatise “De Pœmatum cantu, et de Viribus Rhythmi,” seems best to have discussed the question, and approached the nearest to truth. (4.)
The world has so long wished to see some fragments of the music of the ancients, that father Kircher and M. Murette have laboured to gratify the public on the subject. (5.) But who shall dare, says Rousseau, to judge of ancient music by such fragments? I suppose them faithful, but should wish that those who examine them should sufficiently know the genius and accent of the Greek language; that they should recollect that an Italian is an incompetent judge of a French air, and that a Frenchman is utterly ignorant of Italian melody: then let them compare times and places and pronounce, if they dare.

Thus far, in this important article, which furnishes a text for almost all other articles in our musical department, we have faithfully translated Rousseau, preferring him to all other musical lexicographers, for his eloquence, good taste, and enlarged views on imitative or dramatic music. We must, however own, that he has some strong prejudices, perhaps bordering on paradox, as in his other writings; and in some few instances, there is a want of recent and accurate information. These, however, we shall point out, to put our readers on their guard against error as much as we are able, particularly in writers of eminence.

Notes to Rousseau’s article Music.

(1). We think that Rousseau’s partiality here for imitative or dramatic music, made him forget that there was any other. To imitate the human speech and passions, it is doubtless the highest style of musical composition and performance; but as there are three distinct styles of music, as musica di chiesa, church music; musica teatrale, theatrical music; and musica di camera, chamber music, we shall, therefore, plead the cause of all. As we cannot always be in a theatre, is harmonic music to be banished the church and the chamber In the church its reverential and solemn simplicity render it fittest for the place and purpose of its performance. Imitative music is not precluded the chamber in cantatas and opera scenes; but mere instrumental music brought to its present degree of perfection in the trios. Quartets, quintets, and symphonies, such as those of Haydn, Mozart, and Beethoven, can amuse, interest, and delight cultivated ears even to rapture. Yet this sublime music is not properly imitative, there being no words to explain it, or fix its meaning.

(2). The numerous stories of the extensive use and miraculous powers of ancient music have been lately so often told by musical historians and others, that our lexicographer might have spared himself the trouble of repeating them.

(3). Rousseau had not heard that this medical and miraculous power of music, so long believed and asserted, “has not the least truth in it.” See Phil. Trans, vol. lx. for the year 1770, letter from Dr. Cirillo; and “Lezioni sopra la Tarantula,” Nap. 1770.

(4). This partiality for Isaac Vossius, will be further considered under the biographical article of this credulous champion for the music of the ancients.

(5). But Vincenzo Galilei, and Dr. Feil, bishop of Oxford, were the first editors of these fragments of ancient Greek music.

The article Music of Rousseau is in fact a compendium of its history. After an eloge on Isaac Vossius, he mentions the national tunes given on the plates of his dictionary. The celebrated Swiss tune, called the “Rans des Vaches.” an air, he says, so dear to the Swiss, that it was forbidden under the pain of death to play it to the troops, as it immediately drew tears from them, and made those who heard it desert, or die of what is called la maladie du pais, so ardent a desire did it excite to return to their country It is in vain to seek in this air for any accents capable of producing such astonishing effects, or which strangers are unable to account from the music, which is in itself uncouth and wild. But it is from habit, recollections, and a thousand circumstances retraced in this tune by those natives who hear it, and reminding them of their country, former pleasures of their youth, and all those ways of living, which occasion a bitter reflection at having lost them Music, then, does not affect them as music, but as a reminiscence. This air, though always the same, no longer produces the same effects at present as it did upon the Swiss formerly; for having lost their taste for their simplicity, they no longer regret its loss when reminded of it. So true it is, that we must not seek in physical causes the great effects of sound upon the human heart.

Rousseau, wishing to have no important part of the science or art of music unnoticed in his long article on the subject, speaks of the Greek music I nota-
tion, upon which, however, he has been able to throw no new light. See the articles MUSICA ANTIQUA, CHARACTERS, BEETHOVEN, POPE GREGORY, GUIDO, POINTS, STAFF and GAMMUT.

The invention of modern musical characters has been long ascribed to John de Muris, but erroneously. See TIME-TABLE and DE MURIS, where he acknowledges himself, that Franco was the inventor of the first characters used for time in counterpoint. See FRANCO.

Rousseau, in the recapitulation of his elaborate article, gives a list of Greek, Roman, and modern writers on the subject of music of the greatest eminence; but these will be found detailed in their several alphabetic places. As all the writers on music from Aristoxenus to the present time, that could be found, have been procured and consulted, and for others, which we were unable to appropriate, it may appear ostentatious to say, however true, that we have had recourse to almost all the great libraries in Europe, such as the Vatican, the Ambrosian library at Milan, the imperial library at Vienna, the Bibl. du Roi at Paris, the Bodleian, and principal college libraries of our universities, his majesty’s library at the queen’s house, the Museum library, &c. &c. in which, besides MSS., we have found almost all the printed books on music mentioned in the lists of Brossard, Padre Martini, Salmasius, Fabricius and others. In none of these scarce books, however, nor in others in general circulation, has the derivation of the word music, or the inventor of the art, been settled to satisfaction. Some make the musical sound that was likely to have been first noticed by man, animal, and some vegetable. The dried sinews of the dead tortoise, according to some, suggested the method of producing sounds from the tension of strings; and zephyrs, it has been imagined, breathing through broken reeds on the banks of the Nile, were the first flutes or wind-instruments. But we should rather suppose, that in a state of nature, even before the invention of language, mankind communicated their sensations of pain or pleasure to each other by the mere cries of nature: in pain and affliction, the expressions would be groans, screams, and howling, which could never be tuned; but in joy, pleasure and affection, they would be pleasant to hear, though not formed into music, from the ideas which they would excite in the hearers, in reflecting on their own happiness when similar effusions spontaneously escaped them in their most happy moments. Wishing to renew such grateful sounds at pleasure, even by reminiscence of what they had felt in uttering them, they would try to revive them in moments of tranquillity; and as nature gives more pleasing and touching voices to one creature of the same species than another, finding themselves listened to with pleasure by others, the natural singers would consequently try to render their vocal expressions of internal satisfaction as pleasant as possible. Hence the first language, as well as first music, was intuitive, and all’ improvido.

Of all to whom the invention of music has been assigned, there is no one to whom we are more inclined to give our suffrage than another; all we could do was to present them to the readers, and beg of each to please himself by voting for him whom they shall deem the most worthy.

MUSICA Antiqua, Ital, music of the ancient Greeks and Romans down to the eleventh century, when Guido Aretino, about the year 1024, invented or revived music in parts, or counterpoint, which may, with propriety, be called antica moderna; ancient with respect to the Greeks, and modern with respect to us.

MUSICA Arithmetica,

Editorial note: A scientific article by John Farey Sr.

[Is] that part of the science which considers sounds by the aid of numbers. These numbers are 2, 3, and 5, together with their composites. They are so called, because all the intervals of music may be expressed by such numbers. See INTERVAL.

This is now generally admitted by musical theorists. M., Euler seems to suppose, that 7 or other primes might be introduced; but he speaks of this as a matter doubtful and difficult. It is to be observed, that 2 corresponds to the octave, 3 to the fifth, or rather to the twelfth, and 5 to the third major, or rather the seventeenth. From these three may all other intervals be found.

A table of musical numbers within any proposed limit may be thus expeditiously formed.

Place the terms of the progression 1, 5, 25, 125, &c. in a column under each other; and multiply every term of this progression by 3, continually, till you foresee that the products will exceed the pro-
posed limit. Then if all the numbers thus found be doubled continually, till it be foreseen that the doubled numbers would exceed the proposed limit: all these products together, with the powers of 2, will give the musical numbers required.

Thus, if it were required to find all the musical numbers within the compass of eleven octaves; that is, between 1 and 2048; form the column 1, 5, 25, &c. and multiply every term by 3 continually, as in the annexed example:

<p>| | | | | | |</p>
<table>
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<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>9</td>
<td>27</td>
<td>81</td>
<td>243</td>
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<td>5</td>
<td>15</td>
<td>45</td>
<td>135</td>
<td>405</td>
<td>1215</td>
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<td>25</td>
<td>75</td>
<td>225</td>
<td>675</td>
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<td>125</td>
<td>375</td>
<td>1125</td>
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<tr>
<td>625</td>
<td>1875</td>
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The numbers of which being doubled as often as possible, within the limit 2948, and collected and ranged in order with the powers of 2, will give the following numbers, 1, 2, 3, 4, 5, 6, 8, 9, 10, 12, 15, 16, 18, 20, 34, 25, 27, 30, &c. as in the following table.

To understand this table, it is to be observed, that by dividing a given stretched string or chord, by means of a moveable bridge, the sounds produced by its parts will be higher in pitch than those produced by the given chord. And on the contrary, if we multiply a chord, that is, by a moveable bridge lengthen the sounding part of a chord, we shall have sounds lower in pitch than the given chord. Hence we have the foundation of an ascending, and of a descending scale of musical sounds. The first column of each division of the table, marked Num., expresses the musical numbers; the second column, marked Asc., the names of the notes in the ascending scale; and the third column, marked Desc., the names of the notes of the descending scale. Thus, if the given chord be unity, and called F, then will 15 be E in the fourth octave, ascending of F; 45 will be B in the sixth octave of F, &c. In the descending scale, unity will be B; 15 will be C in the fourth octave descending from B; and 45 will be F of the sixth octave, &c.

The reason why unity is marked F in the ascending scale, and B in the descending scale, is, because, according to the received notation of what is called the natural scale among musicians, F has no fourth in ascending, nor B a fourth in descending. Now it is plain that no aliquot division of a string can give a fourth, or any of its octaves ascending; nor can any multiple of a string give the fourth, or any of its octaves, in descending. For the fourth being expressed by $\frac{4}{3}$ in ascending, and by $\frac{3}{4}$ in descending, its octaves will be $8 \times \frac{4}{3}$, $16 \times \frac{4}{3}$, &c. in the first case, and $\frac{4}{3}, \frac{3}{4}, \frac{3}{16}, \frac{3}{32}$, &c. in the second case, none of which numbers can be multiples, or submultiples of a given string.

F and B being the given sounds, their octaves will be expressed by $F^\#$, $F^\sharp$, $F^\flat$, &c. and $B^\#$, $B^\sharp$, $B^\flat$, &c. which are respectively, the first, second, and third octaves above the F, and below B.

A dot marked over a letter shews that it signifies a sound higher by a comma than the sound expressed by the letter itself. And a dot placed below, denotes the sound to be lowered by a comma. Thus, in the table I find 81 to be $A^\# \uparrow G$, which denotes that A, or the sharp in the seventh octave of F, ascending, is raised a comma; and that G, or the sharp third from B, descending, is lowered by the same interval.
If B in the descending scale be supposed to be a tritonus, that is, two tones major and one tone minor above F of the ascending scale, then will A in one of these scales correspond or be denoted by the same numbers with G in the other scale, and C will correspond to E, but D in the ascending scale will not be expressed by the same numbers as in the descending scale: for in the former, D will be a tone major above C; whereas in the latter, D must by analogy be a tone major below E, and therefore only a tone minor above C, which is the reason why D is in italics in the descending scale.

Mr. Henfling has mentioned the distinction between an ascending and a descending scale in the Miscel. Berolinens. He places unity in the ascending scale in F, as it ought; but in the descending scale he places unity in E, which disturbs the analogy of the two scales.

The trumpet and French horn, not having (commonly) a compass beyond four octaves; and their sounds being formed in a manner analogous to those produced by the division of a string, it follows, that all the true notes of these instruments will be presented by the musical numbers 1, 2, 3, 4, 5, 6, 8, 9, 10, 12, 15, 16, &c. This is a fact well known; and a confirmation of the truth of that theory, which derives all musical proportions from the elements 2, 3, and 5. Phil. Trans. No 195, and No 481. See TRUMPET.

MUSIC, Chromatic, musica chromatica, among the Italians, is used to express that kind of music in which there are many chromatic signs, as flats or sharps, and intervals, &c. See CHROMATIC.

MUSIC, Diatonic. See DIATONIC.

MUSIC, Didactic, musica didactica, that part of speculative music which only considers the quantity, proportions, and different qualities of sounds.

MUSIC, Dramatic, musica dramatica, scenica, theatrale, among the Italians, is used to denote such compositions of music as are particularly made and fitted for theatres. See DRAMATIC and RECITATIVO.

MUSIC, Enharmonic. See ENHARMONIC.

MUSICA Enunciativa, or Enarrativa, is used in much the same sense as musica signatoria.

MUSIC, Figurate, musica figuralis, figurata or col- orata; figurate music, that in which the notes are of different values, and the motions various, now slow, then quick, &c.

MUSIC, Harmonic, musica harmonica, among the Italians, is used for pieces consisting of many parts, which though very different, yet, when played together, make an agreeable whole. This we call music in parts.

MUSIC, Historical. See HISTORICAL.

MUSIC, Hyporhematic, or Choracic, is used by some authors for a sort of music fit for ballads and dancing.

MUSIC, Instrumental, is used to denote musical compositions, made to be executed by instruments.

MUSIC, Melismatic, or Melodic, is used to denote a song, or single part, merely for a voice or for an instrument, Brossard. See MELODY.

MUSIC, Melopoetric, is the science or art of ranging and disposing sounds in succession in an agreeable manner; or the art of making melody. See MELODY and MELOPEIA.

MUSIC, Measured, musica misurata, among the Italian authors, a kind of music, the notes of which are unequal. It is contrary to musica piena, or chorale.

MUSIC, Metabolic, musica metabolica, among the Italians, is properly music transposed, as when the piece goes out of its natural mode into a transposed one, the better to express the words, or to distinguish some change in the action, passion, motion, &c.

MUSIC, Metric, musica metrica, is used by Italian authors, to denote the harmonious cadence of the voice, heard when any one declaims, or repeats verses; or it is an air composed to verses.

MUSIC, Modern. See ANTE.

MUSIC, Modulatory, musica modulatoria, among the Italians, that part of music which teaches to compose or modulate, i.e. that fixes rules for the use of modes, and teaches either to sing or play well. See MODE, and MODULATION.

MUSIC, Odic, musica odica, among the Italians, is the same with hyorhematic, or chorac.

MUSIC, organic, musica organica, among the Italians, is used to denote musical compositions designed to be performed by instruments only.

MUSIC, Pathetic, musica pathetica, is a moving and affecting kind of music, that causes emotions in the mind, either of love, grief, or pity.

MUSIC, poetryc, musica poetryca, is sometimes used for the art of inventing songs, of modulating
concord and discord together agreeably, and making what we call compositions, &c.

MUSIC, Recitative, musica recitativa, scenica, or dramatica, a sort of music used in operas, &c. irregular as to time, being a declamation in singing, to express the passions. From its being thus irregular in its time, the Italians often place the phrase a tempo giusto, when the recitative ends, and an air, be it minuet, jig, or any other, follows, to show that the time is then strictly to be observed. See RECITATIVE.

MUSIC, Rhythmic, musica rythmica, is used for the harmony or cadence of the words in prose; or a song composed to words in prose.

MUSIC, Scenic, the same with recitative.

MUSIC, Signatory, musica signatoria, is used for that part of music which teaches the knowledge of the characters, notes, figures, pauses, and all other signs and marks whatever, used in music.

MUSICA Transalpina, the title given by N. Yonge to a collection of Italian madrigals with English words, published in 1588.

"Musica Transalpina Madrigales translated of four, five, and six Parts, chosen out of divers excellent Authors; with the first and second Part of La Virginella, made by Maister Bird upon two stanzas of Ariosto, and brought to speak English with the rest." The editor was an Italian merchant, who having opportunities of obtaining from his correspondents the newest and best compositions from the continent, had them frequently performed at his house, for the entertainment of his musical friends.

These being selected from the works of Palestrina, Luca Marenzio, and other celebrated masters on the continent, seem to have given birth to that passion for madrigals which became so prevalent among us afterwards, when the composers of our own nation so happily contributed to gratify it.

The translator of these madrigals, whoever he was, for the editor does not tell us, seems in general to have imitated the original Italian measure and structure of verse, as well as ideas; and though they abound with concetti, to which not only Italian poetrys, but those of all the rest of Europe, were then so much addicted, the general taste of the times was indulged in poetrys as well as music, and metre and melody were at once furnished with new models.

In 1597, Yonge published a second collection of madrigals, cut of sundry Italian authors: in which, among others, there are three by Croce, three by Luca Marenzio, and six by Ferabosco. The words of these have as little claim to poetrical merit as those of the former set.

MUSIC, Vocal, musica vocalis, or that composed for the voice, in opposition to organical or instrumental, which is intended to be played on instruments only.

MUSIC, Academy of See ACADEMY.

MUSIC, Characters in. See CHARACTERS.

MUSICAL Accents. See ACCENT.

MUSICAL Faculties. See MUSIC.

MUSICAL Glasses. See Armonica.

MUSICAL Instruments of India, or Indian musical instruments, in the hands of the performers. In Plate V. Music, is the representation of a music-gallery over a triumphal arch, through which the Great Mogul passed at Agra or Delhi, before his fall. The procession consisted of the emperor, mounted on an elephant; his wives and concubines, eunuchs, great officers of state, &c. all exquisitely painted. As to the heads of the females, sir Joshua Reynolds and sir Robert Strange, to whom the painting on ivory was shewn, thought each head sufficiently, high, finished to be set in a ring. This original painting is in the possession of Dr. Burney.
Musicians, among the ancients, were poe...the science of music by reason and specu-

“Musicorum et cantorum
Magna est distantia,
Istidicunt, illi sciunt,
Quae componit musica, &c.”

“Between a singer and musician
Wide is the distance and condition:
The one repeats, the other knows,
The sounds which harmony compose.
And he who acts without a plan
May be defined more beast than man.”

‘Guido has quoted these verses in the prologue to his “Antiphonarium:” and in his short tract, “De Constitutionibus Musica,” he is very severe on the singers of his time: “Temporibus nostris super omnes fatui sunt cantores.”

“And it seems,” says Rousseau, “that to mount to elevated expression in oratorical and imitative music, the human passions and the language of nature must have been made a particular study. However, the musicians of our times, bounded for the most part by the practice of notes, and a few passages, will not, it is hoped, be of. fended, if we should not hold them to be great philosohers.”

MUSICKE’s MONUMENT, the title given by Mace to his treatise on the lute. See MACE.

MUTATIONS, in Music, are the changes in the names of the notes in solfaing by the hexachords. In a series of six sounds, in the hexachord of G durum, or G with a major 3d, no change of name is required ascending or descending. Ut, or do, re, mi, fa, sol, la: la, sol, fa, mi, re, do, are the names of all the intervals in that compass; but in completing the octave, which cannot be done without encroaching on the hexachord of C natural, the mutations begin. It is the same in the hexachord of C; when a 7th sound is wanted, it must, if minor or flat, belong to the molle hexachord of F; if major, or natural, to G. See HEXACHORDS.

Dominico Pedro Cerone, in an elaborate work, written in the Spanish language, and published at Naples 1613, has taken great pains to throw a light upon the subject, which he says he found by his own experience, extremely dark and difficult. He minutely goes through all the ascending beyond a hexachord, are made by the syllable seven hexachords, shews their connection with each other and gives scales to manifest the mutations, which, in ascending beyond a hexachord, are made by the syllable re, and, in descending, by la.

See SOLMISATION, GAMMUT, and HARMONIC HAND.

NACAIRES, an instrument of music, which though often mentioned by the old poe...acan and clariones
That in the bataille blowen blody sounes.”

Du Cange describes macara to be a kind of brazen drum used in cavalry, yet Chaucer names it in the company of military wind instruments:

“Pipes, trumps, nakeres, and clariones
That in the bataille blowen blody sounes.”

NAKOUS, an Egyptian musical instrument, made like two plates of brass, and of all sizes, from two inches to a foot in diameter: they hold them by strings fastened to their middles, and strike them together so as to beat time. They are used in the Coptic churches, and in the Mahometan processions.

NAPLES

Editorial note: Concluding paragraphs by Burney about the musical life of the city.
Naples, with so many advantages over other great cities, in situation, climate, antiquities, harbour, &c. has likewise, at all periods of its history, distinguished itself by the cultivation of the arts, equally, if not in a superior manner, to any other city in Europe (see Vicende della Cottura, di Nopoli Signorelli); but in none so much as music during the last century, by the numerous great composers and performers which have issued from its famous seminaries, the conservatories, under the direction of Alessandro Scarlatti, Leo, Durante, and Sala, whose élèves have not only done honour to Italy, but supplied all the rest of Europe with men of such eminence in their art, as no other city on the globe can boast; which will be readily allowed by all those who love and have cultivated music, when they are reminded that not only the two Scarlattis, Leo, Pergolesi, Durante, Porpora, Vinci, Jomelli, Perez, Piccini, Sacchini Anfossi, Traetta, Rinaldo di Capua, Gugliemi, Genaro Manna, Ciccio de Maja, Latilla, Sala, Cimarosa, Paesiello, were all Neapolitans.

These were composers; but the eruptions of Mount Vesuvius have not been much more wonderful than some of the Neapolitan singers, such is Nicolini, Farinelli, Caffarelli, Aprile, De Amicis, Millico and Pacchierotti.

**NATURAL.** This word, in Music, has many acceptations; as natural tones, of the human voice, in opposition to the artificial tones of instruments. A melody or air is said to be natural, when it is smooth, easy, graceful, and sometimes when it is common. Harmony is said to be natural, when not loaded with discords, or deformed by extraneous modulation; but confined to the harmony of the key. Music is likewise said to be natural, when it is clear and free from confusion, neither of difficult intonation nor execution; neither too high nor too low; too quick or too slow; nor affectedly loaded with accidental flats and sharps. The Italians always write recitative without flats or sharps at the clef; so that all the modulations are brought about by accidental flats and sharps.

**NATURAL** is also sometimes used physical. In which latter sense, natural music is that performed by natural organs i.e. vocal music; in contradiction to artificial or instrumental. See MUSIC.

Natural music is more peculiarly used to denote a song that proceeds in the natural order of the note, without flats and sharps.

**NATURAL Harmony** is that produced by the natural and essential chords of the mode. See HARMONY.

**NATURAL Note** is used in opposition to flat and sharp notes which are called artificial notes. See NOTE, SCALE, &c.

The natural note is used to contradict those flats and sharps at are set at the beginning of a staff, and, in such case, you must take the natural note as it is in the gammut.

**NETE,** in the Ancient Greek Music, the fourth string, or highest note of each tetrachord. When the third tetrachord was conjoined with the second, it was the synnemenon, and its nete was called mete synnemenon. The third tetrachord was called diezeugmenon, when it was disjunct or separated from the second by the interval of a tone, and its nete was then called mete diezeugmenon. And lastly, the fourth tetrachord, called hyperbolæon, its nete was always called mete hyperbolæon. With respect to the two first tetrachords being both always conjunct, they had no nete; the fourth string of the first being also the first of the second, it was called hypate meson, and the fourth string of the second, constituting the middle of the system, was called mese.

**Vol 25 Newtonian Philosophy-Ozunusze**

**NIBELES,** an Abyssinian instrument, a kind of common flute, joined to a bag which receives the wind. This instrument seems to resemble the French musette. Bruce.

**NINTH,** in Music. The ninth, being one of the principal discords, must be regularly prepared and resolved; but though it is only the octave of the second, and itself a second to the octave, yet it requires a very different treatment. The second is prepared and resolved in the base; but the ninth must be prepared and resolved in the treble, and can very seldom have admission in fewer than three parts. The ninth is major or minor, according to the key in which it is used. The major ninth is prepared in a third, a fifth, and sometimes a sixth, but never in the eighth. It is resolved in a third, a sixth, or an eighth, from every one of the concords in which it is pre-
pared. In four parts it is accompanied by the $\frac{5}{4}$, and
differs only from the common chord by being taken
instead of the eighth by suspension. The minor ninth
is prepared in the third only, and resolved in the
eighth if the base is continued; and resolved in the
third, if the base falls a third. In four parts the sixth,
and sometimes the fifth accompany it. Other dis-
cords may be joined with the ninth, as $\frac{6}{4}$ or $\frac{9}{7}$, and
then both the discords must be prepared and re-
solved together. In four parts the $\frac{9}{4}$ must be accom-
panied by the fifth, and the $\frac{9}{7}$ by the third; but in five
parts both by the third and fifth.

NŒLS. A kind of air, similar to our Christmas car-
ols, sung by the common people at the nativity. The
airs of Nœls, says M. Rousseau, ought to have a rusti-
c and pastoral character, agreeable to the simplicity
of the words, and that of the shepherds supposed to
have sung them in going to render homage to the in-
fant Jesus in the manger.

NŒUDS. The fixed points in every vibrating
string which divide it into aliquot parts, and which
produce a different sound from the whole string, are
called nœuds, or knots; for example, of two strings,
one of which is triple the length of the other, if the
shortest is caused to sound, the longest will likewise
sound, not as the whole string, but in unison with
the shortest; because the longest string then, instead
of sounding in its totality, divides itself, and only
produces the sound of one of its third parts. The im-
movable points, which are the divisions, act as so
many bridges, and these are what M. Sauveur calls
nodes, naming them at the same time the swellings
or undulations of the several aliquot parts where the
vibrating string deviates most from a right line.

If, instead of making another and a shorter string
sound, we divide the longest by some small impedi-
ment which will check its vibration without totally
stopping it, the same case will still happen in mak-
ing one of the aliquots sound; for then both will
sound in unison with the shortest, and we shall see
the same nœuds and the same bellies as before.

If the shortest part is not an exact aliquot of the
longest, but a common aliquot, then there will be no
resonance, or only that of the smallest part, unless it
is struck with such violence as to force the obstacle,
and make the whole string sound.

M. Sauveur contrived to exhibit these nœuds and
bellies to the Academy, in away very clear, by put-
ting bits of coloured paper on the string, for then at
the sound of the aliquot they always saw the papers
at the bellies fall, and those of the nœuds remain un-
disturbed. See a representation of these effects Plate
Music. Père Mersenne was the first who discovered,
and demonstrated these natural divisions of a
sounding string by experiments. Harm. Univ.

NOIR, Fr., Black, a note of music, note noir, a
crotchet $\frac{1}{4}$, half a minim; noires à queue, a quaver
In the old Fr. music there were several kinds of black
notes, black, with a tail, black square, black lozenge.
The two last have remained in plain chant; but in
secular music nothing but the crochet and its divi-
sions remain black. The note with a black head,
straight, and a tail, which we call a crotchet, the
French call a noir, and the quaver with a hook to the
tail, which the French with more propriety, call a
croche, or hook.

NONE, in the Ancient Greek Music. Every melody
determined by inviolable rules, was called by the
Greeks a nome, or a law. The nomes acquired their
denomination, 1st, from certain people, as the æo-
lian nome, the Lydian nome; 2dly, by the kind of
rhythm or measure, as the Orthian nome, the Da-
tylic nome, the Trochaic nome; 3dly, by the name of
their inventors, as the Hieracian nome, the
Polymnestan nome; 4thly, from the subject, as Py-
thian nome, Comic nome; 5thly, and lastly, from
their mode; as the Hypotoide, or grave nome,
Netoide or acute, &c. There were likewise nomes of
half one mode and half another: there were others
that were tripartite, of which Sacadas, or Clonas,
was the author; the Dorian, Phrygian, and Lydian.
(See SONG and MODE.) The nomes and dithyram-
bics were equally hymns sung in honour of the gods.
The nomes were for Apollo, and the dithyrambic,
were for Bacchus. The literal meaning of νοος,
 nome, being a law or rule;

NONUPLA, in the Italian Music, denotes a quick
time, peculiar to jigs. This species of time is other-
wise called the measure of nine times, which requires
two falls of the hand, and one rise. Thereare three
sorts of nonupla.

1. Nonupla di semi-minime, or dupla sesqui quarta,
thus marked $\frac{9}{7}$, where nine crochets are to be in the
bar, of which four make a semi-breve in common
time, i.e. in the down stroke, six, and but three up; it is usually beat adagio.

2. Nonupla di crome or sesqui ottava, marked thus \( \frac{9}{8} \), wherein nine quavers make a bar, instead of eight in common time, i.e. six down and three up: it is beat presto.

3. Nonupla di semi-crome, or super setti partiente nona, thus distinguished \( \frac{9}{10} \), in which nine semi-quavers are contained in a bar, whereof sixteen are required in common time, six down, and three up: it is ordinarily beat prestissimo. See ADAGIO, PRESTO, and PRETISSIMO.

Besides these, there are two other species of nonupla, for which see TRIPLE.

NOTES, signs or characters used to express the tone and time of each sound in writing music. For the twenty-four letters of the Greek alphabet, used for musical characters, or symbols of sound, see GREEK Music.

Dr. Pepusch asserts roundly, and without the least modification of doubt, or even condescending to allege a single reason or proof in defence of his opinion, that "it was usual among the Greeks to consider a descending as well as an ascending scale; the former proceeding from acute to grave, precisely by the same intervals as the latter did from grave to acute. The first sound of each was the Proslambanomenos. Phil. Trans. Martin's Abridgment, vol. x. part i. p. 261.

No instances of these inverted scales are to be found, however, in Aristoxenus, Euclid, or any of the oldest and best writers. Boethius, Bryennius, and some other of the more modern compilers, have Indeed puzzled the cause by ambiguous expressions, which seem to bear such construction. This perplexity concerning the scale, if not cleared up, would injure the few fragments left of Greek music, by a mistake in this particular, as much as a poem by reading it backwards.

With respect to the first forms of modern notation, which succeeded points, it is not difficult to deduce them wholly from the black square note, called a breve, the first and almost only note used in canto fermo; which, with a foot or tail to it, is a long, and if doubled in breadth, a large. The square note also placed on one of its angles, differs very little from the rhombus or lozenge, and with a tail placed at its lowest angle, when open becomes a minim, and, when full, a crotchet.

Rousseau says, and others have said before him, that the Latins had eased themselves of all these difficulties of notation, and that Boethius established the use of fifteen letters only, for notation; but he does not tell us where, in what book or chapter, of his treatise De Musica, this reform is to be found. Boethius was only a compiler and translator from the Greek, and never seems to propose a new system or new doctrines. But it is more true, and better ascertained, that pope Gregory, in arranging and regulating the ecclesiastical chants, finding that the intervals of the second octave of the scale were, in effect, the same as the first, and that the order was the same in the upper and lower octave of the system; reduced the notes to the septum discriminate vocum, as the ancient Romans had done in the time of Horace and Virgil; and these notes, expressed by the first seven letters of the alphabet, were repeated in a different sized literal character, from octave to octave, the gravest of which he expressed by capitals, the mean by minuscules, and the highest by double letters, thus: which in modern notes would constitute the following scale.

\[
\begin{array}{cccccccc}
A & B & C & D & E & F & G \\
\text{a} & \text{b} & \text{c} & \text{d} & \text{e} & \text{f} & \text{g} \\
\text{th} & \text{th} & \text{th} & \text{th} & \text{th} & \text{th} & \text{th} \\
\text{m} & \text{m} & \text{m} & \text{m} & \text{m} & \text{m} & \text{m} \\
\end{array}
\]

And these letters are still retained in most parts of Europe, as denominations of musical sounds, though a different entablature and notation is used in practice. At length Guido, a Benedictine monk of Arezzo, in Tuscany, substituted to these letters points, placed on different parallel lines, to each of which a letter served as a clef or key... These points were afterwards enlarged, and placed in the spaces between the lines; and, at length, these lines and spaces were multiplied as occasion required. (See STAFF and GAMMUT) Menage, in his "Origine de la Langue Francoise," gives the following derivation of the word gammad. "Guido Aretinus, a Benedictine monk, who had been employed to correct the ecclesiastical chants, about the year 1024, composed a scale conformable to the Greek system, adding to it a few sounds above and below. And discovering afterwards that the first syllable of each hemistich in the hymn to St. John the Baptist, written by Paul Diano-
nus, who lived about the year 774, formed a regular series of six sounds ascending,

\[
\begin{align*}
   \text{Ut, re, mi, fa, sol, la.}
\end{align*}
\]

be placed at the side of each of these syllables one of the first seven letters of the alphabet, A, B, C, D, E, F, G, and because he accompanied the note which he added below the ancient system, with the letter gamma, the whole scale was called gammut, a name by which it is distinguished to this day."

For a long time the points, letters, and syllables which served as notes, were of no other use than to mark the degrees of gravity and acuteness, and fix the intonation. As to duration, they were all equal, with no other difference, than that of long and short syllables, used in chanting. Canto fermo still remains nearly in the same state to this day in the Roman Catholic churches. And the music of the metrical psalms, with the Protestants, is still more imperfect; since in the performance of them no distinction is made even in long and short syllables, or of semibreves and minims, though their figure has been preserved.

This want of distinction in the time of notes and their value, as to duration, is generally supposed to have continued till about the year 1338, when John de Muris is said to have invented figures to express different durations of sound, and to have formed a time-table. His claim to this invention is considered in his biographical article. (See also CHARACTERS and TIME-TABLE.) In the first tables that were found, the notes were all black; then full and void, mixed; and lastly, all white, as far as the minim. The complete time-table does not seem finished till the end of the 16th century. Morley’s characters in his table begin with the maxima, or large, and go no farther than the semiquaver. The modes or characters placed at the beginning of a movement, to mark the time and relative proportion of notes, are likewise ascribed to John de Muris. All the notes, now in use in secular music, are contained in the following table.

NOTE, Sensible, Fr. is the half note below the key-note, and a sharp third above the fifth, or dominant. There is no term in the French musical technica so expressive as this; it describes the sensations of every discriminative ear, and the eagerness which it excites to move to the key-note, particularly if the fifth is accompanied with the seventh. Almost every accidental sharp in the course of modulation is a note sensible, leading to a new key. B is the note sensible of the key of C, and G that of A.

A majuscule O, in Music, is a note of time, called by us, semibreve, by the Italians, circolo, making what they call tempo perfetto.

The ancients used O as a mark of triple time; from a notion that the ternary, or number three, was the most perfect of numbers, and therefore properly expressed by a circle, the most perfect of figures.

It is not, strictly speaking, the letter O, but the figure of a circle ⊙, or double CƆ, by which the modern ancients in music used to express what they call tempo perfetto, or triple time. Hence the Italians call it circolo. This circle was sometimes pointed) and sometimes barred thus,

\[
\begin{align*}
   \text{or thus, } \frac{1}{2}.
\end{align*}
\]

But these equally signified a triple time. Brossard.

The seven antiphones, or alternate hymns of seven verses, &c. sung by the choir in the time of Advent, were formerly called O, from their beginning with such an exclamation.

OBLIGATO, in the Italian Music, signifies for, on purpose for, or necessary, as doi violini obligato, on purpose for two violins; and so of other things, as con fagotto obligato, that must be played with a bassoon, &c.

Sometimes it signifies confined, or restrained, by certain rules, subjected to certain limits or laws, in order to perform some particular thing, to give some particular expression of a passion, action, &c. In this sense we say, contrapunto obligato, fuga obligato, &c. We also say, the base is obligato, when it is only a ground of a certain number of bars, which are to be repeated over and over; such is the base to chacones, &c. and every base in which aires are confined to a certain series of notes often repeated to different trebles. See GROUND.

OBLIGÈ, Fr. Obligato, Ital. the part of a composition said to be obligato, is in general the principal treble; but it is likewise applied to any part which cannot be omitted without injuring the harmony,
melody, and design. What distinguishes it from all the other subordinate parts, that are only added to enrich the harmony, is, that if retrenched, the piece will be mutilated. Those who perform the ripieno parts, may stop whenever they please, and the piece nevertheless will go on; but the performer to whom an obligate part is assigned, cannot stop a moment without being missed.

OBLIQUO, in the *Italian Music*, signifies two breves tied together, which make but one body, whence it is named in Italian *nota d'un carpo solo*; sometimes there is a tail, on the right or left side, either ascending or descending. (See NOTE and LIGATURE.) However it be, the two extremes mark the sound, the middle serves only to tie them, thus:

\[
\begin{array}{c}
\text{\textbullet}\hline
\end{array}
\]

OBoe Ital. a performer on the *Hautbois* which see.

OCTAVE, the first and most perfect of concords in Music, in the order of their being generated by the harmonies of a single string; after the unison, it is that among all the sounds of which the ratio is most simple. The unison is in the ratio of equality, the coincidence of the pulsations happening together; that is, as 1 to 1. The octave is in the double ratio, that is, as 1 to 2. The harmonies of the two sounds reciprocally agree without exception, which does not happen in any other interval. In short, these two sounds (unison and octave) have such an affinity and resemblance, that they are often confounded in the melody, and in the harmony even one is indifferently taken for the other. When a child or a woman seems to be singing in unison with a man, they are constantly singing in octaves. This interval is called octave, or eighth, because in ascending diatonically there are seven degrees and eight different sounds. The following are the properties which so singularly distinguish the octave from all other intervals.

I. The octave includes within its limits all the primitive and original sounds; so that after having established a system or series of sounds in the extent of the octave, if we continue the progression, it must be done in a second octave by a similar series, and of a second and third or more octaves, where no sound will occur, which is not a recurrence of some one of the first series; and such a series is called the scale of music in the first octave, and replicates or recur-
IV. Finally, the octave has still this property, the most singular of all, that it may be doubled, tripled, and multiplied, at pleasure, without changing its nature, and without ceasing to be a perfect concord.

This multiplication of the octave, as well as its division, is however bounded with respect to the powers of our organ of hearing; and an interval of eight octaves exceeds our appreciation. (See COMPASS.) The octaves even lose something of their sweetness, by being multiplied; and when a certain measure is passed, all the intervals become less easy for the ear to seize; a double octave even becomes less agreeable than a single; a triple than a double: in short, at the fifth octave, the extreme distance of the sounds robs consonance of almost all its charms. It is from the octave that we draw the order of all intervals by harmonic divisions and subdivisions. Divide the octave harmonically 3 6 by the number 4, and you will have on one side the fourth 3 4, and on the other the fifth 4 6. Divide in the same manner the fifth 10 15 harmonically, by the number 12, and you will have the minor third 10 12, and the major third 12 15. Lastly, divide the major third 72 90, and the tone major 80 90, or 8 9, &c. It should be remembered, that these harmonic divisions give two unequal intervals, of which the least is the grave and the greatest the acute. That if we make the same divisions in arithmetic proportion, we shall have the smallest interval in the acute and the greatest in the grave. Thus the octave 2 4, divided arithmetically, will first give the fifth 2 3 in the grave, then the fourth 3 to 4 in the acute. The fifth 4 6 will first give the major third 4 5 ; then the minor third 5 6, and so on. We shall have the same ratios in a contrary sense, if, instead of taking them as we have just done, by the vibrations we should calculate from the length of the strings. These discoveries, indeed, are of little use in themselves on keyed instruments, but they are necessary to the perusal of old authors. The complete and rigorous system of the octave is composed of three major tones and two minor. The tempered system is composed of five equal tones, and two semitones, forming altogether as many diatonic degrees upon the seven sounds of the gamut, till arrived at the octave of the generator or first sound. But as each tone may be divided into two nominal semitones, the same octave divides itself also chromatically into twelve intervals of a semitone each, of which the seven preceding keep their names, and the five others take the name of the next diatonic sound below by a sharp and above by a flat. See SCALE.

We do not speak here of diminished or superfluous octaves, because this interval admits of no alteration either in the melody or harmony.

It is forbidden in composition to admit of two successive octaves between two different parts, especially by similar motion; but that is admitted, and 'with an elegant effect, when done with design and propriety through a whole air or period: thus, in many concertos all the ripieno parts play in octaves or unisons.

OCTAVE, concerning the règle de l’octave, see RÈGLE or RULE.

OCTAVE, Diminished. See DIMINISHED Octave, and INTERVAL.

OCTAVIER, Fr. in Music. When a wind instrument is over blown, the tone instantly breaks into the octave. This is what the French verb octavier implies. In thus forcing the inspiration) the air enclosed in the tube, and constrained by the outward air, is obliged to give way to the velocity of the oscillations, and to divide itself into two equal columns, having each half the length of the tube; and thus each of the halves sounds the octave of the whole. A string of a violoncello, upon the same principle breaks into the octave, when the stroke of the bow is too violent, or too near the bridge. It is one of the defects of an organ, when a pipe has too much or too strong a wind to give the octave instead of the real sound.

OCTAVINA, in the Italian Music, a kind of small spinet, easily moved, having only one row of keys, and those not to the usual number, perhaps not more than three, the common ones extending to five. See SPINET.

OCTELINE, another appellation for the same diminutive kind of instrument.

ODE, a Greek word implying a melody or song. Rousseau.

Editorial Note: Its not certain if the following was written by Burney. Lists of contributors issued contemporaneously with the publication of the work record that someone called H. Parker wrote articles on prosody and versification, but he/she has not yet been identified.
Ode, *Oda*, from the Greek ωδή, cantus, song, or singing, in the *Ancient poetry*, a song or hymn; or a composition proper to be sung, and composed for that purpose; the singing being usually accompanied with some musical instrument, chiefly the lyre. See LYRIC poetry.

The peculiar and distinguishing character of the ode is, that it is intended to be sung, or accompanied with music; and though this distinction was not peculiar to any one species of poetry, because music and poetry were coeval and originally always joined together, yet after their separation, and when bards produced compositions in verse that were to be recited or read, not to be sung, such poems as were designed to be still joined with music or song, are, by way of distinction, called odes. It is from this circumstance of the ode’s being supposed to retain its original union with music, that we are to deduce the peculiar and discriminating qualities of this kind of poetry. Music and song naturally add to the warmth of poetry; and they justify a bolder and more passionate strain than can be supported in simple recitation. From this is formed the peculiar character of the ode. Hence, says Dr. Blair, proceed "the enthusiasm that belongs to it and the liberties it is allowed to take beyond any other species of poetry. Hence, that neglect of regularity, those digressions, and that disorder, which it is supposed to admit; and which, indeed, most lyric poets have not failed sufficiently to exemplify in their practice. The effects of music upon the mind are chiefly two; to raise it above its ordinary state, and fill it with high enthusiastic emotions; or to sooth, and melt it into the pleasurable feelings. Hence, the ode may either aspire to the former character of the sublime and noble, or it may descend to the latter of the pleasant and the gay; and between these there is, also, a middle region, of the mild and temperate emotions, which the ode may often occupy to advantage.” The ode, says the learned bishop Lowth,

“With thoughts that breathe, and words that burn,” although inferior in some respects to the epic or what are called the higher species of poetry, yields to none in force, ardour, and sometimes even in dignity and simplicity. Whilst “the epic accomplishes its design with more leisure, with more consideration and care, and therefore probably with greater certainty,”—“the ode, on the contrary, strikes with an instantaneous effect, amazes, and, as it were, storms the affections. The one may be compared to a flame, which, fanned by the winds, gradually spreads itself on all sides, and at last involves every object in the conflagration; the other to a flash of lightning, which instantaneously bursts forth,

"With instant ruin threats great Nature's frame, And shoots through every part the vivid flame."

"The amazing power of lyric poetry in directing the passions, in forming the manners, in maintaining civil life, and particularly in exciting and cherishing that generous elevation of sentiment, on which the very existence of public virtue seems to depend, will be sufficiently apparent by only contemplating those monuments of genius, which Greece has bequeathed to posterity." Among them we may reckon first and principally, and almost solely, the poems of Pindar. The nature of the ode sufficiently expresses its origin: it was the offspring of the most vivid and the most agreeable passions of the mind, of love, joy and admiration; and accordingly it must have been coeval with the first creation of man. Sentiments corresponding to such a composition evidently dictated the hymn which occurs in the cxlviiiith psalm; and which is most elegantly imitated and put into the mouth of Adam by Milton (Parad. Lost, b. v.,) who is justly accounted, says the learned prelate now cited, the next in sublimity to those poets who wrote under the influence of divine inspiration. If we appeal to the common testimony of history we shall find that, among every people not utterly barbarous, the use of music and poetry, in the celebration of their religious mysteries, has prevailed from the first periods of society. Plato assigns the first rank to that sacred melody which assumed the form of addresses to the Deity, and was distinguished by the appellation of hymns. Accordingly the Salian poems of Numa, composed on the first institution of the religious rites of that wise and learned monarch, are the most ancient of any that occur in the Latin poetry; and the most ancient poem extant, whose date is ascertained, is the thanksgiving ode of Moses on passing the Red sea; the most perfect in its kind, and the true’ and genuine effusion of the joyful affections. Thus the origin of the ode may be traced into that of
poetry itself, and appears to be coeval with the commencement of religion, or more properly the creation of man. The Hebrews cultivated this kind of poetry more than any other, and are allowed to have excelled in it. Hence we have the triumphal odes of Moses, of Deborah, and of David. Sacred poetry was a principal object of study in the schools of the prophets, which were antecedent to the monarchy for many years, if not coeval with the republic; and young persons thus educated celebrated the praises of Almighty God in lyric compositions, accompanied with music. It was, however, under the government of David, that the arts of music and poetry were in their most flourishing state. (See HEBREW Music and HEBREW poetry.) "Of all the different forms of poetical composition," says the prelate, "of whose admirable work we here avail ourselves, "there is none more agreeable, harmonious, elegant, diversified and sublime, than the ode; and these qualities are displayed in the order, sentiments, imagery, diction and versification. The principal beauty of an ode consists in the order and arrangement of the subject; nevertheless, "the form of the ode is by no means confined to any certain rule for the exact and accurate distribution of the parts. It is lively and unconstrained: when the subject is sublime, it is impetuous, bold, and sometimes might almost deserve the epithet licentious as to symmetry and method; but even in this case, and uniformly in every other, a certain facility and ease must pervade the whole, which may afford at least the appearance of unaffected elegance, and seem to prefer nature to art. This appearance is best preserved by an exordium plain, simple, and expressive; by a display and detail of incidents and sentiments rising delicately and artfully from each other, yet without any appearance of art; and by a conclusion not pointed or epigrammatic, but finishing by a gentle turn of the sentiment where it is least expected, and sometimes as it were by chance," in which latter respect the best Arabic odes are entitled to peculiar commendation.

"It is not the metre or versification which constitutes this species of composition; for unless all these circumstances be adverted to, it is plain that whatever be the merit of the production, it cannot with any propriety be termed an ode. Many of the odes of Horace are entirely in this form, as well as almost all of those few which our countryman Han-

mer has left behind him." "The sentiments and imagery must be suitable to the nature of the subject and the composition, which is varied and unconfined by strict rule or method. On familiar subjects, they will be sprightly, florid, and agreeable; on sublime topics, solemn, bold, and vivid; on every subject highly elegant, expressive, and diversified. Imagery from natural objects is peculiarly adapted to the ode; historical commonplaces may also be admitted, as well as descriptions lively but short, and (when it rises to any uncommon strain of sublimity) frequent personifications. The diction must be choice and elegant; it must be also luminous, clear, and animated; it must possess some elegancies peculiar to itself, and be as distinct from the common language of poetry, as the form and fashion of the production is from the general cast of poetical composition. In this that happiness of expression, for which Horace is so justly celebrated, wholly consists. A sweetness and variety in the versification are indispensable, according to the nature of the language, or as the infinite diversity of subjects may require." In the Hebrew ode the numbers or versification were probably accommodated to the music, and agreeable to the genius of the language; but this is a circumstance concerning which we cannot form any decisive judgment. In every other respect, such as the force and elegance of the language, the beauty and dignity of the sentiments and imagery, the different graces and excellencies of order and arrangement, bishop Lowth does not hesitate in preferring the Hebrew writers to the lyric poets of every other nation. Our learned author distributes all the diversities of this species of composition into three general classes, "Of the first class, the general characteristic will be sweetness; of the last, sublimity; and between these we may introduce one of a middle nature, as partaking of the properties of both. The qualities which may be accounted common to all the three classes, are variety and elegance." To the first of these classes Michælis refers the Psalms of David. See PSALMS.

"The sweetness of the Hebrew ode consists in the gentle and tender passions which it excites; in the gay and florid imagery, and in the chaste and unostentatious diction which it employs. The passions which it generally affects are those of love, tenderness, hope, cheerfulness, and pensive sorrow. In the 63d psalm, the royal prophet, supposed to be then
an exile in the wilderness, expresses most elegantly the sentiments of tenderness and love. The voice of grief and complaint is tempered with the consolations of hope in the 80th psalm; and the 92d consists wholly of joy, which is not the less sincere, because it is not excessive. The sweetness of all these, in composition, sentiment, diction, and arrangement, has never been equalled by the finest productions of all the Heathen muses and graces united. Other psalms particularly entitled to notice ODE ODE and commendation for their peculiar and discriminating excellencies, are the 23d, the 65th, the 72d, and the 133d. This latter is produced by our author as a specimen, expressive of the true lyric form and character, and compassing in a small compass all the merits and elegance incidental to that species of composition. "It is," he says, "if I may be allowed the expression of a very polite writer,

"A drop of Helicon, a flower
Cull’d from the Muse’s favourite bower."

Callimach. Hymn, in Apoll. v. 112.

This psalm is one of the fifteen which are entitled "Odes of the Ascensions;" that is, which were sung when the people came up either to worship in Jerusalem at the annual festivals, or perhaps from the Babylonish captivity. The return is certainly called "the ascension or coming up from Babylon." Ezr. vii. 9.

One of the grand divisions of the order of poems now under consideration, which is constituted by that middle style of composition, to which we have above referred, may include both those lyric compositions, in which sweetness and sublimity are so uniformly blended, that every part of the poem may be said to partake equally of both; and those, in which these qualities separately occur in such a manner that the complexion of the poem is altogether changed and diversified. As examples of each species we may refer to the 91st psalm, which is supposed to excel the third ode of the fourth book of Horace (though justly celebrated,) as well in grace and elegance, as in force and dignity; and the 81st psalm, which affords a correct idea of this kind of poem, so that any one who makes himself master of its general character, genius and arrangement, will feel perfectly satisfied concerning the nature and form of a perfect ode. "In both these specimens, the style and cadence of the whole poem flow in one equal and uniform tenour: but there are others, which are more changeable and diversified, more unequal both in style and sentiment. These, though they occasionally incline to the character of sweetness, and occasionally to that of sublimity, may nevertheless, (though upon a different principle,) be properly classed among the odes of this intermediate style. Such are those which, from a mild and gentle exordium, rise gradually to sublimity, both in the subject and sentiments; such also are those which commence in a mournful strain, and conclude with exultation and triumph. Such, in fine, are all those in which the style or matter is in any respect diversified and unequal. This inequality of style is perfectly consistent with the nature of lyric composition, for variety is one of the greatest ornaments, if not essentials, of the ode." (See HEBREW poetry.)

The 77th psalm will afford some illustration of what has been remarked concerning the nature and economy of the Hebrew ode. This psalm is composed in what I call the intermediate style, and is of that diversified and unequal kind, which ascends from a cool and temperate exordium, to a high degree of sublimity." On the other hand, the 19th psalm is composed upon a different plan; "for it declines gradually from an exordium uncommonly splendid and sublime, to a gentler and more moderate strain, to the softest expressions of piety and devotion. The whole composition abounds with great variety, both of sentiment and imagery."

Of the sublimity which is characteristic of a third species of the Hebrew ode, and which results either from the plan, the order and arrangement of the poem, or from the sentiments and the style, or from an union of all, when an aggregate perfection is produced from the beauty of the arrangement, the dignity of the sentiments, and the splendour of the diction, we have examples in the 50th psalm, the 24th psalm, and the thanksgiving ode of Moses, composed after passing the Red Sea (Exod. xiv.) already mentioned, and the 29th psalm. As specimens of that kind of ode which derives sublimity from several united causes, from the diction, the sentiments, the form and conduct of the poem, and which accumulates, or in a manner condenses and combines all the beauties and elegancies of this style of composition, we may mention the prophetic ode of Moses (Deut. xxxii.), the triumphal ode of Deborah, the prayer of
Habbakkuk (ch. iii.), and the triumphal song of the Israëliites on the destruction of Babylon (Isaiah, xiv.)

"All odes," says Dr. Blair, "may be comprised under four denominations. 1. Sacred odes; hymns addressed to God, or composed on religious subjects. Of this nature are the Psalms of David, which exhibit to us this species of lyric poetry in its highest degree of perfection. 2. Heroic odes, which are employed in the praise of heroes, and in the celebration of martial exploits and great actions. Of this kind are all Pindar’s odes, and some few of Horace’s. These two kinds ought to have sublimity and elevation for their reigning character. 3. Moral and philosophical odes, where the sentiments are chiefly inspired by virtue, friendship, and humanity. Of this kind are several of Horace’s odes, and several of our best modern lyric productions; and here the ode possesses that middle region which it sometimes occupies. 4. Festive and amorous odes, calculated merely for pleasure and amusement. Of this nature are all Anacreon’s; some of Horace’s; and a great number of songs and modern productions, that claim to be of the lyric species. The reigning character of these ought to be elegance, smoothness, and gaiety."


ODE, in the Modern poetry, is a lyric poem, consisting of long and short verses, distinguished into stanzas, or strophes, wherein the same measure is preserved throughout.

The ancient ode had originally but one stanza, or strophe; but was at last divided into three parts; strophe, antistrophe, and epode. The priests going round the altar, singing the praise of the gods, called their first entrance strophe, i. e. turning to the left; the second, turning to the right, they call antistrophe, q. d. returning; lastly, standing still before the altar, they sung the remainder; which they called epode.

The odes of the ancients, Vossius observes, had a regular return of the same kind of verse, and the same quantity of syllables, in the same place of every similar verse: " But there is nothing (says he) but confusion of quantities in the modern odes; so that, to follow the natural quantity of our syllables, every stanza will be a different song.

He should have observed, however, that all the ancient odes were not of such kind. But he proceeds: "The moderns have no regard to the natural quantity of the syllables, and have introduced an unnatural and barbarous variety of long and short notes, which they apply without any regard to the natural quantity of syllables: so that it is no wonder our vocal music has no effect." De poem. Cantu.

Among the ancients, ode signified no more than a song; with us they are different things. The ancient odes were generally in honour of their gods, as are many of those of Pindar and Horace; sometimes on other subjects, as those of Anacreon, Sappho, &c. The English odes are generally composed in praise of heroes, and great exploits; as those of Dryden, Prior, &c.

The distinguishing character of the ode, as we have observed in the preceding article, is sweetness; the poet is to soothe the minds of his readers by the variety of verse, and the delicacy of words; the beauty of numbers, and the description of things most delightful in themselves. Variety of numbers is essential to the ode. At first, indeed, the verse of the ode was but of one kind; but for the sake of pleasure, and the music to which they were sung, they by degrees so varied the numbers and feet, that their kinds are now almost innumerable.

Modern lyric writers assume to themselves an extravagant liberty in their versification; they prolong their periods to such a degree, they wander through so many different measures, and employ such a variety of long and short lines, corresponding in rhyme at so great a distance from each other, that all sense of melody is utterly lost. Whereas lyric composition ought, more than any other species of poetry, to pay attention to melody and beauty of sound; and the versification of those odes may be justly accounted the best, which renders the harmony of the measure most sensible to every common ear.

Pindar, the great father of lyric poetry, by the boldness and rapidity of his flights, has been the occasion of leading his imitators into some of the defects, with which they are chargeable. His genius was sublime; his expressions are beautiful and happy; his descriptions picturesque. Finding it, however, a very barren subject to sing the praises of those who had gained the prize in the public games, he is perpetually digressive, and fills up his poems with fables of the gods and heroes, that have little connection either with his subject, or with one another. Although he was greatly admired by the an-
cents, he is now so obscure, partly from his subjects in a great degree unknown to us, and partly from his rapid and abrupt manner of treating them, that, notwithstanding the beauty of his expressions, our pleasure in reading his poems is much diminished. Many of his imitators seem to have thought that the resemblance of his disorder and obscurity was the best method of imbibing and indicating his spirit. Euripides and Sophocles, in several of their choruses, have the same kind of lyric poetry with Pindar, and join connected thought and good sense with the highest beauties of poetry. He does not often aspire beyond that middle region, 'which belongs to the ode;' and those odes, in which he attempts the sublime, are not always his best. The peculiar character, in which he excels, is grace and elegance; and in this style of composition, no poet has ever attained to a greater perfection than Horace. No poet supports a moral sentiment with more dignity, touches a gay one more happily, or possesses the art of trifling more agreeably, when he chooses to trifle. His language is so fortunate, that with a single word or epithet he often conveys a whole description to the fancy. Hence he ever has been, and ever will continue to be, a favourite with all persons of taste. Among the poets of later days, there have been many imitators of Horace. The most distinguished is Casimir, who wrote four books of odes; but in graceful ease of expression, he is far inferior to the Roman: he more frequently affects the sublime, and in the attempt, like other lyric writers, often becomes harsh and unnatural. On several occasions, however, he manifests much original genius and poetical fire. Buchanan, in some of his lyric compositions, is very elegant and classical. "Among the French, the odes of Jean Baptiste Rousseau have been much and justly celebrated. They possess great beauty both of sentiment and expression. They are animated, without being rhapsodical; and are not inferior to any poetical productions in the French language. In our own language we have several lyric compositions of considerable merit. Dryden's ode on St. Cecilia is well known. Mr. Gray is distinguished in some of his odes, both for tenderness and sublimity; and in Oodsley's Miscellanies, several very beautiful lyric poems are to be found. As to professed Pindaric odes, they are, with a few exceptions, so incoherent as to be seldom intelligible. Cowly, at all times harsh, is doubly so in his Pindaric compositions. In his Anacreontic odes he is much happier: they are smooth and elegant, and, indeed, the most agreeable, and the most perfect, in their kind, of all Mr. Cowley's poems." In those odes, says Dr. Johnson, where Cowley chooses his own subjects, he sometimes rises to dignity truly Pindaric.

OLMUS, in the Instrumental Music of the Ancients, the name of one of the joints of the ancient flutes, and probably the upper joint or embouchure. See BOMBYX.

ONDEGGIARE, in the Italian Music, signifies to return the hand beating time, not directly, but by degrees; as ondeggia la mano, to keep it waving in the air, or giving it two motions, before it is quite lifted up to end the bar, and thence to fall it to beat a first, second, or third time, of that or another measure. The Italians do not beat time merely by the two motions of down and up; but mark, by waving the hand, every portion of a bar. Suppose, for instance, a movement in common time of four crotchets in a bar, two accented and two unaccented; to the first accent the hand is beaten down; for the second portion of the bar it is waved to the right; for the third to the left; and for the fourth and last part of a bar it is lifted up vertically, and comes down for the first note of the next bar, &c. In triple time of three portions, the hand comes down for the first, is waved to the right for the second, and for the third lifted perpendicular.

ONOFRIO, ST., the name of one of the famous conservatories at Naples. The boys of this conservatorio wear a white uniform. We heard them perform in the church of Santa Maria di Loreto. The performance, in general, was coarse and clumsy; genius and fire -were discoverable now and then in the compositions of these students: but all was unfinished. These seminaries, which heretofore produced such great professors, seem at present to be but low in genius. However, since these institutions, as well as others, are subject to fluctuations, after be-
ing languid for some time, like their neighbour Mount Vesuvius, they will, perhaps, blaze out again with new vigour.

We went a second time to hear the boys of St. Onofrio, at the Franciscans’ church. They performed a Litany, that was composed by Durante; the rest of the music, which seemed to be that of a raw and inexperienced composer, was by a young man, who beat time. There was again a solo on the instrument called "La Voce Humana," it is of an agreeable tone, has a great compass, but was not well played on. A concerto on the violin was likewise introduced, where hand and fire were discovered by the player, but no taste or feeling.

We were admitted into the interior of the conservatorio of St. Onofrio the next day, and visited all the rooms where the students practice, eat, and sleep. On the first flight of stairs was a trumpeter, screaming upon his instrument till he was ready to burst; on the second was a French horn, bellowing in the same manner. In the common practising room there was a Dutch concert, consisting of seven or eight harpsichords more than as many violins, and several voices, all performing different things, and in different keys: other boys were writing in the same room; but it being holiday time, many were absent who usually studied and practised in this room. The jumbling them all together in this manner may be convenient for the house, and may teach the boys to attend to their own parts with firmness, whatever else may be going forward at the same time; it may likewise give them force, by obliging them to play loud in order to hear themselves; but in the midst of such jargon, and continued dissonance, it is wholly impossible to give any kind of polish or finishing to their performance; hence the slovenly coarseness so remarkable in their public exhibitions; and the total want of taste, neatness, and expression in all these young musicians, till they have acquired them elsewhere.

The beds, which are in the same room, serve for seats to the harpsichords and other instruments. Out of thirty or forty boys who were practising, we could discover but two who were playing the same piece. The violoncellos practise in another room; and the flutes, hautbois, and other wind instruments, in a third, except the trumpets and horns, which are obliged to fag, either on the stairs, or on the top of the house.

The only vacation in these schools, in the whole year, is in autumn, and that for a few days only: during the winter, the boys rise two hours before it is light, from which time they continue their exercise, an hour and a half at dinner excepted, till eight o’clock at night; and this constant perseverance, for a number of years, with genius and good teaching, must produce great musicians.

OPERA, a dramatic and lyric representation, in which all the fine arts conspire to form a spectacle full of passion, and to excite, by the assistance of agreeable sensations, interest and illusion.

The constituent parts of an opera are the poem, the music, and the decorations. The mind is addressed by the poetry, the ear by the music, the eye by the painting; and the whole ought to harmonise, in order to move the heart, and convey to it at once the impression through different organs. Of these three parts, our subject does not permit us to consider the first and last, but as they are connected with the second; so that we shall immediately proceed to music, the second constituent part.

The art of combining agreeable sounds may be regarded under two different aspects. Considered as an institution of nature, music is confined to the pleasure which results from melody, harmony, and rhythm; such is, in general, the music of the church; such are the airs for dancing, and for common songs. But as an essential part of the lyric scene, of which the principal object is imitation, music becomes one of the line arts, capable of painting every picture, exciting every sentiment, contending with poetry, giving it new force, embellishing it with new charms, and triumphing over it by enriching it with new beauties and new allurements. The sounds of the speaking voice, not being harmonic or sustained, are so evanescent, and move in such small intervals, as not to be appreciable, and consequently can never unite agreeably with the singing voice, and instruments that produce the same intervals; at least in modern languages, too remote from the musical character: for we are unable to understand many passages of the Greeks concerning their manner of reciting, but by supposing their language so accentuated, that the inflexions of speech in a sustained declamation form among themselves musical
and appreciable intervals, so that we may say their theatrical pieces were a kind of opera; and it is even for this reason that we can have no opera properly so called among us. But if the declaiming speech of the Greeks was not tuneful, what effects could be produced by the *Echoia*, or vases tuned to musical intervals, in the theatres of the Greeks, as described by Vitruvius, lib. v. cap 5?

Thus far Rousseau, whose ideas on the subject are always elegant and ingenious; but we fear they will never be fulfilled, at least in France.

We must now trace the origin of musical dramas, and point out by what gradations they have been brought to the acme of such perfection as they have attained in Italy, Spain, Portugal, Vienna, Dresden, Russia, and London. The annals of modern music have hitherto furnished no event so important to the progress of the art, as the recovery or invention of *recitative*, or dramatic melody: musicians till this period having been chiefly employed in gratifying the ear with "the concord of sweet sounds," without respect to poetry, or aspiring at energy, passion, intellectual pleasure, or much variety of effect. Epic poetry could never derive great advantage from music, or music from epic poetry: so long a poem as the *Iliad*, or *Aeneid*, if we suppose either of them to have been originally sung, could admit of few embellishments or refinements from lengthened tones; it was the *lyric* poetry of the ancients as well as the moderns, consisting of short effusions of passion or sentiment, in various measures, that best exercised the powers of musical expression. That narration which is sung, like the epic poems of the ancients, by the original bards, or their dependents the rhapsodists, whose minds may be fatigued by the attention interludes, between the acts, to relieve the spectator, or orators, whose minds may be fatigued by the attention they have bestowed on the fable."

To this drama there is an argument in verse. The piece is in five acts. Aristasus, a shepherd, the son of Apollo, loved Eurydice, the wife of Orpheus, in so violent a manner, that he pursued her in the fields; and in her flight from him, she was bitten by a serpent, of which she died. Orpheus, by singing, so softened the infernals, that they suffered her to depart, on condition that he would not look behind him. But not obeying this injunction, she was forced back to hell. Upon his great grief, and resolution never to love another female, the Thracian women tore -him to pieces.

At the latter end of the 16th century, during all the rage for fugue, elaborate contrivance, and the laboured complication of different parts, without rhythm, grace, melody, or unity of design; the lovers of poetry were meditating the means of rescuing her from musical pedants, who, with a true Gothic spirit, had loaded her with cumbrous ornaments, in order, as was pretended, to render her more fine, beautiful, and pleasing, after having fettered, maimed, and mangled her.

That no musical dramas, similar to those that were afterwards known by the names of operas and oratorios, had existence in Italy before the beginning of the 17th century, seems certain by no mention being made of them in the ample list given by Angelo Ingegneri, 1598, of all that were then known, in his discourse on the representation of dramatic fables and poetry, where he treats of *tragedie, comedie, pas- torali*, *piscatorie*, *boschereccie*, &c. all declaimed entirely, except the choruses, which seem to have consisted of odes or madrigals, set to music in parts. Music is the *first* consideration in operas and oratorios; but this author says at the end of his book, "I now come to music, the *third* and *last* part of dramatic representations, which, in comedies and pastorals, without choruses, will be used at pleasure, in interludes, between the acts, to relieve the spectators, whose minds may be fatigued by the attention they have bestowed on the fable."

We are often told, however, of musical dramas performed at Rome and Venice, long before this period: and every writer on the subject informs us, that Sulpitius, in his dedication of Vitruvius, speaks of a tragedy that was recited and sung at Rome, under the auspices of cardinal Riario, 1480; that Alfonso della Viola set a drama to music, in 1560, for
the court of Feirara; and that at Venice there was an opera performed for the entertainment of Henry III. of France, at his return from Poland, on the death of his brother Charles IX., 1574, which was set by the famous Zarlino. These, and more, have been com­

founded by father Menestrier with the musical dra­

mas of later times, after the invention of recitative, which alone should distinguish the opera and or­

torio from every other species of theatrical exhibi­

tion; but these early attempts at singing were no more dramatic than a mass, service, full anthem, or madrigal, would be if sung on a stage. Indeed, some of the dramas, which preceded the year 1600, had choruses and intermezzi in measured music, and inci­

cidental songs, like our masques in the reigns of queen Elizabeth and James I., in which, however, the dialogue was all spoken.

Three Florentine noblemen, viz. Giovanni Bardi, count of Verona, Pictro Strozzi, and Jacopo Corsi, of good taste in literature, being discontented with every former attempt at perfecting dramatic poetry and exhibitions, determined to unite the best lyric poet with the best musician of their time; and there­

fore chose Ottavio Rinuccini and Jacopo Peri, their countrymen, to write and set to music the drama of Dafne, which was performed in the house of signor Corsi, in 1597, with great applause; and this seems the true era whence the opera, or drama, wholly set to music, and in which the dialogue was neither sung in measure, nor declaimed without music, but re­
cited in simple musical tones, which amounted not to singing, and yet was different from speech, should be dated. After this successful experiment, Rinuccini wrote Euridice and Arianna, two other dramas for the same kind of music.

The revival of theatrical music was brought about by the invention of recitative, which is now universally received, practised, and preferred to the mad­

rigal style, in which the words are so utterly unintel­

ligible.

Peri, in his preface, after enumerating the great personages who were present at the representation of the musical drama of Euridice at Florence in 1600, and the eminent musicians to whom his music had been shewn, tells us, that it was sung by the most ex­

cellent performers of the time; among whom were signor Francesco Rasi, a nobleman of Arcizzo, who represented the part of Aminto; signor Brandi, Ar­
cetto; and signor Melchior Palantrotto, Pluto. He then tell us, that " behind the scenes, signor Jacopo Corsi played the harpsichord; Don Garzia Montalvo the chitarone, or large guitar; Messer Giovambatista dal Violino the lira grande, or viol da gamba; and Messer Giovanni Lapi a large lute." These four seem to have composed the whole band. For though he celebrates the performance of Giovambatista Jacomelli on the violin, neither he, nor any one else, played on that instrument at the exhibition. He concludes his account of this drama by owning that some parts of it were composed by Giulio Caccini, detto Romano, "whose great merit was known to the whole world," because it was to be sung by persons dependent on him; by which he probably means to say, that they were his scholars. He boasts of having opened the road for others, by his essays at dramatic music.

Monteverde set Rinuccini's Arianna for the court of Mantua, in 1606; the words only were then printed, and reprinted several times after. This opera was performed at Venice, 1640, to Monteverde's composition, and the words again reprinted; but whether the music was ever published, we know not.

In a discourse by Pietro della Valle on the music of his own time, addressed by that celebrated travel­

ler to Lelio Guidiccione in 1640, and published in the second volume of the works of Battista Doni, at Florence, 1763, there is an interesting, clear, and ad­

mirable account of the state of music in Italy, but particularly at Rome, during the beginning of the 17th century.

This agreeable writer, who had studied music under the best masters from seven years old, and who seems to have been an excellent judge of the subject, having differed in opinion from his corres­
pondent, who, in conversation, had asserted that music for 50 years back had been declining, and that there were no professors left equal to those of former times; La Valle endeavouring to prove, on the con­
trary, that, so far from having degenerated, it was in a state much nearer perfection at the time he wrote, than at any former period.

If canons, fugues, inversions, and all the artifices of elaborate and learned compositions are less prac­tised in vocal music now, says the author, than formerly, it is because they are so unfavourable to
poetry, and the intelligence of what is sung; for in fugues of many voices, there are as many different words as notes sung at the same time, which occasions such confusion, that it is utterly impossible to discover the sentiment of the poet, which is the soul of the song, and that which chiefly makes a voice superior to an instrument. If the words and the notes do not mutually help to explain and enforce each other, they are ill-matched, and unfit to be together. To the confusion arising from all the parts singing different words at the same time, may be added the little attention to accent in fugues, where the ligatures and other accidents in harmony frequently throw the emphasis on wrong words, and make long syllables short, and short long. Another inconvenience, or rather absurdity, seems inevitable in vocal fugues of much subtlety and contrivance, where quick and slow, cheerful and pathetic notes, are moving at the same time, which makes good performers unwilling to sing them, as they can neither manifest taste, nor sense, in the execution.

The old masters certainly were well acquainted with harmony, but few knew what use to make of it. Their compositions are full of the most artful and difficult inventions and contrivances, which the car can neither taste nor comprehend in the performance.

This is not the method by which modern masters proceed: they have learned how to choose and respect good poetry, in setting which they relinquish all the pedantry of canons, fugues, and other Gothic inventions; and, in imitation of the ancient Greeks, aspire at nothing but expression, grace, and propriety.

The first good compositions that have been heard of this kind, in modern times, were Dafne, Euridice, and Arianna, written by Rinuccini, and set by Jacopo Peri and Monteverde.

In the first operas, music was the principal object, with mythological characters in the fable. Machinery next took the lead, with perspective and decoration; when it was impossible to tire an audience at a greater expense.

It was near 50 years before regular airs had admission in these early musical dramas. At first they were generally accompanied by the singer himself on the violin, harp, or violoncello; but during the mythological passion, and rage for machinery, the only wish of the impresario was to dazzle the eyes, and stun the ears of the audience.

Gods and devils, heroes and heroines, and at length men and women, as history represents them, were brought on the stage. These several reforms and changes of taste in the public led at length to Apostolo Zeno and Metastasio; when the exquisite airs of Leo, Vinci, and Pergolesi, with the great vocal talents of a Pistocchi, Nicolini, Farinelli, the Faustina, and Cuzzoni, exalted the lyric stage to its highest degree of public favour.

Rousseau's reflections on the language most proper for music are all levelled at the French, and at their nasal, equivocal, and mute syllables. He has an excellent period on the imitations of painting and music: "Music imitates the sentiments, painting the image of man."

Imitations in painting are always cold, from the want of that succession of ideas, and those impressions which heat and inflame the soul by degrees; whereas in painting, every thing is said at the first glance. The imitative power of this art, with many apparent objects, is confined to very feeble representations. It is one of the great advantages of a musician, that he is able to paint things which cannot be heard, while it is impossible for the painter to delineate what cannot be seen and the greatest prodigy of an art, which has no other activity than its movements, is to be able to paint the image of repose, of sleep, a calm night, -solitude, and even silence, among musical pictures. Sometimes noise produces the effect of silence, and silence the effect of noise: as when a man sleeps at an equal and monotonous reading, and wakes the instant it stops; and it is the same for other effects. But the art has substitutions more fertile and more subtile than these. It can excite by one sense similar emotions to those that can be excited by another: and as the relation can only be
sensible by a strong impression, painting, in want of such force, returns with difficulty to music those imitations which she has drawn from her. Let all nature sleep, he who contemplates the sight is not asleep; and the musician's art consists in substituting, to the insensible image of the object, that of the movements which its presence excites in the mind of the spectator. He does not represent the immediate object, but awakens in our minds the same sentiments which we experience in seeing it. Rousseau goes deep into dancing. See BALLET.

Operas in general are not to be read or spoken, but to be sung; and "nonsense well tuned" has at all times been heard with pleasure. But there is agreeable nonsense, and there are pleasing trifles. Music can please without words, as well as poetry without music; each has its votaries and distinct powers of affording delight. The union of both is certainly best; as the words, if they could be understood, might not only please but convey instruction. But there is a jealousy between the two sisters, Music and poetry, which prevents them not only from being kind relations, but good neighbours. Yet does not poetry frequently beg assistance from Music to embellish both her tragedies and comedies with incidental songs, symphonies, choruses, soft music, marches, act tunes, &c. even in her regular dramas that are declaimed, such as Macbeth, the Tempest, Fair Penitent, &c. without Music thinking herself degraded by acting a subordinate part? And might not Music ask the aid of her sister poetry, to furnish her with impassioned words, as vehicles for her strains as principal? If this were done reciprocally and cordially, with a sincere wish to assist and exalt each other by turns, without envying and grudging every mark of approbation that is bestowed on her rival, and regarding it as a robbery from herself, each might severally display her peculiar powers of charming and instructing by turns, without injury or degradation.

A lyrical drama is incomplete without music, which is not the case with a play written for declamation: yet people are dissatisfied if an opera does not read in the closet as well as a tragedy or comedy. Unreasonable critics want to unite two things totally incompatible, strength and energy with melodious softness. They want black and white to harmonize, without tinging or deforming each other.

Verses full of philosophy and ethics, strong reasoning, bold metaphors, or epigrammatic wit, must be enfeebled by music, which conveys them slowly to the mind; though passion, sentiment, graceful and pleasing images and descriptions, are embellished by it. Degrading poetry to elevate music, would be acting in a hostile manner to our own pleasures. Let poetry be regarded as an intellectual pleasure, if you please; and music be ranked, like painting, as an innocent gratification of sense. There surely can be no more harm in listening with rapture to fine music Well executed, than in regarding with delight and wonder a cartoon of Raphael, or a holy family of Correggio. Sublime poetry leaves the musician nothing to do.

No people write about music more agreeably, or with reasoning more specious, than the French; and for themselves, and their own powers of execution, it is more than specious: for, singing out of the question, it is oracular. In France, where the art of singing is unknown, at least by their public singers, their dramas should be calculated for declamation, by which they would be rendered more interesting, and more impressive, than where singing is the principal talent to be displayed.

But when great singers are employed at an enormous expence, who have voices highly cultivated, and are possessed of uncommon powers of embellishing sound, and of rendering music something more than vox pretereaque nihil, why should they be denied the opportunity of displaying their abilities, and the lovers and judges of music of receiving delight from their exertions? There is nothing immoral in sound, if it is even connected with vice or immorality; it is by keeping bad company, and embellishing the ribaldry and nonsense of another art;—it is needless to say that poetry is in fault.

OPERA Buffa, or Burletta, in Italian Music. It was the opinion of Muratori (Delia Perf. Poes.), that a musical drama or farce, called "L'Anfiparnaso," written and set by the celebrated Orazio Vecchi, and acted and printed at Venice, 1597, was the origin of the opera buffa, or comic opera, in Italy; and that learned antiquary seems implicitly to have founded his opinion upon the author's own words; who, in the preface, says, that his performance is an "accoppiamento di comicita e di musica, non piu stato
fatto, ch’io mi sappia, da altri, e forse non immaginato: A union of comedy and music, never attempted, to his knowledge, nor perhaps ever thought of before." The several Italian states being under different governments, and having but little communication with each other, may account for Orazio Vecchi’s ignorance of any attempt at a musical drama before; but Muratori, in later times, should have known what every stranger is able to learn from the general register of dramas of every kind in the "Drammaturgia di Lioni Allacci," that besides the Sacrificio of Bccari, set to music by Alfonso Viola, at Ferrara, in 1555, there are innumerable musical dramas upon record of a higher date than l’Anfiparnaso of Orazio Vecchi: as I Pazzi Amanti, rappresentata in musica in Venezia, 1569; La Poesia Rappresentativa, componimento per Musica, Ven. 1574; La Tragedia, componimento, poesia di Frangipani, musica di Claudio Merula, Ven. 1577; La Poesia Rappresentata, componimento musicale cantato in Venezia, l’anno 1578; Il Re Salamone, rappresentazione musicale, cantata in Ven. 1579; Pace, e Vittoria, rappresentazione, canzoni et canzoni, in Venezia, 1580; Pallade, componimento per musica, in Venezia, 1581, and II Fiore, rappresentazione cantata in musica, Ven. 1582, &c. most of which were probably sung to the same kind of music as Vecchi’s Comedia Armonica; but to none of them can the title of opera be accurately given, as they all preceded the invention of narrative melody, or recitative, which, in our opinion, can only constitute an opera serious or comic.

The music of this piece is printed in a score of five separate parts, which are all employed throughout, even in the prologue, which in modern times is usually a monologue. So that each scene is nothing more than a five-part madrigal in action: for though the whole is in measure, and in five parts, yet all the characters never appear on the stage together, except in the finale, or last scene. There are excellent wooden cuts at the "beginning of every scene, by which the number of persons employed in it, and their principal business appear.

This drama is neither mentioned by Crescimbeni, nor in the Drammaturgia; and though Walther gives a list of twelve works, which Orazio Vecchi printed between the years 1580 and 1613, the Anfiparnaso is not included. Nor is it enumerated among this author’s works by his scholar, our countryman, Peacham. Vecchi ranked very high among the composers of his time; and, according to Santarelli, was the first who used the B quadro or ♩, not merely to express the sound B natural in the diatonic scale, to which it had till then been wholly confined; but as a moveable character, applicable to any other sound that had been altered by a flat or a sharp, which it has the power of restoring to its original pitch in the scale.

In the wooden cut preceding the prologue, and several scenes of the piece, as only one figure is represented, though the music is in five parts, the other four must have been sung behind the scenes.

And as there is nothing like a solo air, or recitative, in the whole performance, it appears that the drama had not yet got out of the trammels of fugue, imitation, and perpetual chorus; and that so much of the church style was still preserved as to render modulation equivocal, and the keys difficult to determine by any rules in present use. The time, too, is as unmarked and doubtful as the modulation; and what little melody there is, by being divided among so many parts in dissimilar motion, loses its effect, and must have rendered the words unintelligible even to the natives of Italy.

As there is no overture to this or any of the first musical dramas, we may suppose that the prologue supplied its place. Indeed, no part for an instrument of any kind is printed throughout the piece; consequently, as there was no orchestra, there could be no symphonies or ritornels to the songs, or rather choruses, of each scene.

Every movement throughout this drama begins in common time, and very seldom changes into triple measure. There are no bars, or flats and sharps at the clef. But though it is very seldom that any other sign than that for common time appears, as ♩, ♩, ♩, yet we are convinced that the measures must frequently have been changed, by agreement, in the performance, to make melody of some passages practicable; which, though extremely difficult and unmeaning in common time, become easy, pleasing, and expressive in triple. And it is not perhaps so much from the change of style and general cast of the melody, that we have lost the expression of old music, as from our ignorance of the time, not only of the movements, but of the notes...

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themselves, to which great latitude must have frequently been given in the performance; though the composers had not discovered the art of expressing this latitude by the different characters or technical terms, which have since become general.

Vecchi lived in an age when an opportunity for fugue and imitation was irresistible. In scenes of dialogue, such contrivances might have been turned to account; but there is little diversity of style or movement from the beginning to the end of the piece. The language is in general Modenese, and not intelligible even to many Italians.

In comparing Vecchi’s music in five parts with that of Emilio del Cavaliere, Jacopo Peri, Giulio Caccini, and Claudio Monteverde, the legislators of dramatic music, it appears that Muratori has been guilty of two mistakes in his account of Orazio Vecchi’s musical comedy: first, in supposing it to have been the earliest of the kind that was wholly sung from the beginning to the end, without any mixture of declamation, as instances have been produced of eight anterior pieces of the same kind; secondly, in imagining that Rinuccini took this drama for a model, as the dramas which Emilio del Cavaliere set for Florence, so early as the year 1597, offered him an example of a species of music much more dramatic than the madrigal style of Vecchi, which was precisely that which Rinuccini and his learned Florentine friend wished to avoid.

When and where the first opera buffa was performed, in stile recitativo, we have not been able to ascertain. There was a mixture of comic characters in almost all the musical dramas of the last century: however, in 1641, soon after the introduction of serious operas upon the Venetian stage, we find the comic opera of La Finta pazza, written by Claudio Strozzi, and set by Sacrati, and La Finta avara, written and set to music by Benedetto Ferrari, in the list of the musical dramas of that year. And among those performed at Rome and Bologna, about the same time, though the music is not easy to find, the words have been preserved in many collections of poems. The famous opera of Orontea, first set by Cesti in 1649, as mentioned elsewhere, was a tragi-comedy; as was the opera of Erismnca, set by Cavalli in 1655, of which also an ample account, with specimens of the music, have been given. But at this time, air, which was scarcely separated from recitative, had not two distinct characters, as at present, for serious and comic purposes; for the subjects of comic operas, during the last century, were seldom so farcical as those of modern burlettas, and therefore were less likely to suggest such gay, grotesque, and frolicksome measures. Tragi-comedies in music had a very early admission on the stage at Bologna, during the last century: as Andromeda Tragicomedia, set by Girolamo Gicobbi, maestro di capello of S. Petronio, and founder of the academy de’ Filomusi in that city, was performed in 1610, and Amore vuol gioventu, Scherzo drammatico, at Viterbo, 1659; Musica di Giambalista Maxiani, 1659. But the only real burlettas, which we have met with, are Cirello, Dramma burlesca, set by Piglottchi, 1672, which was represented at Venice by little figures of wax; I dui Diogeni, Dramma burlesca per Musica, and Agrippina in Baja, Scherzo Drammatico per musica, were both performed at Ferrara, 1687. Indeed, we learn but little of the burletta music of Italy, till the comic operas of Latilla, Ciampi, and Galuppi, were performed on our stage, of which we shall have occasion to speak elsewhere.

ORATORIO, Ital. Oratoire, Fr. Oratorium, Lat. a sacred drama in Latin, or any national language, divided into scenes, and usually in three acts or parts, in imitation of theatrical pieces, but always written on subjects, taken from scripture, or church history, set to a grave and solemn music, in order to be performed vocally, and instrumentally, in a church, or elsewhere during Lent. This custom, says Rousseau, is inadmissible in France. French music is so undramatical, it is enough to be allowed to expose itself in the ties, without exhibiting its defects in the church, and Progress of the sacred musical Drama, or Oratorio.

The first rappresentatione, or exhibition truly dramatic, that was performed in Italy, according to Apostolo Zeno, was a spiritual comedy, at Padua, 1243, 1244. (Bibl. Ital. p. 487.) Another Representation of the Mysteries of the Passion of Christ, &c. according to Muratori, was performed at Friuli, 1298. (Script. Rer. Ital. vol. xxiv. p. 1205.) In 1264, was instituted at Rome the Compagnia del Gonfalone, the statutes of which were printed in that city 1554, and of which the principal employment was to act or represent the sufferings of our Lord, in Passion-week, an institution which was long continued.
there. See Riccoboni’s Reflex, hist, et crit. sur les différens Theatres d’Europe; et Trattato dell’ Opera in Musica del Cavalier Planelli, § i. cap. 1.

According to Villani, Vasari, Cionacci, and Crescimbeni, la representatione sacra teatrale had its beginning in Tuscany. (See Signorelli’s Storia crit. de’ Teatri, p. 189.) Tiraboschi, Storia della Letterat. Ital. torn. v. i. iii. cap. 3. claims the origin and invention of every species of drama for the Italians. However, the ingenious and agreeable author of the Biog. Dramatica, or Companion to the Playhouse, (Introd. p. 9.) observes, that "those who imagine the English to have been later in the cultivation of the drama than their neighbours, will, perhaps, wonder to hear of theatrical entertainments almost as early as the Conquest; and yet nothing is more certain, if we may believe an honest monk, one William Stephanides, or Fitz Stephen, in his Descriptio Nobilissimæ Civitatis Londinæ, who writes thus: London, instead of common interludes belonging to the theatre, has plays of a more holy subject: representations of those miracles which the confessors wrought, or of the sufferings, wherein the glorious constancy of the martyrs appeared. This author was a monk of Canterbury, who wrote in the reign of Henry II. and died in that of Richard I. 1191; and as he does not mention these representations as novelties to the people, for he is describing all the common diversions in use at that time, we can hardly fix them lower than the Conquest; and this, we believe, is an earlier date than any other nation of Europe can produce, for their theatrical representations."

Le Chant Royal was invented in France about 1380; it consisted of verses to the virgins and saints, sung in chorus by troops or companies of pilgrims returning from the holy sepulchre. Menestrier, des Representations en Mus. There were mysteries represented in Germany 1322. And in the same century, 1378, the ecclesiastics and scholars of St. Paul’s school exhibited similar interludes in England.

But though every nation in Europe seems, in the first attempts at dramatic exhibitions, to have had recourse to religious subjects, and an oratorio, or sacred drama, is but a mystery or morality in music, yet those that were written before the seventeenth century seem never to have been entirely sung; but chiefly declaimed, with incidental airs and choruses. The late Rev. and learned Mr. Crofts, and the honourable Topham Beauclere, in their curious libraries had collected a great number of these religious poems or mysteries, in Italian, of which we procured many of the most ancient, at the sale of their books, in order to trace the origin of the sacred musical drama. Some of them, by the gross manner in which the subjects are treated, the coarseness of the dialogue, and ridiculous situations into which the most sacred persons and tilings are thrown, seem, though printed soon after the invention of the press, to be much more ancient than that discovery.

Gio. Battista Doni (Trattato della Musica Scena, c. vi. p. 15. Op. omn. tom ii. S. Giovanni e Paolo, one of the Collect, was written by Lorenzo il Magnifico; Santa Domitilla, and Santa Guglielma, by Antonio, wife of the poet Pulci, in the fifteenth century), speaking of oratorios, says that by a spiritual representation he does not mean that gross, vulgar, and legendary kind of drama used by the nuns and monks in convents, which deserve not the name of poetry; but such elegant and well constructed poetical fables as that of St. Alexis, by the ingenious Giulio Rospiglioni, many times represented, and always received with great applause. This oratorio, which is omitted in the Drammaturgia, though printed in score, in folio, 1634, was set to music by Stefano Landi, of the Papal chapel, and performed at the Barberini palace in Rome, on a stage, and in action, with dances, machinery, and every kind of dramatic decoration, of which a splendid account is given in a preface and letter prefixed to the work.

This description seems to comprehend the poetical virtues and vices of all ancient and modern religious dramas. The abbe Arnaud, in his Essai sur le Theatre Anglois, (Variétés Litt. torn. i. p. 29.), says that the fathers of the church in the first ages of Christianity, indulging the passion of the people for public spectacles, opposed religious dramas, built on the sacred writings, to the profane, which had been long used by the Pagans.

At the revival of theatrical amusements, when the reformers began to disseminate their doctrines throughout Europe, religious plays were made the vehicles of opinion, both by the Catholics and Protestants; and there are Latin dramas of this kind, as well as others in modern languages, extant, which might with propriety be called oratorios. At the be-
beginning of the Reformation in England, it was so common for the defenders of the old and new doctrines to avail themselves of plays composed on subjects of scripture, in which they mutually censured and anathematised each other, that an act of parliament passed in the twenty-fourth year of Henry VIII. to prohibit the acting or singing any thing in these interludes contrary to the established religion. It appears, however, in Collyer's History of the Reformation, that after this period, the mysteries of the Roman Catholic religion were ridiculed by the Protestants, on a stage, in churches. It is related by Cardan, in his eloge of our young king, Edward VI. that he had written a most elegant comedy, called The Whore of Babylon. The number of comedies, and tragi-comedies, written about this time, is incredible; they are, however, said to have been even more extravagant and gross, than numerous. One is entitled, Jesus the true Messiah, a comedy; another, The new German Ass of Balaam; the Calvinistical Postilion; the Christian Cavalier of Eislebn, a delectable, spiritual comedy, including the history of Luther and his two greatest enemies, the pope and Calvin; A pleasant comedy of the true old Catholic and Apostolic church, Sec. Storia Crit. de’ Teatri, p. 248. The Conversion of St. Paul, performed at Rome, 1440, as described by Sulpicius, has been, erroneously, called the first opera, or musical drama. (Hist. de la Mus. torn. i. p. 241. and Menestrier, sur les Reprors. en Mus.) Abram et Isaac suo Figliuolo, a sacred drama (azione sacra) “ showing how Abraham was commanded by God to sacrifice his son Isaac on the mountain,” was performed in the church of St. Mary Magdalen in Florence, 1449. Another on the same subject, called Abraham and Sarah, “ containing the good life of their son Isaac, and the bad conduct of Ishmael, the son of his handmaid, and how they were turned out of the house,” was printed in 1556. Abel e Caino, and Sampson, 1554; The Prodigal Son, 1565; and La Commedia Spirituale dell’ Anima, “The Spiritual Comedy of the Soul,” printed at Siena, but without date; in which there are near thirty personifications, besides St. Paul, St. John Chrysostom, two little boys who repeat a kind of prelude, and the announcing angel who always speaks the prologue in these old mysteries. He is called l’angelo che nunzia, and his figure is almost always given in a wooden cut on the title-page of printed copies. Here, among the interlocutors, we have God the Father, Michael the archangel, a Chorus of Angels, the human Soul with her Guardian Angel, Memory, Intellect, Freewill, Faith, Hope, Charity, Reason, Prudence, Temperance, Fortitude, Justice, Mercy, Poverty, Patience, and Humility: with Hatred, Infidelity, Despair, Sensuality, a Chorus of Demons, and the Devil. None of these mysteries are totally without music, as there are choruses and laudi, or hymns, that are sung in them all, and sometimes there was playing on instruments between the acts. In a play written by Damiano and printed at Siena, 1519, according to Crescimbeni, torn. i. p. 107, at the beginning of every act there was an octave stanza, which was sung to the sound of the lyra viol, by a personage called Orpheus, who was solely retained for that purpose; at other times a madrigal was sung between the acts, after the manner of a chorus. It was, however, by small degrees that entire musical mysteries had admission into the church, or were improved into oratorios. All the Italian writers on the subject agree, that these sacred musical dramas had their beginning in the time of San Filippo Neri, who was born 1515, and founded the congregation of the Priests of the Oratory at Rome, in 1540. This saint, who died 1595, is numbered among Italian improvisatori, by Quadrio, torn. i. p. 163. He was originally intended for a merchant, but was drawn from commercial pursuits by Vocation. Ora
torio, Ital. Oratorium, Lat. implies a small chapel, or particular part of a house or church, where there is an altar. The spaces between the arches of Romish churches, are called Oratorii, Ital. Oratoires, Fr. Anglicè chapels. The Congregation of the Oratory, established at Rome, and in some other cities of Italy by S. Phil. Neri, about 1558, originated from the conferences which this pious ecclesiastic held in his own chamber at Rome. The great number of persons who attended these meetings obliged St. Phil, to request the administrators of the church of San Girolamo della Caritu to grant permission to hold these assemblies there, which was granted. In 1574, they were transferred to the church of the Florentines; and in 1583 to Santa Maria della Vallicella. By degrees this establishment spread itself all over Italy, where it has still many houses. The members arc bound by no vow. Dict. des Cultes. Relig.
It appears that these fathers, in whatever city of Italy they had an establishment, entertained their congregations with good music. During the service and after sermon, it was usual for them, among other pious exercises, in order to draw youth to church, and keep them from secular amusements, to have hymns, psalms, and other spiritual laudi, or songs, sung either in chorus, or by a single favourite voice, divided into two parts, the one performed before the sermon, and the other after it.

But though this devout practice was begun in so simple a manner, with only spiritual cantatas, or songs, on moral subjects; in order to render the service still more attractive, some sacred story or event from scripture was written in verse, and set by the best poets or musicians of the times. These being composed in dialogue, and rendered interesting to the congregation, such curiosity was excited by the performance of the first part, that there was no danger during the sermon that any of the hearers would retire, before they had heard the second.

The subjects of these pieces were sometimes the good Samaritan; sometimes Job and his friends; the prodigal son; Tobit with the angel, his father, and his wife, &c. All these, by the excellence of the composition, the band of instruments, and the performance, brought this oratory into such repute, that the congregations became daily more and more numerous. And hence this species of sacred musical oratory. The second in 1603: Laudi spirituali di diversi, solite cantarsi dopo Sermoni da P. P. della Cong, dell' Oratorio; among these were dialogues, in a dramatic form. (Crescimbeni, Introd. all' Istor. della Volg. Poesia, vol. i. lib. iv. p. 256.) See MYSTERIES and MORALITIES, which were often dramatized and formed into oratorios for convents and churches, and performed on festivals.

ORCHESIS, in the Ancient Pantomime, was a term given by the Greeks to what the Romans termed Saltatio. It consisted in imitating all the gestures, and all the movements practised by mankind. Varro tells us that the word Saltatio comes from Salus, who first taught the art to the Romans. We must not, as is generally done, confound the dance with the leap; but remember that the true dance of the ancients was an imitation of the actions, attitudes of the body, gestures, in short, of all the demonstrations with which men commonly accompany their speech, or which they sometimes use to explain their sentiments without the assistance of words.

The art was divided into many species, and had produced among the ancients such a number of different dances, that Meursius composed an entire dictionary with their names. According to Athenæus, Thelostes was the inventor of this kind of dance, which we call the acting art.

This was, of all the musical arts, that of which the ancients were most passionately fond, and which was of the greatest utility in every state of life, from the strolling player to the orator.

Apuleius has left us a description of a representation of the Judgment of Paris, executed in pantomime. He only uses the word to march, and says, that Venus declined with her eyes. So that the ancients seldom boasted of feats of activity with the legs and feet of their dancers; but often with their arms and hands. The muse Polhymnia was the patroness of Mimes, with her finger on her mouth in token of silence. Some etymologists, among whom are Plutarch and Nonnus, derive her name from Μύημη tradition, alluding to the tales and fables of antiquity. Nonnus, Dionys. v. v. 104, et seq. says,
"Sweet Polymnia see advance,  
Mother of the graceful dance.  
She who taught the ingenious art  
Silent language to impart:  
Signs for sentiment she found,  
Eloquence without a sound,  
Hands loquacious save her lungs,  
All her limbs are speaking tongues."

See MIME and PANTOMIME.

ORCHESOGRAPHY, the art of noting all the steps and motions used in dancing. See DANCE.

ORCHESTRA, in the Drama, the lower part of the ancient theatre; made in form of a semicircle, and surrounded by the seats. It was so called, because, in the Grecian theatres, it was a place where they held their balls; from ορχεομαι, I dance.

The orchestra, among the Greeks, made a part of the scena; but, on the Roman theatres, none of the actors went down to the orchestra, which was taken up with seats for the senators, magistrates, vestals, and other persons of distinction; answering, nearly, to the pit, in our theatre.

The orchestra of the ancient Greeks had its name from being that part of the theatre where the dances were performed. At present the word is more particularly applied to the station where a band of music is placed in a theatre, or great concert room. The leader of a band, or orchestra, should not only be a great and experienced performer, but of a firm and determined character, that commands respect for his orders; given without insolence or tyranny, but in a manner not to be disputed or disregarded. All the perfections or defects of an orchestra are ascribed by the public to want of discipline or weight in the leader. The numerous imitative and picturesque effects dependent on the orchestra of an opera, excite as much attention in the audience, as the poetry and singing. The orchestra is a composer's palette, and each solo instrument a colour and a pencil. The tone of these, whether alone, or in the aggregate, should have their peculiar and general effect, occasionally, and contribute to the colouring of the piece.

The material of which an orchestra is constructed, is not a matter of indifference; it should be formed of soft and sonorous wood, such as picked deal or fir; the spectators should not be allowed a place so near as to lean upon it, and check its vibration. It should be regarded as a grand instrument, which accords with all the others, and augments their effects. The arrangement of an opera band should be in such a manner, as that the several instruments may not be too near or too remote from each other. The number of each species of instruments should be proportioned to the effect which they ought to produce when employed together. The bases, for example, should not suffocate the trebles, nor the trebles be overpowered by them. The haut-bois should not domineer over the violins, nor the seconds over the first. The wind instruments and drums, above all, should be kept under, and not fancy that music and noise are synonymous terms. With regard to the distribution of the interior, care must be taken, first, that the violins are ranged in two lines, facing each other, one fronting the stage, and the other facing the audience; 2dly, that the bases should be disposed round the two harpsichords, and in every part of the orchestra; as the base, which regulates and sustains the harmony of the several parts, should be equally heard by all; 3dly, that all the performers should have an eye on the master at the first harpsichord, and the master be enabled to see them; in the same manner each violin should be in sight of the leader, and each reciprocally see and be seen by each.

In 1754, the first orchestra in Europe for number and intelligence, was that of Naples; but that which was the best distributed, and formed the most complete whole, was the orchestra of the king of Poland, at Dresden, under the direction of the illustrious Hasse; a plate of which is inserted G fig. 1. in Rousseau's Hist, de Mus. The representation of this orchestra shows how, by a single glance of the eye, an idea may be formed, of the distribution of the performers, better than by a long verbal description. We asked signor Hasse at Vienna if this representation of the Dresden orchestra was accurate, and he said it was so correct, that he should have imagined that M. Rousseau had been an able painter, and made the drawing himself.

Rousseau finishes the article orchestra by a contrasted description of that at Paris of the same period, which we suppose has been reformed with the state. It will, however, be historical, and enable our readers to form some idea of what kind that music was, and how performed, with which the natives of France were so pleased and exclusively vain. "It
has been observed," says the citizen of Geneva, "that
of all the orchestras in Europe, that of the opera at
Paris, though one of the most numerous, produced
the least effect. The reasons are very obvious; first,
the bad construction of the orchestra, buried in the
earth, and surrounded with rails of heavy and
massy wood, cramped with iron, which impedes all
resonance. 2d. The bad choice of the performers, for
the most part forced on the manager by recommend-
ation, with scarce any knowledge of music, or the
least intelligence or attention to the effect of the en-
ssemble. 3. Their stunning and invariable noise, tun-
ing, and flourishing continually with all their force,
without ever being in tune. 4. The French
propensity, which is in general to neglect and dis-
dain all that becomes a daily labour. 5. The bad in-
struments of the performers, which remaining on
the spot are always out of order and unfit for use,
destined to roar during one half of the year, and to
rot the other." 6. The bad situation of the master,
who is in front of the theatre, and occupied by the
vocal performers, is not able to attend sufficiently to
the orchestra, which is behind him instead of being
in full view. 7. The insupportable noise the
truncheon of him who beats the time makes, which
covers and destroys all the effects of the symphon-
ists. 8. The bad harmony of the compositions, which
being never pure and select, lets nothing be heard
but noise and confusion. 9. The scarcity of double
bases and violoncellos, of which the drawling
sounds suffocate the melody and deafens the audi-
ence. 10. And finally, the total want of measure, and
indeterminate character of the French music, where
it is the singer who directs the orchestra, instead of
the orchestra regulating the singer, and where the
treble leads the base, instead of the base leading the
treble."
Sixteen years after this period, the orchestra at
Brussels was the most celebrated in Europe, though
its performers were the ministers of French music. It
was under the direction of M. Fitzthumb, a very ac-
tive and intelligent maestro di capella, who beat the
time (which then could not be dispensed with), and
was indefatigable in preserving good discipline. The
orchestra was so admirably conducted, and the
band, taken as a whole, so numerous, powerful, cor-
rect, and attentive, that if the horns had not been bad
and out of tune, the effect of the the whole would
have approached perfection so near as to have
tongue-tied criticism itself.

OREILLE, Fr., Orecchio, Ital., the ear. This word,
says Rousseau, is used figuratively as a musical
term. To have an ear, is said of a person fond of mu-
sic, whose auricular organ is well constructed, sens-
sible, nice, and just in judging of the perfections and
imperfections of musical tones, whether as to tune
or time. With a bad or false ear, a singer neither
sings in tune, nor can judge accurately of the inton-
ations of others; and when insensible to the preci-
sion of measure, the time is broken and changed
perpetually, without knowing it.

Thus, the word ear is always used for a discrim-
inating quickness and delicacy in the sense of listen-
ing or hearing musical tones. See EAR

ORGAN, in Music, the name of the largest, most
comprehensive, and harmonious of musical instru-
ments; on which account it is called the " or-
gan," οργανον, " the instrument" by way of excel-
ence. The invention of the organ is very ancient,
though it is agreed, it was little used till the eighth
century It seems to have been borrowed from the
Greeks. Vitruvius describes one in his tenth book.
The emperor Julian has an epigram in its praise. St.
Jerom mentions one with twelve pair of bellows,
which might be heard a thousand paces, or a mile;
and another at Jerusalem, which might be heard to
the mount of Olives.

Ancient annalists, says Dr. Burney, are unami-
rous in allowing, that the first organ which was seen
in France was sent from Constantinople, as a present
from the emperor Constantine Copronymus VI. in
757, to king Pepin; which, as well as Julian’s epi-
gram, gives the invention to Greece, where the hy-
draulicon had likewise its origin.

It has been a subject of debate, when the use of
organs was introduced into the church. Bellarmine
says, that they began to be used in the service of the
church, in the time of pope Vitalian, about the year
660, as Platina relates out of the Pontifical; or, as Ai-
monius thinks, after the year 820, in the time of
Lewis the Fious. A learned writer has shewn, that
neither of these dates can be just; alleging that
Thomas Aquinas expressly says, that in his time, i. e.
about the year 1250, the church did not use musical
instruments, lest she should seem to judaize. Pierce’s
Vind. of the Dissenters, ed. 1718, p. 395.
The bellows are of two kinds, single and double; the former are commonly used in church organs, the latter in chamber organs. Single bellows consist of two oblong boards, \(a b, c d\), (Plate I. Organ, fig. 10.), connected at \(b\) by a joint of leather or web, and at the other three sides by thin folds of wood joined together with leather. The lower board is fixed, the upper moveable. In the lower board, at \(ef\), is an aperture covered with a valve, (called by the organ builders a pallet,) opening inwards. At \(g\) is another aperture, covered with a hollow box \(gd\), communicating with the wind trunk; upon the mouth of which, is another pallet opening outwards. When the upper board, \(ab\), is raised by pressing down the handle of the lever \(hi\), the air enters the bellows at the aperture \(ef\), and upon letting go the lever, is forced into the wind trunk at \(d\), by the pressure of weights placed upon the upper board. The pallet at \(d\) prevents the return of the wind from the wind trunk, when the upper board is raised. It will easily be seen, that it is necessary to have at least two pairs of bellows of this kind, to keep up a constant supply of wind. Most of the English church organs have three; and many of the large German instruments (as Dr. Burney informs us) have twelve and even sixteen pairs.

Double bellows are made with three boards; \(ab\), (fig. 11.) the riser; \(cd\), the middle; and \(ef\) the feeder boards. At \(g\), in the feeder, is an aperture, and pallet to receive the air; at \(h\), in the middle board, is the pallet of communication; and at \(i\), in the riser, the waste pallet, which is contrived to open, when the bellows are sufficiently full. The riser empties itself into the wind trunk at \(c\). In old bellows of this kind, the riser is connected with the middle board, in a manner similar to the single bellows; but it is now usual to join them with folds of an equal breadth in all parts, so that the upper board, in rising, is always parallel to the middle board. These are called horizontal bellows; in contradistinction to those which rise diagonally. Their action is very superior to those of the old form. They afford a greater quantity of wind, in proportion to the case room they occupy; the pressure is more equal; and they are not liable to jerk or quiver. Though lately brought into common use, they are by no means a modern invention, as Pere Mersenne describes them under the name of

Bingham, in his Antiq. of the Christian Church, vol. i. p. 314, folio ed. adds, that Marinus Sanutus, who lived about the year 1290, first brought the use of them into churches. However, it appears from the testimony of Gervas, the monk of Canterbury, who flourished about the year 1200, that organs were introduced more than one hundred years before this time: in his description of Lanfranc's church, as it was before the fire in 1174, he has these words, "Crux australis supra forniciem organa gestare solebat." Decern Scriptores, p. 1293, line 25.

Venerable Bede, who died in 735, says nothing of the use of organs, or other instruments, in our churches or convents, when he is very minutely describing the manner in which the psalms and hymns were sung. However, according to Mabillon and Muratori, organs became common in Italy and Germany during the tenth century, as well as in England; about which time they had admission in the convents throughout Europe. Burney's Hist. Music, vol. ii. p. 66. 114.

Our elegant poet, the late Mr. Mason, a good musician, interested himself much in inquiries concerning the progress of the art, in his "Essays on English Church Music." He there gives several historical notices concerning the origin and progress of the organ, previous to its general admission into our churches, partly extracted from a very voluminous work, entitled "L'Art da Facteur des Orgues, par D. Bedos de celles," a Benedictine monk, printed in 1766. We have not room to extract from Mr. Mason's little work, and can only refer to it.

The complicated nature of the mechanism of an organ, renders it a very difficult task to give a clear description of it. To make it more intelligible, we shall separately describe the several parts; and then, by referring the reader to a plate of the interior of a church organ, show the dispositions and uses of them when put together.

*Editorial note:* The following technical account was by John Farey Jr. and describe four full-size plates.

The modern organ consists of several parts; viz. the bellows, the porte vent, or wind trunk, the wind chest and its furniture, the sound boards, the sliders, the stock and rack boards, the pipes, the key and draw-stop movements.
bellows "a la lanterne." L’Harmonie Universelle, folio, Paris, 1636.

The sound board (fig. 12.) is made of an oblong frame, the upper side of which is covered by a stout board. In the two longest sides of the frame, and in the under side of the board, grooves are dug, in which are fixed a number of bars of wood; dividing the box thus formed into parallel channels, completely separated from each other. A number of holes, corresponding with the number of ranks of pipes of which the organ consists, are bored through the upper side of the sound board into each channel. The number of channels is regulated by the compass of the organ; there being usually a channel to each finger-key.

The wind chest is attached to the under side of the sound board. It is a box made air-tight in all parts, so that the wind, which it receives from the bellows through the wind trunks, cannot escape, except through the channels of the sound board. Each of the channels within the wind chest is covered with a pallet, which opens downwards, said is closed by the action of a spring of brass wire. The pallet is connected with the key movement by small wire hooks, which pass through a perforation in a brass plate, upon the bottom of the wind chest. Plate I. fig. 2. shews a pallet with its spring, chest hook, and pull-down. All the under side of the sound board, which is without the wind chest, is closely covered with leather, or parchment.

Upon the upper side of the sound board are placed thin bars of wood, called the sliders; extending the whole length of the sound board, and pierced with holes, corresponding with those bored through the sound board, into the channels. These sliders, being moveable in grooves in a transverse direction to the channels, admit, or exclude, the wind from any rank of pipes placed over them, as the holes correspond with, or cover, those of the sound board. Lastly, upon these are screwed the stock boards; which are also bored with holes corresponding with those in the sliders and sound board; in which the pipes are placed. The racks are thin boards mounted on small pillars, pierced to receive the upper part of the feet of the pipes.

The key movement is a combination of rollers and levers, or of quadrants connected by wooden rods; so contrived, that each key, when pressed down, may open its corresponding pallet in the wind chest, and so admit the wind to the pipes, standing over the channel, which the pallet covers.

The draw-stop movement is also a combination of levers and rollers, so contrived, that each draw-stop may open or shut its corresponding slide; and so admit or exclude the wind from that rank of pipes to which it belongs. Those ranks of pipes, which in the construction of the instrument are so planted as to be subservient to the action of one draw-stop, are called stops. A stop consisting of one row of pipes is called simple, of more than one compound.

The pipes are of four kinds, stopped, half stopped, (with a funnel or chimney at the top,) open and reed pipes. Various materials have been used for their construction, but the most common practice is to make the stopped pipes of wood, and the open and reed pipes of metal composed of tin and lead.

Plate I. Figs. 1. and 2. represent the front and section of a stopped wooden pipe. In fig. 2. a is a square block of wood, corresponding with the interior diameters of the pipe, upon which the back and two sides are glued. In this a channel is cut, in the direction of the shaded line, for the passage of the wind, which entering at the foot d, passes through the channel in the block, and the cavity of the lip or top piece b, and strikes upon the sharp edge of the front at c, the mouth; r is a moveable wooden tompon, covered with leather to make it air-tight. When this is drawn outwards, the tone of the pipe is flattened, and when pushed inwards, sharpened.

Figs. 3. and 4. represent the front and section of an open metal pipe. Fig. 4. d is the foot, which is a hollow cone, and is separated from the cylindrical body of the pipe c, by a partition called the langue, or tongue, a, which answers the purpose of the block in the wooden pipe. The wind passes through a narrow aperture at b, and strikes upon the upper side of the mouth at e. A small ear is usually affixed on each side of the mouth, for the purposes of enriching the tone, and to tune such pipes as stand in the ornamental front of the organ. Metal open pipes are tuned by opening the tops with a brass cone, to sharpen them; and by closing them with the inside of the cone, to flatten them.

Figs. 5. and 6. are the front and section of a half stopped pipe, or pipe "a la cheminee." These pipes
are tuned by opening or closing the ears, which are made very large for this purpose.

_Fig. 7._ is the exterior of a reed pipe, consisting of two parts, the foot, _n_, and the tube or body of the pipe, _b_. The tube is soldered to a block of metal, _c_, (Figs. 8. and 9.) which exactly fits into the upper end of the foot. In this is fixed a hollow demi-cylinder, _d_, of brass, called the reed, stopped at the lower extremity, and communicating at the other with the body of the pipe. The open side of the reed, (the edges of which are filed perfectly flat and parallel,) is covered with a thin plate of hard brass, called the tongue; one end of which is kept in its position by a small wooden wedge, _f_, and the other left at liberty to vibrate with the action of the wind. The degree of acuteness, or gravity of a reed pipe, depends jointly on the length of the tongue, and that of the pipe; measured from the extremity of the reed to the extremity of the tube. It is, therefore, necessary to have some method of altering the length of the reed, in order to tune the pipe. This is effected by pulling up, or pushing down, the wire-spring, _g_, which pressing the tongue closely against the reed, shortens or lengthens the vibrating portion of it. The degree of gravity, or acuteness of any pipe, depends jointly on the length: measured in an open pipe, from the edge of the mouth to the extremity of the tube; and in a stopped pipe, from the edge of the mouth to the interior surface of the tompion. A stopped pipe is half the length of an open pipe of the same pitch.

The following list contains the names of the stops which are commonly used by English builders.

**Stopped Pipes.**—The bourdon, or double-stopped diapason, the stopped diapason, and stopped flute.

**Open Pipes.**—The prestant, or double open diapason, the open diapason, dulciana, principal, open flute, twelfth, fifteenth, tierce or seventeenth, larigot or nineteenth, and twenty-second.

**Reed Pipes.**—The trumpet, clarion, bassoon, hautboy, French horn, cremona, and vox humana.

Compound stops, usually consisting of open pipes, are the cornet, sesquialtera, furniture, mixture and supplement.

The organ has from one set of keys, in chamber organs, to four or five sets, in the largest church organs. Each of these sets of keys acts upon a separate organ, which has nothing in common with the others, except the cast and bellows.

The number of keys, or compass of the organ in the time of father Schmidt, was commonly confined to four octaves; from double _C_ in the bass, to _e_ in alt. To these, two notes, _G_ and _A_, were sometimes added to the lowest octave. An organ of this compass is said to have short octaves. When the keys are extended to _G_ in regular succession, the organ is said to have long compass. The modern builders have extended the keys upwards to _f_ in alt.

Besides the manuals or keys for the hand, there are, in large church organs, pedals, or keys played with the feet; said to be the invention of Bernard, a German, about the year 1400. These command certain pipes, which, to increase the harmony, are tuned an octave below the diapason. It is much to be lamented, that the English builders have not followed some certain and invariable rule for the position of their pedals, as they do for their keys. Scarceley two organs in the kingdom have their pedals alike; either with respect to number or position; so that every performer who comes to an organ, with which he is not previously acquainted (be he ever so skilful in the use of pedals), has the whole of his business to learn again. The disposition of the pedals of the fine organ in St. Paul’s cathedral, might serve as a model for all other English organs. Each octave of the pedals occupies the space of two octaves of the finger-keys; and the _C_’s are placed under each other, as represented in _Plate I._ fig. 13.

_Plate II._ represents the interior of an English church organ, seen in profile. It has three rows of keys. The upper row is appropriated to the swell, the middle to the great or chorus organ, and the lower to the choir or soft organ. The swell is said to be an English invention, and Dr. Burney, in his Tour through Germany, says that he found only one organ in which a swell had been attempted, and that in a very imperfect manner. The swell has its pipes enclosed in a stout wooden box, "with a sliding door; which being gradually opened by the pressure of the performer’s foot, the sound is increased, and is diminished by a contrary motion. The swelling organ is commonly placed in the upper part of the case, either over the great organ, or over the choir, as represented in the plate.
The great organ is commonly placed in the fore part of the case, for the convenience of planting the largest pipes in the ornamental front; and that it may appear louder.

The choir organ is sometimes placed in the position drawn in the plate; and sometimes in front of the great organ, in a separate case, at the back of the player. Hence it is not unfrequently called the chair organ.

The key movement of the choir organ, as represented in the plate, is of that kind called the long movement; because it may be extended to an almost indefinite length. It was used for the organ at the commemoration of Handel in Westminster Abbey; when the keys were 23 feet from the organ; and 19 feet below the level of the common key frames. The construction must be obvious to any one who has observed the common method of hanging bells. The trackers in the organ are of wood, instead of wire.

The organ at Haarlem, the most celebrated instrument in Europe, has been already described, from an actual survey. (see HÆRLEM.) But the list of the stops we reserved for the general article Organ.

### Catalogue of the Stops in the great Organ at Haarlem, built by Müller, 1738,

#### Upper Manual

<table>
<thead>
<tr>
<th>No.</th>
<th>Names</th>
<th>Length</th>
<th>English names</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Prestant.</td>
<td>8 feet</td>
<td>Open diapason.</td>
</tr>
<tr>
<td>2</td>
<td>Quintadeena.</td>
<td>16</td>
<td>Breaks into a 5th, which pre-dominates.</td>
</tr>
<tr>
<td>3</td>
<td>Gem’s-Hoorn.</td>
<td>8</td>
<td>Unis. With stopt diap.</td>
</tr>
<tr>
<td>4</td>
<td>Baar pyp.</td>
<td>2 ft</td>
<td>A muffled pipe used with the vox humana</td>
</tr>
<tr>
<td>5</td>
<td>Octave.</td>
<td>4</td>
<td>Principal.</td>
</tr>
<tr>
<td>6</td>
<td>Flag Fluit.</td>
<td>4</td>
<td>Reed flute.</td>
</tr>
<tr>
<td>7</td>
<td>Nassat.</td>
<td>3</td>
<td>Stopt twelfth.</td>
</tr>
<tr>
<td>8</td>
<td>Nagt-Hoorn.</td>
<td>2</td>
<td>Night-horn, but why so called, no reason can be given</td>
</tr>
</tbody>
</table>

#### Great Manual

<table>
<thead>
<tr>
<th>No.</th>
<th>Names</th>
<th>Length</th>
<th>English Equivalents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Prestant.</td>
<td>16 feet</td>
<td>Open double diapason</td>
</tr>
<tr>
<td>2</td>
<td>Bourdon.</td>
<td>16</td>
<td>Stopt diito</td>
</tr>
<tr>
<td>3</td>
<td>Octave.</td>
<td>8</td>
<td>Open diap.</td>
</tr>
<tr>
<td>4</td>
<td>Viol de gamba.</td>
<td>8</td>
<td>A narrow pipe which imitates the whistling of the bow.</td>
</tr>
<tr>
<td>5</td>
<td>Roer Fluit.</td>
<td>8</td>
<td>Diap. Half stopt.</td>
</tr>
<tr>
<td>6</td>
<td>Octave.</td>
<td>4</td>
<td>Principal.</td>
</tr>
<tr>
<td>7</td>
<td>Gem’s horn.</td>
<td>4</td>
<td>A kind of flute, the pipes narrow at the top</td>
</tr>
<tr>
<td>8</td>
<td>Roer – Quint.</td>
<td>6</td>
<td>Twelfth half stopt.</td>
</tr>
<tr>
<td>9</td>
<td>Quint.</td>
<td>3</td>
<td>Fifth.</td>
</tr>
<tr>
<td>10</td>
<td>Tertian.</td>
<td>2 ranks</td>
<td>Tierce or 17th.</td>
</tr>
</tbody>
</table>
This organ has 60 stops, two tremulants, two couplings, or springs of communication, four separations or valves to close the wind chest of a whole set of keys, in ease of a cipher, and 12 pair of bellows.

Upon the whole, it is a noble instrument, though we think that of the New church at Hamburg is larger, and that of the Old Kerk, in Amsterdam, better toned; but all these enormous machines seem loaded with useless stops, or such as only contribute to augment noise, and to stiffen the touch.

As this organ contains many stops, which are altogether unknown to English builders, and not to be found in the organs of this kingdom, we have subjoined a list of the stops of the organ at Great Yarmouth, as this noble instrument contains nearly all the variety of stops with which our workmen are acquainted’.

1 Principal, longest pipe.
2 Prestant
3 Subbus
4 Roar Quint
5 Holfliut
6 Octave
7 Quint-Prestant
8 Octave
9 Ruisch-Quint
10 Holfliut
11 Bazuin
12 Bazuin
13 Trumpet
14 Trumpet
15 Cink

Pedals

<table>
<thead>
<tr>
<th>No. Names</th>
<th>Length</th>
<th>English Names</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Principal, longest pipe.</td>
<td>32 feet</td>
<td>Octave below the double diapason</td>
</tr>
<tr>
<td>2 Prestant</td>
<td>16</td>
<td>Double diap. open</td>
</tr>
<tr>
<td>3 Subbus</td>
<td>16</td>
<td>Ditto</td>
</tr>
<tr>
<td>4 Roar Quint</td>
<td>12</td>
<td>Fourth below the diap. stopt.</td>
</tr>
<tr>
<td>5 Holfliut</td>
<td>8</td>
<td>Diap. Half stopt,</td>
</tr>
<tr>
<td>6 Octave</td>
<td>8</td>
<td>Open diap.</td>
</tr>
<tr>
<td>7 Quint-Prestant</td>
<td>6</td>
<td>Fifth</td>
</tr>
<tr>
<td>8 Octave</td>
<td>4</td>
<td>Principal</td>
</tr>
<tr>
<td>9 Ruisch-Quint</td>
<td>3 Rush or reed</td>
<td>Twelfth</td>
</tr>
<tr>
<td>10 Holfliut</td>
<td>2</td>
<td>Fifteenth</td>
</tr>
<tr>
<td>11 Bazuin</td>
<td>32 By the Germans called <em>Posaunem</em> a reed stop</td>
<td>Double sacbut</td>
</tr>
<tr>
<td>12 Bazuin</td>
<td>16</td>
<td>Sachbut</td>
</tr>
<tr>
<td>13 Trumpet</td>
<td>3</td>
<td>Trumpet</td>
</tr>
<tr>
<td>14 Trumpet</td>
<td>4</td>
<td>Clarion</td>
</tr>
<tr>
<td>15 Cink</td>
<td>2 A cornet, horn or shawm</td>
<td>Octave clarion</td>
</tr>
</tbody>
</table>
Open Diapason.
Stop Diapason.

The organ was built by Jordan, Bridge, and Byfield, in the year 1740, though roughly repaired, and some stops added by Mr. G. P. England, in 1812.

Compass of the great and choir organs from G G, to f in altissimo; of the swell from C below middle, to f in altissimo. Pedals from G G G, to C C.

Those who wish to be further informed in the history and practice of organ building, are referred to L'Harmonie Universelle, folio, Paris, 1636; Harmoniconorum Libri Duodecimi, folio, Paris, 1648; Facteur d'Orgues, Paris, 1766; and Mr. Mason's Essays on English Church Music.

The organs in our churches, that have been well preserved of father Schmidt's make, such as St. Paul's, the Temple, St. Mary's, Oxford, Trinity college, Cambridge, &c. are far superior in tone to any of more modern construction; but the mechanism has been improved during the last century, by Byfield, Snetzler, Green, Gray, &c. The touch is lighter, the compass extended, and the reed-work admirable. The dulciana stop, brought hither by Snetzler, is a tall, delicate, narrow pipe, of an exquisite sweet tone, without a reed; on which account it stands in tune equally well with the open diapason. Though the best keyed-instruments in England have been made by Germans, they work here better than in their own country in size and number of stops; they greatly surpass us in the size of their organs, but the mechanism is infinitely inferior; which is accounted for by the workmanship being better paid here than in the German dominions, where labour is cheap.

The long keys of our old church organs were made of box or ebony, and the short, or flats and sharps, of ivory. But at present, the long keys, or natural notes, like those in harpsichords and piano-forte's, are of ivory, and the flats and sharps of ebony, or dyed pear-tree wood.

An organ, when complete for cathedrals, is of threefold construction, and furnished with three sets of keys; one for what is called the great organ, and which is the middle set, a second (or lower set) for the choir organ, and a third (or upper set) for the swell. In the great organ, the principal stops are known by the following names; the two diapasons, the principal, the twelfth, the fifteenth, the sesquialtera, the mixture or furniture, the trumpet, the clarion, and the cornet. The choir organ usually contains the stop diapason, the dulciana, the principal, the flute, the bassoon, and the vox humana. The swell comprises the two diapasons, the principal, the hautboy, trumpet, and cornet. Besides this complete organ, there are other organs of smaller sizes and more limited powers, adapted to church, chapel, and chamber use. There is also the barrel, or chamber organ, which has the parts of other organs, with the addition of a cylinder, or barrel, revolving on pivots: on the circumference of this, by means of wires, pins, and staples, are set the tunes it is intended to perform. These pins and staples, by the revolution of the barrel, act upon the keys, and give admission to the wind from the bellows to the pipes. The barrel organ is frequently made portable, and so contrived, that the same action of the hand which turns the barrel supplies the wind, by giving motion to the bellows.

Of all musical instruments, the barrel organ is the most easy of performance, as it merely requires a regular motion given to it by a handle. On this account, it is an instrument of very general use; and the recent improvements of some English artists have rendered the barrel capable of producing an effect equal to the fingers of the first-rate performers. Barrels are now very generally added to chamber organs, operating on the same pipes as the finger-keys, though by a different set of keys; so that either barrel or finger-keys may be used independently of each other. Many barrel organs are constructed on an extremely small scale, motion being given to them by clock-work. The whole instrument is frequently concealed in some piece of furniture, and the clock, being previously wound, up, is put in motion at pleasure, by discharging a trigger, producing a very agreeable effect to those unacquainted with the concealment.

In order further to explain the mechanism of an organ, we have procured sections of a most superb instrument of this kind, made by Messrs. Flight and Robson of London, for the earl of Kirkwall. As a finger organ, this instrument does not contain any thing new in principle; but the perfection of its workmanship is such, as to produce effects which the organ would never have been thought capable of before this instrument was completed, and publicly exhibited to immense numbers of visitors, at Mr.
Flight’s house in St. Martin’s Lane. The mechanism of the barrel part is extremely ingenious, containing many new movements, which are necessary to give this method of performance the same powers as a good organist has upon the finger-keys; in this, however, the inventor has succeeded to his wishes. Plate III. Organ, figs. 1 and 2. are two sections of the whole instrument, the first being taken across the length, shewing one of the finger-keys, with the manner of its communication with the valves and pipes situated in the upper part, and also a cross section of the barrel in its proper situation. Fig. 2. is a section taken on a plane perpendicular to the other, that is parallel to the front of the instrument, and through its centre; so that the barrel and all its appurtenances are removed, and only the detents, &c. of the finger-keys exhibited. We shall first describe those parts which are common to all organs, that the reader may better comprehend the variations and improvements of the present instrument. The bellows for supplying the air are placed beneath the instrument, near the floor at A B C in both figures; these throw a constant supply of air into the large chamber D, which serves as a regulator to receive it and equalize its pressure, for which purpose it is termed the reservoir; from this the air is conducted through the wind trunk E, to the wind chest F: from the top of this chest passages are conducted up to the various pipes situated at G, H, I, K, L, M. The passages are closed by valves within the chest at k, (fig. 1.) and a whole row of them may be seen fig. 2. from these valves small wires, l, descend, and by levers, N, communicate, by the rods Q, with the finger-keys O, P: the extremity, P, (fig. 1.) of one of these being pressed down, elevates the front end of one of the levers N, and pulling the wire, l, at the other end, opens the valve k, and admitting air from the wind chest into the pipe above, it produces the sound proper for that key.

Having given our readers a general idea of the disposition of the parts, we shall proceed to a particular description of the construction of each. The bellows at A B C consist of a moving board, a b, (fig. 1.) having valves in it shutting downwards, to take in the air; it is connected by leather, glued all round its edges, with a large board c c, which as it extends beneath the whole instrument, and is united with its frame, may be called its floor or bottom. The floor has holes through it covered by valves, shutting downwards. The chamber formed by the space between the floor and the moving board a b, divided into two separate compartments by a vertical partition above d, extending from one board to the other: the board, a b, is jointed by hinges and leather to this partition at the point d, and when worked, vibrates on this joint as a centre, enlarging one chamber and diminishing the other; which operation, by the arrangement of the valves, throws a constant stream of air into the reservoir, D, of the bellows. Thus, suppose the end, a, of the board ascending, and the other, b, descending, then the valves in b will be open to take a supply of air into their chamber. The valves in a will be shut, and the air included in that chamber is forced up through the valves, in the middle board c, into the reservoir D, which is situated above it.

Though we have only mentioned one pair of these double bellows, there are in reality three pair, all made exactly alike: they are denoted by the letters ABC, fig. 2. The middle bellows B, which are much wider than the other two, are intended to be worked by the foot of the performer, by means of a treadle, which comes out in front of the instrument, beneath the keyboard, as denoted by the dotted lines b, fig. 1. The other two pair, A and C, are worked by the same handle as the barrel: when it is used, this handle is applied to a spindle: when it is used, this handle is applied to a spindle, to regulate the movement, and a crank, which by a rod, communicates motion to one end of the bellows C, at the end a, fig. I. There is also another crank at z, bent at right angles to the former: this crank communicates, by a horizontal rod, with a bent lever behind the instrument, which works the other pair of bellows at A, so that both pair, A, C, are in constant motion.

The reservoir, D, is the size of the whole floor of the organ, and is common to all the three pair of bellows: it consists of a large flat board, joined by folded leathers on all sides to the floor board, forming a large chamber, for the reception of the air from the different bellows. The weight of this board, always resting upon the included air, causes a pressure of air, and affords a regular and equable supply to the pipes during any momentary intermission of the ac-
tion of the bellows; nor can the pressure of the air ever exceed what is produced by the weight of the upper board, for if more air is thrown into it than passes off to the pipes, the top board rises; but when it gets to the height which is intended, a string, fastened to the top board, raises up a valve in the floor board, and suffers the air to escape, by returning into the bellows below. By this means the reservoir can never be in danger of bursting. A string is fastened to the top board of the reservoir, and passes over a small pulley \( y \) (fig 1.) fixed on the end of a light spindle which comes through the front of the instrument over the keys, and has a hand or index at \( y \), pointing to marks upon a small dial plate, indicating the height to which the top has risen, and, consequently, the quantity of air in the reservoir, so that this index serves as a guide to the performer, to blow as much as is necessary to keep the reservoir full, but no more.

The wind chest, \( F \), is now to be described: this is a shallow box, as the section shews, the whole size of the instrument, and suspended in the frame: the air is conveyed from the bellows up to it by the wind trunk \( E \), at the end of the instrument: the wind chest contains a number of valves \( k \), which at times permit the exit of the air; they are made of slips of leather with three pieces of wood glued to them, and are kept shut by a small wire spring \( w \), (fig. 1.) applied to each. The valves are opened by means of small wires, \( b \), coming down from them, through the bottom of the wind chest, and connected, as before mentioned, with the levers \( N \). When any one is opened, the air passes out of the wind chest into a horizontal groove, which is seen just over the valves and the valves \( k \), (fig. 1.) and ascends though vertical passages into any of the pipes \( G, H, I, K, L, M \), causing them to sound: the wires, \( b \), are hooked to the valves at their upper ends, and at the lower are jointed to the levers \( N \) : these have their centres fixed in the rail \( R \), which extends along the whole instrument. At the opposite end of these, small rods, \( Q \), are jointed, which at the lower ends rest upon the extreme ends, \( O \), of the finger keys, \( O, P \). By this arrangement, when the end, \( P \), of any key is pressed down, it raises the rod \( Q \): this, by the lever \( N \), draws down the wire \( l \), thus opening the valve \( k \), and by admitting air, causes the pipe or pipes belonging to that key to emit a sound.

It has been before mentioned, that each key has several pipes of different tones, but tuned to the same note. In the instrument before us, there are ten pipes to each key, so that there are ten systems of pipes; but as only a part of these is ever required to be sounded together, the stops or sliders are provided to shut off or open the passages from each valve to as many pipes as the piece of music requires. The stops are situated at \( e, f, \) and \( g \), in the boards placed over the wind-chest; they are narrow rulers of mahogany (seen lengthwise in fig. 2.) sliding in passages, which they exactly fill, and through which all the vertical passages to the pipes are conducted. The stops have holes through them answering to these passages, and when these holes are over the passages, they are open to allow the air to pass through, but by drawing the slider endways a small distance, the spaces between the holes in the stop apply themselves over the passages, and shut them all up at once. Each stop or slider opens passages to a set of pipes, consisting of one pipe answering to each of the note’s of the finger-keys: these pipes are gradually diminished in length and size, from the largest bass note to the smallest treble, as is shewn in the figures at \( G, H, I, K, L, M \), in different row \( s \), some of which contain only about half the number of pipes corresponding with the finger-keys, the remaining numbers being placed in other rows for want of room, and the upper board \( e \), called the sound board, on which the pipes are placed, has horizontal passages cut in it, to conduct the air from each valve to its respective pipe, when the same is not situated exactly over it, as indeed very few are; for the number of pipes is so great, as to occupy all the space of the sound board, they must therefore be placed as the room will admit.

In the same manner, it will be observed in fig. 2, that the finger-keys \( O, O \), are placed close together in a small space, while the wires \( l, l \), and the valves \( k \), occupy the whole length of the instrument. To manage this, the levers, \( N \), are not placed parallel, but diverging from each other, so that the ends, \( Q \), are close together, but the opposite ends are a considerable distance asunder, and therefore come immediately beneath the valves: the wires are connected with these levers by nuts screwed upon them, and this admits of adjusting them, that the valves shall all be shut close by their springs, when the finger-
keys are all in a line, and at their highest position ready to be pressed down.

It is seen in I. 1, that each of the horizontal passages or grooves immediately above the valves $k$, have ten other passages rising up from it, and in these, as before-mentioned, the stops are situated. There are three sets of these stops, marked $e, f, g$, one above the other; but by drawing any of the three the same effect will be produced on the instrument, viz. shutting off or opening the row of pipes to which they belong. The three sets of sliders are for three different purposes; thus the lowest set is moved by handles, or drawers coming out in front of the instrument, close to the finger-keys, and they are drawn out to open the stops by hand; the middle set of sliders is moved by the foot of the performer; the upper set is actuated by the barrel, when the organ is used in that manner. The organ pipes are of two kinds, of metal and of wood; the wooden ones are a square trunk of deal wood $A\, B$, (fig. 3.) closed at one end by a moveable plug of wood $D$, and at the other by a piece of wood $E$, containing a crooked passage to bring air to the pipe, through the short tube $F$; $a$ is a piece of oak board glued to the block $E$, called the cap, and hollowed out, to communicate with the crooked passage, through the block, leaving a small and very narrow crevice between the end of it and the edge of the block $E$, through which the air issues in one continued current; in its passage it is divided by the edge of one side $B$, of the trunk, which is cut as sharp as possible for that purpose, and which is exactly in the same line with the orifice whence the air is emitted. The sound is produced by the vibration of the air which is contained in the trunk $A\, B$, and by increasing or diminishing the length of this trunk, the tone is altered at pleasure, to bring it to the proper note it is to perform when placed in the instrument. This alteration of the length is made by sliding the plug, $D$, up or down in the pipe.

A section of a metal pipe is shewn in fig. 4; it is nearly the same in operation as the wood pipe, though different in its construction. It is a cylindrical tube, $A\, B$, formed of a mixture of lead and tin, cast in thin sheets and soldered up; it is open at one end and nearly closed at the other by a partition, $E$, of the same metal, called the languid, which is circular for about two-thirds round, and soldered into the end of the pipe; the other third is a straight edge, and made rather sharp on the angle. $F$ is a conical pipe conveying the air to the pipe: the upper end of this conical pipe is bent to be parallel to the edge of the languid $E$, and thus forms a small cleft, similar to the mouth of the wooden pipe for the passage of the air. The lower end, $B$, of the cylindrical pipe is bent into the line of the cleft, to divide the current of air. The metal pipes are open at top, and are brought to tune by enlarging or diminishing the pipe at the top, and thus altering its bulk; $a$ is a piece of metal called the ear, soldered upon the pipe at each end of the cleft, to prevent the stream of air being dispersed sideways, before it meets the edge or upper lip of the pipe. In the small pipes this is not applied, and in the wood pipes its place is supplied by the edge of the wood board forming the side of the pipe, which is not cut away.

There is another kind of organ pipes, which have a reed in the mouth; they are called trumpet stops. One of these is represented in section at fig 5. Here $A$ is a cylindrical tube, bringing the air up from the wind chest, and on the top of it a leaden ring or socket, $B$, is fitted. This is the support of the conical pipe, $D$, where the sound is produced. The air passes into the tube $D$, through a brass tube or reed $a$, which is stopped at the lower end, but has an opening down the front, where it is made flat. It is furnished with a tongue, or slender brass spring $b$, which applies to this flat side and covers the opening. When the wind is impelled into the pipe $A$, it enters through the reed, and puts the tongue into a vibratory motion, which gives the peculiar tone of this pipe. The tongue is held in its place, against the reed, by a small wedge thrust in by the side of it, and a wire spring $d\, d$, which presses the tongue against the reed, determines the length of the tongue, which shall have liberty of free vibration; consequently, by sliding this wire up or down, the pipe is brought to tune.

The trumpet stop is the most powerful in the instrument, and improves the tone as much as it increases the peal of the chorus. Being tuned in unison with the diapasons, it strengthens the foundation, and subdues the dissonances of the thirds and fifths of the sesquialtera, imparting to the compound a richness and grandeur of effect, adequate to the sublimest subjects.
The names of the stops or systems of pipes used in this organ are as follows:

Twelfth, a metallic stop, so denominated from its being tuned twelve notes above the open diapason, which will be mentioned hereafter. This stop, on account of its pitch or tuning, can never properly be used alone. The open diapason, stop diapason, principal, and fifteenth, are the best qualified to accommodate it to the ear.

Stop diapason, a stop, the pipes, of which are generally made of wood, and its base, up to middle C, always of wood. They are only half as long as those of the open diapason, and are stopped at the upper end with wooden stoppers or plugs, which render the tone more soft and mellow than that of the open diapason. As the pipes of this stop are of large size, they cannot be contained in one row on the soundboard; they are therefore disposed in two rows, and have two sliders, one for the bass, the other for the treble.

Open diapason, a metallic stop, which commands the whole scale of the organ, and which is so called in contradistinction to the stop, diapason the pipes of which are closed at the top; this has also two sliders for bass and treble.

Principal, a metallic stop, originally distinguished by that name, because holding, in point of pitch, the middle station between the diapason and fifteenth. It forms the standard for turning the other stops. It has two sliders.

Dulciana, a stop generally used in the choir organ. It possesses a peculiar sweetness of tone, which it chiefly derives from the bodies of its pipes, being longer and smaller than those of other stops. It is tuned in unison with the diapasons, and equals them in compass upward.

Fifteenth, a stop which derives its name from its pitch or scale, being fifteen notes higher than that of the diapason. This stop and the twelfth, mellowed and embodied by the two diapasons and principal, form a proper compound for accompanying choral parts in common choirs and parochial churches. It is divided into two rows on the sound board for bass and treble.

The sliders which bring these different stops into action are moved by the following means: the lower set, Q, is drawn by levers at the ends of the instrument, which are formed on the upper ends of upper right spindles o, o, (fig. 2.) turning on pivots supported by the frame: to the lower ends of these, long levers p, (fig. 2.) are fixed; and at the end of these, small rods are jointed, which come through the front of the case of the instrument, close to the finger-keys, and have small ivory knobs fixed upon them. These are marked with the names of the stops of pipes to which they belong, and any one being thrust in moves its slider, and opens the slops of pipes, which will then be sounded by pressing the finger-keys. There are ten of these handles, viz. five on each side of the finger-keys, though only two on each side are shewn in the figure, to avoid confusion: there being ten handles, one is given to each of the sliders in the lower set, as shewn in fig. 1. and their names and properties have before been mentioned. The middle set of sliders, f, is drawn by bent levers, as shewn in fig. 2. at r: from the horizontal arm of this lever a wire proceeds to connect it with a pedal beneath the instrument, by which the slider is moved: these pedals are used in quick music, to change the pipes upon which the keys operate, by drawing another slider. There are only two of these pedals, but they operate upon all the ten sliders: thus, the bent levers, r, are fixed upon horizontal axes, which carry several levers, to operate upon as many sliders at once as are required. The pedals are for the left foot, one being longer than the other, so that the heel acts upon it, leaving the toes for the other: the first of these pedals shuts up the twelfth, both the fifteenths, and both the principals; the other pedal commands the remainder of the stops, except the dulciana. The finger-keys, O, P, are all together fitted in a kind of frame or box, which slides in a groove: in fig. 1. they are represented as drawn out to the full extent, but admit of being thrust back out of the way to make no projection in front of the instrument. When drawn out as far as they will come, the end, o, of each key comes immediately beneath the end of each of the rods Q, which are retained in their positions by passing through holes in a fixed rail extended across the keys. The parts of the organ being now so fully explained, it is needless to say much of their mode of action. The wind chest and reservoirs are kept constantly full of air by the bellows, and in this state any key being pressed down admits the air to the pipes. The stops which the performer expects to want are opened first; but by the pedals, as before
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by Dr Charles Burney, John Farey Sr, & John Farey Jr
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mentioned, he can bring on or take off any others during the performance. There is also another pedal which actuates the swell; this is a number of valves or boards, fitted in the manner of Venetian blinds, and situated at 38, 38, (fig. 1.) forming the front of the close case or chest which encloses the pipes. These valves, being gradually opened by the pressure of the foot, give the power of increasing the sound, as the wind does the sound of a peal of bells, or suppressing it in like manner, by closing them up. The swell is situated immediately behind the ornamental front of the instrument, which is in part only thin silk, stretched in a frame to admit the passage of the sound. Each of the boards turns on pivots at its ends, and having short levers, which are connected together by a rod 39, they all open or shut together. At the lower end of the rod is a spring to shut them close, and they are opened by a lever 40, within-side, from which a wire descends to the treadle before-mentioned. The swell produced a most delightful effect in some music, giving the piano and forte to the organ, in a greater perfection than any other instrument admits of, not even excepting the violin.

The mechanism of the barrel comes now to be described, for we have hitherto spoken only of the finger-key. The section (fig. 1.) shews that there are two rows of valves in the wind chest. The use of the first set at k has been fully explained as belonging to the finger-keys; the second set, marked i, are opened by the keys, h, of the barrel S; they admit the air from the wind chest into the same passages as the other valves, and therefore sound the same pipes when opened: the valves are, like the others, closed by small springs, and have wires, m, coming down through the bottom of the wind chest, and united to the short keys h. These and the other parts are more particularly explained by the enlarged view of the barrel at figs. 6, 7, and 8. of Plate IV, where it is shewn detached from the organ, with all its mechanism in perspective; but as the parts would intercept each other, if placed in their proper situations, figs. 7 and 8 are represented as removed from the end of the barrel, though in reality these parts all come close to the end of it. This is explained by figs. 10 and 11, the former being an end view of the barrel and all its parts, and, fig. 11. an elevation in front shewing its whole length.

The keys, h, are in miniature, the same as the levers at N, (fig. 1.), but their opposite ends are operated upon by pins projecting from the circumference of the barrel S, having beaks, as the figures shew, upon which the pins operate in passing beneath them, to lift up the points of the keys: the pins in the barrel are so disposed as to lift the keys in the same order and time, as any piece of music for which the barrel has been previously made. The keys all turn upon one wire as a centre of motion, which is supported by a wooden rail T, extended across the instrument. To prevent the keys shifting sideways, and by that means missing the pins in the barrel intended for them, they move in small notches cut by a saw in a piece of brass plate, which is screwed to the front edge of the piece of wood T, and projecting beneath it: the wire, which forms the centre of the keys, is also fixed to the piece of wood T, which is called the key frame; it is supported at its ends on centre points, on which it rises and falls as a centre of motion, to lift the points of the keys clear above the pins of the barrel. These centre points are made in plates of brass at n, screwed to the ends of the frame, and projecting so as to bring the centre of motion to coincide with the joints at the ends of the keys A, with the wires, m, proceeding to the valves i, (fig. 1.) These brass plates carry projecting arms 1, which have screws tapped through the extremities, and the points of these coming in contact with fixed studs projecting from the frame, form rests for the key frame; but by turning these screws the distance of the points of the keys from the barrel can be regulated at pleasure, that the keys may be properly lifted by the pins of the barrel.

The barrel is put in motion by a handle to, applied to the spindle to, (fig. 1.) before-mentioned, and shewn in Pl II. at fig. 6: this has an endless screw, 2, formed upon it, which acts in the teeth of a small wheel, which is fixed on an axis, 3, parallel to the barrel, and proceeding towards its end, where it carries a broad pinion, 4, engaging the teeth of a large wheel, 5, fixed on the extremity of the barrel. By this means the same movement which, as before-mentioned, blows the bellows, by the crank x, (fig. 1.) causes the barrel to revolve slowly. The manner in which the barrel is made to play a variety of different tunes in succession is thus: the spaces between the key A, as shewn in figs. 6 and 11. are
sufficiently wide to have eight rows of pins disposed in them, therefore only one-eighth of the circles of pins are at once engaged with the keys, and by moving the barrel lengthways a small quantity, an entire new system of pins are presented to the keys, and these are arranged to produce a different tune.

The barrel is supported on a frame of wood, which is represented detached in fig. 6; its position in figs. 1 and 2 is denoted by s; it slides in grooves, so as to be capable of being drawn out, for the purpose of changing the barrel, and putting in a different one, but when slid back to its proper position is retained by two bolts. The pivots of the barrel rest in frames, 6, of brass at each end, which are attached to the woodwork by centres, on which they move sideways. A lever, 7, (fig 6.) proceeds from each frame, and these are united by a wooden rail behind the barrel, which therefore causes the two frames to have the same movement on their centre, and carry the barrel forwards in the line of its axis, when at liberty. When in use it is confined by pieces of iron, 8, 9, moving horizontally on hinges fixed to the frame work, and pressing on the ends of the pivots of the barrel. The piece 9 is pressed by a spring behind it; the other piece, 8, at the opposite end of the barrel, is supported against the circumference of a wheel 10, (fig. 7.) which is formed like a snail, by continual variations of its radius. On the same spindle with this snail-wheel is another wheel, 11, divided on its edge with eight large notches, into which a roller at the extremity of a detent, 12, adapts itself: the detent being pushed down by a stiff spring, always obliges the wheel, 11, to rest in one of the eight positions corresponding to the eight notches for the roller, and every one of these positions produces a change in the situation of the barrel, because of the different radii of the snail 10, which permits the piece of iron, 8, to move; the spring piece, 9, at the opposite end always keeping the end of the barrel pivot in close contact with it: therefore, by turning the wheel, 11, round, the barrel is shifted a small quantity every time a different notch of the wheel, 11, comes to rest beneath the roller 12, and thus all its different tunes are played in succession. The wheel, 11, is turned about by means of eight pins projecting from its surface, one answering to each notch; these are pressed down by a catch, 13, joined to a short lever, 14, projecting from an axis y, which also carries two other levers, marked 15 and 16: the former of these has at the upper end a wire, 15, coming through the frame of the organ, and furnished with a knob, by pulling which the lever, 14, is depressed, and the catch, 13, turning the wheel, 11, round one notch, shifts the tune of the barrel, as before explained. But without some contrivance to raise up the key-frame, T, when the barrel is shifted, its pins might catch some of the points of the keys, and break or bend them sideways. To avoid this danger, the same lever, 15, which communicates motion to the wheel to shift the barrel, has a detent, 17, jointed to it at one end; it passes through the frame of the organ resting upon a roller 18; the extremity of it is situated beneath a small roller 19, which is attached to the front plate of the key-frame at its end; the operation of this is, that when the knob, 15, is let go, and the return of the levers to their first position, by springs on purpose, permits the key-frame to descend, and all is ready for the next tune, which commences as soon as the barrel is turned round. To prevent the key-frame descending with a jerk, which might do it injury, a small lever, 20, (fig. 8.) projects from it at one end, and has a wire proceeding upwards to a small pair of bellows, 21, fixed up beneath the wind chest; they have no opening into them, except a hole through the top board, which is covered by a valve, shutting downwards, to permit the escape, but prevent the re-entrance of the air. The operation of this is, that when the key-frame is lifted up for the purpose of shifting the barrel, the bellows close, and the air included in them passes out beneath the upper valve; but on the frame being suffered to descend, the air cannot speedily obtain admission into the bellows, as there is no other passage than from leakage, and this regulates its fall. Besides these provisions for shifting the barrel, the pinion, 4, (fig. 8.) is likewise detached from the wheel at the moment of its shifting, that it may have no impediment to its motion from friction. To explain this, we must observe that the pivot of the
spindle, 3, is supported by a crooked lever, 22, (fig. 10.) moving on a fulcrum in the framing; the opposite end being pressed down by a spring 23, fixed on the top of the frame s, always keeps the teeth of the pinion, 4, and wheel, 5, in close contact with each other. The lever r, attached to the key-frame, has a rod, 24, descending from it to connect with a second lever, 25: this carries a rod, which is forked at the lower end, and embraces the pivot of the spindle 4. By this means, when the key-frame is lifted up, as before described, the lever, 1, is depressed, which, by the rod 25, forces down the end of the spindle 4, and disengages the pinion from the barrel; but the moment the key-frame descends, the spring 23, at the end of the lever 22, presses up the wheels into gear with each other. That the shifting of the tune may be done by a pedal for the foot, as well as by pulling the knob 15, there is a rod descending from the end of the lever, 16, to the bottom of the instrument, where it is connected with a pedal; therefore, by depressing this, the same effect is produced as would be by drawing out the knob 15.

A great improvement in this organ is the circumstance of the barrel being made to operate upon the stops, as well as the keys, by which means it performs any full piece of music with the finest effect. The mechanism by which the motion is given to the stops is very ingenious, and requires particular figures for its description. The upper set of sliders e, (figs. 1 and 2. Pl. I.) are appropriated solely for the barrel; they are moved at the left-hand end (fig. 2.) by being attached to vertical levers W; the lower ends of these are connected by light wooden rods, X, X, extending beneath the wind chest, to small levers t, (fig. 1); these are affixed to short spindles, whose situation is marked by v, in fig. 1. Now it is evident, by that partially turning the spindle v, the lever, l, will draw the connecting rod X, and by the lever, W, actuate the slider, e f, of the stop. The figure also shews that the extremities of the spindles, v, are immediately over the extremities of the keys h. It is in the connection between these that the ingenious contrivance is shewn. Fig. 9 is a small detent or three-armed lever, in shape of the letter T, called the tumbler, fixed on the projecting extremity of the spindle v; from each of its two arms, 26, 27, a pin projects: 28, (figs. 12 and 13.) is a detent of brass, connected at its lower end with the end of one of the keys A, (fig. 6.) and therefore descends when the opposite extremity of the key is lifted up by the pins of the barrel. This detent has two hooks at its upper end, which can be occasionally brought to engage either of the two pins projecting from the two arms, 26 and 27, of the tumbler; but as these two are on opposite sides of the centre of motion v, it is evident that, by being hooked on one, it will, when depressed by the key, turn the spindle, v, one way, and shut the stop, but being hooked on the other pin, the same motion of the key will produce an opposite effect on the spindle, and open the stop. The detent is made to shift itself every time it is acted upon in this manner: the upright arm, 29, of the tumbler, has a projecting claw, which is cleft for the reception of a light spring, 30, affixed to the lower part of the detent 28, and when at liberty standing straight in the direction of its length. Now suppose the parts in the position of fig. 13, the hook of the detent is over the pin, 27, of the tumbler: in this state, if the detent is drawn down by the key, it depresses the arm 27, and throws the arm, 29, over to the opposite side, as shewn in fig. 12, carrying the end of the spring, 30, with it, and bending it. Now the instant the pressure of the key is relieved, the spring throws the detent over to the other arm, 26, of the tumbler, and it is ready the next time it is acted upon by the key, to return the stop to its original position.

As it is necessary, when the barrel commences a piece of music, that the whole number of stops should, be open, the lever 40 (fig: 8 and 10.), is fixed on the spindle q q, and has a rod, extending beneath the instrument to the right-hand end: there it operate upon a lever, situated on a horizontal spindle, carrying as many arms as there are stops. These, when the barrel is shifted by the knob 15, as before explained, push up the whole of the stops at once.

There are four stops or ranges of pipes, which are exclusively appropriated to the barrel, in addition to the ten stops which belong to the finger-keys. These are called the stop-diapason accompaniment, which are wooden pipes to be used in concert with the stop diapason; the flute stop, which consists of small wooden pipes; as are also the pipes of the flageolet stop; lastly, the trumpet stop, which consists of metal pipes with reeds, constructed as shewn at fig. 5.
Our readers will now have a good idea of the mode of action of the barrel. The key-frame as shewn in fig. 6, contains 102 keys; 88 of them being connected with the valves in the wind chest, and the remaining 14 for the stops: these are all situated towards the left hand end, because, as shewn in fig. 2, the wires for the valves are there at so great a distance asunder, as to admit the stop-keys to be placed in the spaces between the valve-keys. The barrel has 102 circles of pins in action at the same time, and eight times as many, viz. 816, upon its circumference, containing eight different tunes, as described; any one of which can be played by shifting the snail-wheel 10. There is a small dial in front of the organ, with an index, which shews what tune the barrel is set for: it is on the opposite side to the wind-dial y (fig. 1) and its motion is communicated from the wheel 11, by a lever and detent. On turning the handle w, the endless screw, 2, gives motion to the spindle 4, and that turns the barrel with a very regular motion, because of the fly-wheel x: (fig. 1.) As the pins in the barrel pass by the keys, they lift them up at the proper intervals of the tune; and many are made like staples, with a long shank, so as to hold a note, by keeping up the key for some time. All this time the stops are, by the tumblers (figs 12 and 13.), as before-mentioned, brought on and off to give all the variations, in a full piece of music, and introduce the different instruments which are imitated by the pipes of the several stops, giving the instrument the effect of a whole band of performers, and that with a precision of time and harmony seldom to be met with in a concert. The formation of these barrels (for the instrument has several different ones which can be put in) is a most delicate mechanical operation, and requires a good knowledge of music. Messrs. Flight have improved this branch of the art, by the introduction of mechanism for actuating the stops, and also by some mechanical contrivances, for dividing and setting out the barrels more accurately than they are usually done.

It will be evident that, on a barrel such as we have described, no piece of music of great length can be performed; because when the barrel has made its revolution, the same tune is repeated. But to give the instrument the power of performing very long pieces, spiral barrels are introduced: in these, the pins, instead of being arranged in 816 circles, are disposed in 102 spiral lines, each making eight turns upon the barrel, which, as it revolutes on its axis, also traverses end-ways, thus bringing the spiral lines constantly beneath the keys; so that the barrel admits of making eight revolutions, before it repeats the same tune. It is evident that such a barrel cannot be shifted to produce different tunes, as in the former case, its circumference being wholly occupied by one piece, if it is very long; or it may be made to contain two, three, or four shorter pieces: but still they must follow in succession upon the same spiral lines, and will come after each other, in turning the barrel, without any shifting. When a spiral barrel is put into the instrument, the snail-wheel, 10, is detached from its spindle, as it can be of no use: instead of it, the arbor or pivot of the barrel has a screw or worm 34. (fig. 14.), fixed upon it; the interval of its threads corresponding in distance with the spiral lines upon the barrel; so that a fixed piece of steel, being held in the groove of the screw, will, when the barrel is turned round, cause it to traverse at the same time it revolutes. This fixed piece of steel is attached to a projection of a piece of brass, 31, 32, 33, called the thumbpiece; it supports the spindle of the snail-wheels, 10 and 11, before described; but having no motion in the use of the plain barrel, was then considered as a fixed piece; it is in reality attached to the key-frame thus: it has an arm 32, (fig. 7.) proceeding from it, which at the extremities turn up into joints, 32, 32; these are received into similar joint pieces of brass, screwed to the key-frame T, so situated that the joints are exactly in the line of the centre of motion for the key-frame, so that the thumb-piece has liberty to rise and fall on the same centre of motion as the key-frame; but being attached to it by a long firm axis, 32, 32, it has no other motion than upon this centre. A wire 37, (fig. 7.) is jointed to the thumb-piece 31, and, passing through a hole in the key-frame, has a nut screwed upon it: this is so adjusted, that the key-frame may be lifted up a small quantity, without raising the thumb-piece; but after this, the nut lifts it up. By this means the key-frame will always be lifted up, to clear the points of the keys from the pins, before the edge, 33, quits the groove of the screw, and suffers the barrel to shift endways.

Suppose the barrel put into its place, and thrust towards the left hand, as far as it will go, the edge,
33, of the thumb-piece is inserted into the groove of the screw, as shewn in fig. 14; the key-frame let down, and all is ready to begin, from the commencement of the piece of music. On turning the handle, the barrel revolves, and at the same time traverses, by the screw 34, till it has made eight turns, and come to the end of the piece; the end of the screw, 34, having come to the edge of the thumb-piece 33, the barrel must be returned to its first position, to repeat the music. It does this itself by the following means: a projecting pin, 35, is fixed in the right-hand end of the barrel, at such a distance from the centre, that it will intercept the end of a catch, 36, fixed to the key-frame; but it passes clear, by the side of this catch, at every revolution but the last, when the screw has traversed the barrel so far as to bring the pin, 35, into the plane of the catch 36. This happens at the moment the piece is finished; and as the barrel turns, it lifts up the key-frame, and raises the keys clear, ready for the barrel to return: the pinion, 4, is at the same time disengaged by the levers, 24, 25, as before described. The keys having risen sufficiently for this purpose, the wire, 37, lifts up the thumb-piece, so that its edge, 33, leaves the spiral groove of the screw, and nothing now prevents the return of the barrel by the action of the spring-piece 9, which always presses on the left-hand pivot. But as the key-frame would descend the instant the pin 35, in the end of the barrel, quits the catch 36, another catch, 38, at the other end, is introduced: this holds up the key-frame until the barrel has completed its return. The end of it then strikes the lower end of the catch: this suffers the key-frame to descend, and the edge, 33, of the thumb piece enters the groove of the spiral at its commencement, ready to repeat the tune: the catch, 38, has a screw through the lower end, upon the head of which the barrel strikes; this admits of adjustment, so that the edge, 35, shall fall, when the groove of the screw is precisely beneath it.

We have been thus particular in our description of this superb instrument, not less on account of its mechanical ingenuity, than from the great celebrity it has obtained from the first professors of music, who have, frequently borne testimony to its evident superiority over any thing of the kind before produced; and allowed that mechanism has, in this instance, become a most powerful rival of the best execution on finger-keys.

His royal highness the prince regent lately dined with lord Kirkwall, and a select party of nobility. During the dessert they were entertained by the performance of the celebrated opera of Mozart's, the Zauberflute, by the barrel part of this instrument, followed by the march, in the same piece. The machine produces the various accompaniments of a whole band of music, in such dulcet as well as forcible tones, that no one would credit without an opportunity of hearing it.

The inventor then played various pieces on the fingerkeys, one peculiarly adapted to display the rich, mellow sounds of the bugle horn; then produced a similar imitation of French horns and bassoons, with echoes to each, which were exactly as if they replied from the opposite side of a river to the original notes sounded in the room. These magic effects are chiefly produced by the swell, which gives to the organ all the variation of softness or loudness, imitating at pleasure the sounds of violins, or bowed instruments, in the most striking manner, but rather by association than reality, because those are the instruments from which we are accustomed to hear the alternation from soft to powerful tones, in the greatest perfection.

Editorial note: It is likely that the following section of the article, dealing with pipe organs with different temperaments is by John Farey Sr.

The organs of which we have been speaking, however simple or complex as to their number of stops, or ranges of keys, &c. have but twelve finger-keys in each octave, and these are generally tuned to what is called the mean-tone system, that is, eight of the major thirds, viz. on C, G, D, A, E; F, ♭ B, and ♮ E, are made perfectly in tune, or very nearly so, and four of the thirds, viz. upon B, ♭ F, ♭ C, and ♮ G, remain each, unavoidably, too sharp, by an enharmonic diesis (or near it), which some call a quarter of a tone, and consequently, such thirds heat very fast. The organ in the Temple church, London, has fourteen sounds, and as many finger-keys in each of its octaves; the performer has it therefore in his power to avoid or remedy the first of the above false thirds, by substituting ♬ D, instead of ♮ E, and the last of these (below C), in some cases, by the use of ♭ A instead of ♭ G. These substitutions the Temple organist is enabled to make during performance, owing to...
the short key between D and E being divided in its length, the longer or front half of it touching ♭ D, and the shorter or back half sounding ♯ E. In like manner the short key between G and A is divided, the front part for ♭ G, and the back part for ♯ A. This is, we believe, the largest number of finger-keys which remains in use in this, or perhaps any other country, although instruments have been made, and tried, with nineteen finger-keys in each octave, but playing upon them was found too difficult, if not impracticable. The Foundling Hospital organ, in London, has sixteen sounds in each of its octaves, but only twelve finger-keys, as usual, having quarter notes, as some call them, for ♭ D, ♯ A, ♭ A, and ♯ D, in addition to the twelve common notes as above; and which new notes, by means of two stops that move sideways, can be brought on when wanted, in order to correct all the four major thirds that are too sharp, as above mentioned: still, however, several other false concords occur in the use of this instrument.

The organ at Christchurch, in Blackfriars road, London, has been lately erected under Mr. Hawke’s patent, a copy of which will be found in the Philosophical Magazine, vol. xxxvii. p. 323 and 325, sec also vol. xxxix. p. 417. This has seventeen sounds in each octave, (see our article Hawke’s Temperament,) yet has only the twelve usual finger-keys, seven of which are long ones, and five short ones; the latter producing the sharp notes, unless that a pedal is pressed, which flattens each of these notes a diesis, and makes them all flat notes.

The organ which Dr. Kemp exhibited in his lectures at the Russel Institution, for which Mr. Laschman has a patent (see the Philosophical Magazine, vol. xxxvii. p. 326, and vol. xxxviii. p. 47.) has twenty-four sounds, and as many pipes in each octave. By the help of six pedals, and the twelve usual finger-keys, the performer is enabled to execute the mean-tone system correctly, or any other, in the twenty-four usual keys, and very nearly so for all the concords that occur in thirty-three different keys.

All these progressive steps in the improvement of the tune of organs, are only applicable to the tempered systems of tuning, in which the greater part of the concords must still be left imperfect, although the most improved systems have them so in small, and in equal degrees, instead of that great and disagreeable irregularity, which attends all the usual modes of tuning organs with only twelve notes; we say usual modes, because on the organ, an equal temperament has certainly never been used, whatever may have been done on pianofortes, and other stringed instruments, where beats are less observable and offensive. In the year 1810, the Rev. Henry Liston perfected an instrument, calculated to supersede temperament altogether, and took out a patent for the same, under the name of the Euharmonic organ; which patent will be found described in the Philosophical Magazine, vol. xxxvii. p. 328. Since that period, Messrs. Flight and Robson have completed another organ for him (Philosophical Magazine, ’vol. xxxix. p. 373 and 414), containing twenty-four pipes in each octave, and provided with eleven pedals, six of which, for flats and sharps, are used exactly similar to those of Mr. Leschman above mentioned. This invention enables the performer to produce perfect harmony in every key which is in common use, as Mr. Liston has fully explained mathematically, and by reference to numberless experiments and examples on his organ, in his “Essay on perfect Intonation,” a work to which we wish to call the notice of composers as well as performers, as developing many of the hitherto hidden mysteries of harmony. It may be proper to add, that the twenty four pipes of Mr. Liston’s organ, are occasionally made to yield twenty-four other notes, which are each one comma flatter than the pitch of the pipes, and also eleven other notes, which are each two commas flatter than certain of the pipes; making in all fifty-nine notes in each octave; all which degrees of sound frequently into use, in the keys now commonly used on the organ; and in all the collective performances of violinists, singers, &c. they have always been in use. These changes of the sounds of his pipes, Mr. Liston effects by shaders, or flat plates of metal of two different sizes, which by means of his pedals are made to stand over the tops of open pipes, or before the mouths of stopped pipes, at the due distance for flattening the pipe the exact proper quantity, while it is so presented to the current of air issuing from the pipe. The tuning of these organs has no difficulties, except the labour of it, because not a single interval requires tempering, but the whole are produced from perfect concords, without
the slowest perceptible beating, such intervals as a performer uses in tuning his violin.

**Editorial note.** It is likely the remainder of the article is by Burney.

In attempting to describe the requisites of a good organ, we shall begin with the bellows; which, besides being of a size fully adequate to supply the chorus, should at all times give an equal weight of wind; This may be known, by holding down two notes of the diapason, or any other stop, when the bellows are nearly full, and observing whether they continue in the same relative state of tune, until the bellows are nearly empty. If they do, the wind is equal; without which no organ can ever be in tune: also, when carefully blown, no difference should be heard from the action of blowing. In like manner, a single note of the diapason should continue unaltered in its pitch, and smooth in its tone, while the other stops are added in succession, until the whole chorus be drawn. This proves that the wind meets with no impediment in its course to the pipes; a requisite of no less importance than the former.

The draw-stops should move with sufficient ease and smoothness; and should stop so decidedly, as to leave no doubt of their being completely drawn, or shut.

The touch of the keys should be free and elastic, and exactly the same pressure should be requisite to put down every key throughout the scale. No better proof can be given of a good touch, than that a turned shake can be executed with equal facility in every part of the scale, except perhaps in the lowest octave, where it is not to be expected or desired. If all these things act without noise, the mechanical parts of the organ may be considered good, and in order.

The goodness of the pipes is not so easily described, because much depends upon the quality of the tone, of which little idea can be given in words. A fine quality and great strength can hardly be expected from the same pipe: it therefore depends somewhat on choice which to prefer; though it does not follow that all soft-toned pipes are of a fine quality. But be the quality what it may, it should be uniform from the top to the bottom; a requisite which cannot be too strongly insisted on in all instruments, so as to give the idea of all the notes coming from the same pipe or string.

It is indispensable to an organ, that it have a good stopped diapason, as that stop is the foundation of the organ, and is never shut, except when the dulciana or flute are used as solo stops. It is of great importance that it be sufficiently full and bold in the base, particularly in those chamber organs which have an open diapason; as that stop is seldom extended lower than G gamut. And in large church organs, where the open diapason goes through the scale, the lower notes are feeble, if not supported by the stopped diapason; and it may be observed, that no stop should be loudest at the top. Of the open diapason, little more need be said than that it should be full, smooth, and articulate. In small organs it is entirely dispensed with; and in those which are larger, it is in the treble only, or more or less extended into the base, according to the size of the organ, or choice of the builder; and it may be proper to observe, it is better that the lowest pipes should not be so loud as to make the break very perceptible. In large church organs there are frequently two open diapasons through, and nothing can be a greater recommendation to an organ than its having good diapasons. What has been already said, will apply to all other stops generally, when taken singly; but their relative strength is of great importance to the goodness of the chorus. As a single stop should not be loudest at the top, so the chorus steps should not predominate over the diapasons; a fault very general in the old organs, arising from the bad taste of the times in which they were made. The chorus should be rich, brilliant, and articulate; and the twelfth and tierce, and their octaves, should not be heard, except when listened for. The trumpet-stop, when good, adds greatly to the majesty, as well as to the strength of the chorus; and its octave, the clarion, increases its brilliancy.

The goodness of these, and all other reed stops, besides the requisites already mentioned, depends upon their speaking readily and quickly; and being free from the nasal tone, such as is produced by bad players on the clarionet, or hautboy. And it had been well if the trumpet had never been used as any other than a chorus-stop; for its use, as an imitation of a real trumpet, has given rise to the introduction of a variety of imitation-stops; most of them a disgrace to
the noble instrument in which they are suffered to intrude; and its consequence, a trifling and vitiated style of performance, equally disgraceful to the taste of this country, where only it is cultivated.

**ORGAN, Hydraulic,** denotes a musical machine that plays by means of water instead of wind.

Of these there are several in Italy in the grottos of vineyards.

Ctesebes of Alexandria, who lived in the reign of Ptolemy Euergetes, is said to have first invented organs that played by compressing the air with water, as is still practised. Archimedes and Vitruvius have left us descriptions of the hydraulic organ. Felibein, de la Vie des Archit. See Hawkins’s Hist, of Music, vol. i. p. 190, &c. See HYDRAULICON.

In the cabinet of queen Christina is a beautiful and large medallion of Valentinian, on the reverse of which is seen one of these hydraulic organs; with two men, one on the right, the other on the left, seeming to pump the water which plays it, and to listen to its sound. It has only eight pipes placed on a round pedestal. The inscription is PLACEA SPETRI, if it be not wrong copied, which we suspect.

**ORGANICAL, in the Greek Music, was synonymous with instrumental, or music played by instruments, which had a notation in characters different from the vocal, as may be seen in Bacchius and Alypius. See GREEK Music, and CHARACTERS.

**ORGANISER le Chant, in the beginning of counter-point, was to introduce some thirds at the closes of a chant in unison: for example, when one part of the chorus sung C, D, B, C, the other sung at the same time C, D, D, C. It appears by these examples, cited by the abbé le Bœuf, and by others, that organisation was seldom practised except upon the sharp 7th, or note sensible at a close; hence it follows, that it was always the minor third which constituted this new harmony. For a concord so easy, and affording so little variety, the singers who organised had a particular remuneration. With regard to the organum triplum, or quadruplum, which was also simply called triplum or quadruplum, it was nothing else but the same chant with the parts organised with the counter-tenor in the octave to the base, and by the treble in the octave to the tenor.

**ORGUES, des, Fr. (Sec ORGAN.)** The first organ that was seen in France, and sent to king Pepin, received another from the emperor Michael. Eginard says that this was an hydraulicon. In the ecclesiastic interdictions the organ used to be silenced. Organs were admitted into convents about the tenth century. In the time of St. Louis, every species of wind instrument had admission in the divine offices. We read in the annals of this prince, how devoutly he caused the mass to be sung, and the whole service à chant et à déchant, à ogre et à triple, with the organ and trumpet.

**ORTHIAN.** The Orthian nome, in Greek Music, was a dactylic nome, invented, according to some, by old Olympus the Phrygian, and according to others by the Mysian. It was in singing this Orthian nome, say Herodotus and Aulus Galli, that Arion precipitated himself into the sea.

**OSSERVERANZA, Ital., in Music; con osservanza, with care, attention, exactitude, in observing and executing with precision whatever is written or printed; without omissions or addition, which Corelli expresses by come sta, as it stands in the copy.

**OTTUPLA, in the Italian Music, signifies otuple, or the measure of four times: it is marked with a semicircle, C; and sometimes thus when it is to be played very quick. In this time, eight quavers are contained in a bar. But it often happens, that suddenly, instead of two quavers for every time of the bar, three are required; this is called dodecupla. It is enough to place a 3 over three quavers, or notes of equal value, to shew that the measure must be changed; and when this 3 is omitted, it sufficiently demonstrates the measure to be ottupla again; this makes what is called by the Italians ottupla è odecupla, thus

Corelli, in the last movement of his tenth sonata, opera leraa, very often uses an 8 for the dodecupla, to shew that the triple there is changed to common time.
OVERTURE, in *Music*, the symphony in theatres, which immediately precedes the drawing up the curtain. It used to be called in France *entrée*, and rendered as spirited, imposing, and full of harmony, as possible. In Lock’s English operas it is called a curtain tune.

French overtures, and indeed the first movements of those of Handel, were almost all in the style of Lulli. They move in a spasmodic and convulsive manner, bordering on bombast. Lulli’s overtures have a slight fugue, always in triple time, after the opening, but no air. So that the overtures of Handel have no resemblance to those of Lulli but in the first movement; the second is almost always an excellent fugue terminated by a pleasing air in minuet, gavot, or jig time.

"There was a time when French overtures served as models or all Europe. Sixty years have not elapsed, (says Rousseau,) since overtures were sent for from France to place at the head of the Italian operas. I have even seen many ancient Italian operas in score, with an overture by Lulli at its head. The Italians like not to hear this at present, but such is the fact.

"Instrumental music having made an astonishing progress within these 40 years, (in 1768,) the old overtures made for performers not very well acquaintance with the finger-board or the powers of their instrument, have been abandoned to the French, and they have continued to persevere in them in their pristine state, without change or innovation. The Italians, impatient to rush forward in the road to fame, emancipated themselves from gallic chains in music, however patiently they may have submitted to political chains since, and composed overtures upon a different plan, full of fire and spirit in the first movement; in the second generally a graceful and captivating andante, sampre piano, in which they display all the graces of a beautiful melody, &c; lastly, a brilliant allegro, commonly in 3/4. The overture of this tune only acted as a crier of the court to enjoin silence by an oyez, by the time the curtain rises, and the clattering of doors and struggle for places cease."

OVERTURE du livre, or à livre ouvert, Fr., on the opening the book, at sight; These are expressions applied to musical students, or performers, who read music with as much facility as a newspaper.

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P, in *Music*, is the initial of piano, soft, for which it stands; and pp, by abridgment, for pianissimo, very soft.

PAMMELIA was a title given to the first collection of canons, rounds, and catches, that was printed in England. The full title of these ingenious and exhilarating effusions for social purposes is curious, and runs thus: “Pammelia (a word formed, perhaps, from ταυ and μελος) Musick’s Miscellanie; or, mixed varieties of pleasant Roundelays and delightful Catches of 3, 4, 5, 6, 7, 8, 9, 10 parts in one. None so ordinary as musical, none so musical as not to all very pleasing and acceptable. London, printed by William Barley, for R. B. and H. W., and are to be sold at the Spread Eagle at the north doore of Paulus’s, quarto, 1609. The names of none of the composers of these epigrammatic and pointed effusions have been preserved; but many of them seem of great antiquity, which is discoverable both by the words and style of composition. Great musical science is manifested in the canons, and the harmony and contrivance of the rest are excellent. The words, indeed, except those of the canons, which consist of small portions of the psalms, and other parts of scripture, in Latin, (which seems to imply that they were set before the Reformation,) are, in general, devoid of wit, humour, poetry, and common sense. Our lyric poetry, during the 16th and part of the 17th century, was in a barbarous state, and far inferior to the music of the times. Our words about the things they had to set, as frequently to prefer the syllables of solmisation *Ut remi fa sol la; Hey down down, derry down;* or merely Fa la, to songs of Spenser and Shakespeare. In the same year was published another collection, entitled “Deuteronelia, or the second Part of Musick’s Melodie, or melodious Musick of pleasant Roundelaisie, &c. London, printed for Thomas Adams, dwelling in Paulus Church-yard, at the sign of the White Lyon, 1609.” This publication is much inferior to the preceding, and chiefly consists of songs for three voices, in which different stanzas are sung to the same music, after the manner of what are now called glees.

PANTALEONE, in *Music*, a stringed instrument in Germany at the latter end of the seventeenth century. The inventor’s name was Hebenstric; but from
the success of his instrument, he assumed that of Pantalone. It was more than nine feet long, and had, when in order, 186 strings. The tone was produced by two baguettes, or sticks, like the dulcimer; it must have been extremely difficult to the performer, but seems to have been capable of great effects. Mr. Binder, organist of the Duom Kirk, at Dresden, was the last person who played upon it. It was this instrument, and the performance upon it at Paris in 1705, which gave birth to a very ingenious little work, under the title of “Dialogue sur la Musique des Anciens,” by the abbé Chateauneuf. When we saw the ruins of this instrument at Dresden, soon after the seven years’ war, the strings were almost all broken, and the court was so impoverished as not to like to be at the charge of new mounting it. It used to be one of the musical curiosities of that city, during the time that the elector of Saxony was king of Poland.

PANTALOON, on the Theatre, is a buffoon or masked person who performs high and grotesque dances, and shows violent and extravagant postures and airs.

The word is also used for the habit and dress these as those of the load-stone upon iron. buffoons usually wear; which is made precisely to the form of their body, and all of a piece from head to foot.

And hence those who wear a habit of this kind, for conveniency under their other clothes, are called pantaloons of Venice.

PANTHEON, in England, a modern building erected in Oxford-street, London, begun in 1768, and finished in 1771, for concertos and other musical performances. It was built by Mr. James Wyatt, and regarded, both by natives and foreigners, as the most elegant structure in Europe, if not on the globe. 

This splendid and elegant edifice was opened as a place of public entertainment on Monday January 27, 1772. During the first winter there were assemblies only, without dancing or music. three times a week. On other days, each person paid five shillings for seeing the building only. But the great room, though spacious, was so crowded on all these occasions, that in July, a general meeting of the proprietors was advertised, in order to take into consideration the enlarging of the building.

After the opera-house in the Haymarket was burnt down in 1790, this master-piece of architecture was transformed into a theatre for the performance of operas; when, though many of its internal beauties were hidden and annihilated, it still was a perfect model of a complete theatre in its new form. But unhappily, before it had been used as a lyric theatre two seasons, it was burnt down by some fatal accident or design, which has never yet been divulged to the satisfaction of the public.

During its pre-existent state, it was here that the Aguari and Pacchierotti exercised their talents; it was here that the king, queen, and royal family, with all the first nobility in the kingdom, assembled, at the commemoration of Handel in 1784; and it was here that one of the first bands in Europe graced the orchestra, alternately headed by Giardini, La Motte, Cramer, or Giornovichi, who, with Fischer, Crosdil, Cervetto, &c. produced effects in symphonies, concertos, solos, and vocal accompaniments, which had never before been heard in this country. No persons of taste in architecture, or music, who remembers the Pantheon, its exhibitions, its numerous, splendid, and elegant assemblies, can hear it mentioned without a sigh.

PANTOMIME, Παυτομιμος, was, among the Ancients, a person who could imitate all kinds of actions and characters by signs and gestures, without speaking.

The pantomimes made a part in the theatrical entertainments of the ancients; their chief employment was to express, in gestures and actions, whatever the chorus sung, changing their countenance and behaviour as the subject of the song varied.

They were very ancient. in Greece, being derived from the heroic times, according to some; but however this may be, they were certainly known in Plato’s time. In Rome it was so late as the time of Augustus before they made their appearance. Under his reign and that of Tiberius, the pantomime, carried on by much gesticulation, was the favourite entertainment of the public. The people were moved, and wept at it, as much as at tragedies; and the passion for it was so strong, that laws were obliged to be made for restraining the senators from studying the pantomimic art.

As to the dress, it was various, being always suited; as near as possible, to that of the person they were to imitate. The crocota was much used among the Roman pantomimes, in which, and other female
addresses, they personated women. See MIME, BALLET, and BATHYLUS.

PAPER, ruled for the reception of musical characters.

Editorial note: This forms part of a longer article about paper by John Farey, Jr.

Rousseau was the first, we believe, who made this a lexicographical article. Five parallel lines form what musicians call the staff; upon which lines in the spaces are disposed all the notes of the time-table and their places in the general scale, regulated by clefs at the beginning of each staff.

All our music for keyed instruments, till the latter end of the seventeenth century, was written on staves of six lines, of which the lowest in the treble clef, and highest in the base, was the middle C of the general scale. See STAFF.

Almost all the music paper in Italy is ten-staved, for the convenience of scoring songs with four instrumental parts: as the violino primo, violino secondo, alto viola, voice part, and base. These being linked together by braces, are easily found, not only by the singers, but by the instrumental performers, by whom they may be ac companied from the score.

The English have paper ruled of all forms and number of staves. In general, for violins, of 12 staves, and for the piano forte, and vocal parts, long quarto, as it is more on a level with the eyes, and conceals the visage of the performers less from the audience.

PART

Editorial note: The final passage of this article is by Burney

The French term it parrodyng an instrumental air when it is made vocal, by writing or adjusting words to it. In good compositions the melody is made for the words; but in parrodyng an air, the words are set to the melody. In ballads, and songs of many stanzas to the same air, Rousseau observes, that all but the first are parodies, which is easily discovered by the liberties taken with the rhythm by the singers, and the want of musical knowledge in the poet.

PART, in Music, denotes a piece of the score or partition written by itself, for the convenience of the musician; or it is one or more of the successions of sounds which make the harmony, written apart.

Or, the parts are the sounds made by several persons singing or playing in a concert.

Music in parts was unknown to the ancients; they had but one part; all their harmony consisted in the succession of notes, none in the consonance.

There are four principal parts; the treble, bass, tenor, and counter-tenor.

Some compare the four parts in music, to the four elements: the bass, they say, represents the earth; the tenor, water; counter-tenor, air; and the treble, fire.

PARTHENIA, is the title of a thin folio book of lessons for the Virginal, that was engraved on copper, and published in the reign of king James I. under the following title: “Parthenia, or the Maidenhead of the first Musicke that ever was printed for the Virginnals. Composed by three famous masters: William Byrd, Dr. John Bull, and Orlando Gibbons, Gentie men of his Majesties most illustrious Chapel.” Bird being here called “Gentleman of his Majesties chappel,” seems to imply, that he was still living when it was published. King James died in 1525, and Bird in 1532. The three first movements in this collection, consisting of a Preludium; Pavana; sir William Peder; and a Galiardo; are in G minor, and may be called a Suite of lessons. The fourth and fifth movements, Preludium; and Galiardo, Mrs. Marye Brownlo, in C; and the sixth, seventh, and eighth, Pavana, the earle of Salisbury; Galiardo primo; and Galiardo secundo, Mrs. Marye Brownlo, in A minor; constitute what may likewise be regarded as two other Suites de Pieces, or sets of lessons.

PARTICIPATION

Editorial note: A scientific article by John Farey Sr.

In the tuning of keyed instruments, [this] implies equal harmony; that is, dividing the imperfections of the scale equally among all the sounds of the system. By this means the 5ths are better, and the sharp 3rds worse, than in common tuning, when there is a wolf. See WOLF. This manner of tuning seems necessary now, and to be generally received; as modulation is so licentious, that in a long movement it is impossible, by relative sounds, for the performer to guess where he shall be carried, as every key, and every chord on the instrument, are sure to be called into use before the final close in the original key. In making all the 5ths perfect, there is a redundance of a half tone. Now, if that is divided into twelve parts,
among all the semi tones, it should seem as if no one key would suffer much; yet an ear not accustomed to such harsh major 3\textsuperscript{rd}, is at first much offended.

PARTICIPATO, Ital. see TEMPERAMENT Participato is likewise a mixture of the diatonic and chromatic genera in the music of the ancients, according to Padre Martini. We may, indeed, say that all modulation in modern music is brought about by the mixture or participation of the diatonic and chromatic genera. The rising or falling by minor semitones is chromatic, So that in the key of C natural, an F♯ which modulates into G is chromatic.

PARTIE, Fr. Part, in English implies the melody or notes allotted to a single voice, or instrument, many of which parts constitute a chorus, symphony, or concerto. Three sounds, at least, are necessary to form a chord; but a complete chord built on the generator or fundamental base with its 3d, 5th, and 8th; and each of these sounds distributed into different parts, would furnish a first treble, second treble, tenor, and base. The high notes in most instruments played with a bow have no bounds, as the persecuted audience can tell; but below there is a ne plus ultra. Violins can go no lower than G on the fourth space in the base, the tenor to C, unison with the second space in the base, and the violoncello to double C.

PARTITTI, Ital. in Music, the score of a composition separated or drawn out in single parts.

PARTITTURA, Ital., Partition, Fr., in Music, implies a score, or the several parts of a composition arranged over each other, and separated into equal portions of time by bars, or perpendicular lines drawn through all the parts; whence the word score.

PARYPATE, in the Ancient Music, was the name of that note or chord of a tetrachord which lay next to the hypate. As the hypate was the principalis, the first, or principal sound, according to Martianus Capello's translation; so the parypate was, according to him, the sub-principalis. See TETRACHORD.

The name parypate was given to this second note when a tetrachord was considered separately from others; but, when combined, this chord sometimes took the name trite. See DIAGRAM, and TRITE.

PARYPATE MESON, in the Greek Music, was the second note of the meson tetrachord, and answers to the F-fa-ut of the Guidonian scale. See DIAGRAM.

PASSACAGLIO, a slow dance, resembling the chaconne; the only difference is, that it is generally somewhat slower, and more pathetic: on this account, the passacaglias are almost always composed in the minor keys. Brossard.

PASSACAILLE, Fr. Rousseau gives nearly the same definition: adding, that the passacaille of "Armida" and "d’Isse" are famous in the operas of Lulli and Mondoville.

PASSAGE, Passo, Ital. in Music, as in literature, is a single period, or sentence, selected for praise, censure, or illustration. But in France, according to Rousseau, it is a flourish, or division in gracing a particular bar, or trait of melody. But in Italy, singers are obliged to know how to invent passages extemporaneously upon any given notes; whereas in France, and, we fear, in England, young singers dare not hazard a single passage that has not previously been written down and practised.

PASSAMEZZO, from passer, to walk, and mezzo, the middle, in Music, is a slow dance, differing little from the action of walking. As a galliard consists of five pa ces, or bars in the first strain, and is, therefore, called a cinque pace, the passamezzo, which is a diminutive of the galliard, has just half that number, and from that peculiarity takes its name.

PASSE-PIED, a dance, though of the same measure as the minuet, except that it admits of no binding-notes, and begins with an odd quaver. Indeed it more resembles the courant than the minuet.

PASSING-NOTES, in Music. This is a subject so well treated by Dr. Pepusch, in his Treatise on Harmony, that we shall do little more than transcribe his rules.

After giving instructions for preparing and relieving regular discords, he says, we will now show how discords may be used without being prepared, particularly by suppositions; but then they are no longer to be called discords, but passing or transient notes.

In diminutions or divisions, all the notes that are not to be found in the chord upon which the passage is built, are called passing notes. Passing notes must be used in a regular ascent or descent, not by leaps,
or wide intervals. See in Music Plates examples of passing notes selected from Pepusch.

PASSIONATO, in the Italian Music, intimates that the part to which it is annexed ought to be played passionately, or in a moving and affecting manner.

PASTORALE, Ital. and Fr., in Music, an air of the pastoral kind, is generally in Siciliana time. “French airs called pastorals (according to Rousseau) are gene rally in \( \frac{6}{8} \) measure, or two triplets in a bar, and in the character of the musette. Italian pastorals have more accent, more grace, as much sweetness, and are less insipid; their measure is always \( \frac{6}{8} \). A mistake; the celebrated pastoral at the end of Corelli’s eighth concerto, is in \( \frac{12}{8} \).

Among French pastorals, they have whole dramas, called opera champêtres, the personages of which are shepherds, and the music ought to be suitable to their state, simple and rustic, such as we suppose their manners to be.

A pastoral is also a piece of music, set to words relative to pastoral life, or a melody which imitates the songs of the shepherds, which is equally sweet, tender, and natural. The air of a dance, composed in the same character, is also called a pastoral.

PATHETIC, in Music. The general import of this word, which is purely English, is so well known, as seemingly to need no explanation; yet, to render music pathetic, so many circumstances must concur, that it has been thought necessary by Rousseau to point them out. The poetry, the musical composition, the figure, countenance, tone of voice, expression, and situation of the character represented, must all combine to produce the full effect of a pathetic air. All are requisite in dramatic and theatrical music, which tend to move and paint the great passions, particularly those of grief and Sorrow.

All the expression which the French can give to pathetic airs, is to drag, reinforce the notes, and howl; and in so slow a movement, that all sentiment of measure is effaced. Hence the French think, that whatever is slow is pathetic, and all that is pathetic ought to be slow.

They have airs which become gay and playful, or tender and pathetic, as they happen to be sung quick or slow. Such is the advantage of French melody; it serves for whatever they please: fiet avis, et, cum voler, arbor.

But Italian music has not the same advantages. Each song, each melody, has its distinct character so strongly impressed on it, that it is impossible to destroy the pathos of its accent and melody, which is felt in all measures, even in those the most lively. French airs change their character, as the time is accelerated or retarded. Each Italian air has its movement so determined, that it cannot be altered without annihilating the melody. An air thus disguised, does not change its character, it loses it; it is no longer melody, it is nothing.

If the pathetic character is not in the movement, we cannot say that it is in the genus, the melody, or the harmony: as there are pieces equally pathetic in the three genera, the three modes, and all the harmony imaginable. The true pathetic is in the accents of passion, which are not to be taught by rule; but let genius find, and the heart feel, without applying to art to give the law.

Nieuwenyt tells us of a musician at Venice, who excelled in the pathetic to that degree, that he was able to play any of his auditors into distraction; he adds, that the great means he made use of was the variety of motions, &c.

PAVAN, PAVANA, the air of an ancient stately dance, which has been long out of use. It had its name from the dancers assuming the dignity of the peacock; or, perhaps, from Pavana, an Indian author of a system of music that goes under his name. In all sets of music for the virginal, from the time of queen Elizabeth to the reign of Charles I., there was a Pavan, which served as an adagio, or slow movement to the galiard, as the Sara band did afterwards to the courant.

PAUSE, in Music, is a cessation of sound, marked with a character commonly called in England a bull’s eye, \( \bigcirc \); but by the Italians a corona, or crown. The pause used to be of an unlimited duration in the middle of a piece, different from common rests, all which represent the duration of some note in the time-table. Emanuel Bach was the first who measured pauses by a rest of one, two, or three bars; which method has been adopted by Haydn, Mozart,
and others, a method which is very convenient in symphonies and full pieces; as, when it was left to the will or sagacity of the several performers, they never, after a pause, resumed the strain together. See RESTS, and CORONA.

For the signs or characters of pauses, see CHARACTER.

PENULTIMATE, in Music. M. Brossard will have it the same with what the Greeks call paranete; though others will not allow the paranete to be the penultimate chord, but the next to it.

PENULTIMATE of the Separate, parenete diazeugmenon, is a name the ancients gave to one of the chords of their lyre or system; corresponding to the d, la, re, of the third octave of the modern system.

PENULTIMATE of the Acute, paranete hyperboleon, a chord of the ancient system, answering to the g, re, sol, of the third octave of the modern system.

PERFECT, in Music, denotes something that fills and satisfies the mind, and the ear. In which sense we say, perfect cadence, perfect concord, &c.

The ancients had two kinds of modes, the major and minor; and each of these again, was either perfect or imperfect.

The word perfect, when joined by the words mode and time, usually expresses triple time or measures; in opposition to double time, which they call imperfect. See TIME.

PERIOD of Perfection, in Greek Music. With respect to the period of greatest perfection in the music of Greece, it is a subject which seems to merit some discussion. Plato, Aristotle, Aristoxenus, and Plutarch, were forever complaining of the corruption and degeneracy of music. The pious Plato, indeed, regarded it as fit only for the gods, and their celebration in religious ceremonies, or as a vehicle for religious and moral lectures in the education of youth; and with a methodistical spirit censured all such as was used in theatres, social festivity, or domestic amusement; but modern divines might, with equal propriety, declaim against the profane use of bread as an aliment, because it is administered in the most solemn rite of our religion. A line should certainly be drawn between the music of the church and of the theatre; but totally to silence all musical sound, except upon solemn occasions, seems to border upon downright fanaticism.

With respect to perfection and depravity, there is nothing so common among musical disputants, as for the favourers of one sect to call that degeneracy, which those of another call, refinement. But Plato seems to have been always too fond of ideal excellence in every thing, to be satisfied with any other.

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Petteia, Πέττεια, in the Ancient Music, a Greek term to which we have no corresponding one in our language.

The melopoeia, i. e. the art of arranging sounds in succession, so as to make melody, is divided into three parts, which the Greeks call lepsis, mixis, and chresis; the Latins, sumptio, mixtio, and usus; and the Italians presa, mescolamento, and uso. The last of these is called by the Greeks οὐεττεια petteia, and by the Italians pettia.

Petteia or pettia, then, is the art of making a just discernment of all the manners of ranging or combining sounds among themselves, so as they may produce their effect, i. e. may express the several passions intended to be raised, thus: e. gr. it shows what sounds are to be used, and what not; how often any of them are to be repeated; with which to begin, and with which to end; whether with a grave sound to raise, or an acute one to fall, &c.

It is the petteia that constitutes the manners of the music; it being this that chooses out this or that passion, this or that motion of the soul, to be awakened; and whether it be proper to excite it on this or that occasion. The petteia, therefore, is in music much what the manners are in poetry.

We do not see whence the denomination should have been taken by the Greeks, unless from ωεττεια their game of chess; the musical petteia being a sort of combination and arrangement of sounds, as chess is of pieces called ωεττοι, calculi, or chess-men.

PHANTASTIC, in Music. Phantastic style is a free, easy manner of composition; proper for instruments. See STYLE.

PHILODEMI DE MUSICA, is the title of a work in Greek, recovered from the cinders of Herculanum. The subject is music. At first it was reported to be a treatise on the art; then a panegyric; and lastly a satire, which it turns out to be, of the most bitter kind.
The labour of unfolding the Papyrian rolls was begun more than 50 years ago. The subterraneous city of Herculaneum was discovered in 1742; and we find, from a letter of La Condamine, and another from Camillo Paderni, printed in the Philosophical Transactions of our Royal Society, vol. xlix., that the work of unfolding this MS. was begun in 1749.

It was some time before the name of the author was discovered, and still longer before it could be ascertained of what country or sect he was, or at what period he existed.

The name of Philodemus was, however, well known in Greece. Among others who bore that title, was a very ancient follower of Pythagoras, who was a native of Locris, in Magna Graecia; and two others more recent, one born in Greece, and the other in Asia Minor.

These must not be confounded with the author of a work on the subject of music, which was rescued from the lava of Vesuvius, by being preserved in the ruins of Herculaneum. Philodemus, the author of this work, was a philosopher of the sect of Epicurus, and a poet of considerable eminence. He is praised by Cicero; and Horace refers to one of his epigrams; nor has he been overlooked by Diogenes Laertius, or Strabo, who informs us, that he was a native of Gadera in Syria. He resided at Rome, and was the acquaintance of Tully, and the tutor of Lucius Piso, the consul.

Cicero describes him as a person of liberal manners, and a cultivated mind. His morals, however, were loose; as appears by several of his poetical effusions, which still remain. Of his works, indeed, previous to the discovery of the literal treasures in Herculaneum, only thirty-one of his epigrams were known to exist. The editors of these treatises have added two more to the number, and with a learned research concerning Philodemus himself, have presented his work to the literary world; and it is, undoubtedly, the most curious publication, on the whole, which has appeared since the revival of letters.

The work has been published more than ten years; but about the time of its issuing from the press, the arrival of the French at Naples prevented its circulation. And though printed in 1793, no copies had reached England till 1801; when the late reverend and learned Mr. Cratcherode procured pos-
The work on music which Philodemus has attacked so furious, was probably his περὶ ϕωνῆς, mentioned by Lærtius.

Perhaps Diogenes, as is usual with panegyrists, asked too much admiration of his favourite art, and Philodemus, like a true determined adversary, grants too little.

There were perpetual disputes about music in Greece, not only among professors, but philosophers. The editors of this ancient tract have defended music well against this pagan Auszos, who not only denies its miraculous powers, but its utility on any occasion. However, Pythagoras, Plato, Aristotle, and Plutarch, among the ancients, and many wise and virtuous men among the moderns, such as Bacon, Milton, Dr. Wallis, Arbuthnot, Montesquieu, &c. have thought differently from the musical atheist, Philodemus, and allowed that, of all the arts, “music is the only one that cannot corrupt the mind.” For the rest, we are much of the same opinion with Philodemus, as to a love for music being the attribute of a good heart; particularly when we reflect on the passions which Ptolemy Auletes, Nero, and our Henry VIII. had for the art; we are then very ready to relinquish the opinion of Shakspeare and other poets on the subject.

The round assertions by Philodemus against music, are the following.

CHAP. I. It does not produce such effects in the mind, as can give rise to nobler manners, or excite diligence.

2. In this all hearers are alike; their sense of hearing is the same; but the difference in the effects of music arise from some previous operations, some preconceived opinions. The distinctions of the enharmonic and chromatic genera are owing to these opinions, and the operations to which they give rise; those who understand nature and her works, will derive satisfaction from the pleasurable parts of music of every kind. Music is undoubtedly multiform; but still it cannot infuse the forms of manners, which approach to virtue.

3. Music demands a previous degree of knowledge. A mere simple modulation cannot rouse the inactive mind, nor can it induce any disposition to morals, which was not implanted by nature; neither can it calm the agitated mind, or guide it from one propensity to another. Nor is music an imitative art, more than cookery. To the perception of the ear, enharmonic and chromatic are the same, and their mixtures are the same, their differences being only known to professors.

CHAP. II.

Whether music, per se, is proper for divine worship?

4. The gods do not demand the honour which we bestow: nature impels our minds to bestow it on them: hence the different ceremonies in different countries arose. Music, however, was never ordered by them: it is not music which is serviceable in worship, but rather public prayers: it is not known by tradition, that music was much employed by the ancients, and never, but by particular Greeks on particular occasions. In modern times it has become a trade, and is admitted as an essential part of religious ceremonies, and at the games, which was not the case in old times.

5. Even if we allow that the gods instituted spectacles and shows in honour of themselves; yet it does not follow that they ordained the addition of music.

CHAP. III.

Whether music contributes to render more effective encomiastic and hymeneal poems, epithalamia, and threnodes.

6. Music gives no additional power to encomiastic poems: and at marriages is introduced merely as cooks add sauce, without increasing the real and genuine good of nuptials. The effect on these occasions is produced by the poems, not by the music; the passion of love is not assisted by the union of the two; nor can they really procure any alleviation to affliction when epi许多alia are performed.

CHAP. IV.

On music at the games.

The music of the games is not universally commended; nor does it produce any universal benefit. The opinion of low and ignorant people I do not regard.

7. In the games the skill and art may please; but we should not miss it if the dance were removed from the drama; as it tends not to honesty nor honour; and as to the female dancers, no greater incite-
ment to intemperance and licentiousness can be imagined.

CHAP. V.
Whether music has in its nature any power of moving?

8. Whether the influence which the solemn music has at the Dionysiaca be, like the games, of divine original? The subject needs not discussion.

9. It is said, that as fire has in it a burning quality, so music has in it something that excites to action. Hence, observes the absurd definer, the rowers in vessels, and the reapers and the vine-dressers, worked to the sound of music. While the song is singing, however, the workmen rest. Should, then, according to the fable of Orpheus, should a musician stand by, and play, when a house is building?

10. He (that is Diogenes, the author of the treatise which Philodemus answers) asserts also, that not merely the mind, but even the body, is influenced by music; and that artificers are rendered more skilful by it; and that music had greater power over the mind than argumentative sentiments. In modern times music is much neglected: poetry is still cherished and brought forward.

11. Music was never reckoned universally necessary as a study or pursuit; nor was Themistocles acquainted with it.

12. Music after entertainments, when the voice and the mind are disordered by wine, cannot stir up the hearers to enter into regular conversation. Nor is it of real utility in the education of children; as it is disputed what Virtue takes its form in the mind according to the species of music.

CHAP. VII.
Whether music contributes to love?

13. Music contributes nothing to the passion of love.

CHAP. VIII.
What does music add to feasts?

14. The words of songs, and not the music, may animate and purify the minds of guests.

CHAP. IX.
Whether music has any tendency to conciliate friendship.

[The answer to this question could not be recovered.]

CHAP. X.
What is to be thought of the childish stories of Thaler and Terpander?

18. The invitation of Thales to the Lacedaemonians, in order to settle a dispute, as ordered by the Pythian oracle, examined.

19. The calm produced was not by music, but by his admonitions, which might be sung.

CHAP. XI.
Whether music ought to be recommended as contributing to religion?

20. What has been written about music, as contributing to divine worship, may be applied to various arts: the cook, the chaplet-weaver, the perfumer, the baker, the farmer, the painter, the architect, and statuary, may be supposed to serve the same cause with equal propriety.

21. The music adds little to the power of poetry, in celebrating the honours of the gods. Diogenes persuaded himself, that the gods are delighted, some with one song, and some with another, and that there are peculiar songs suitable to each of the divinities.

CHAP. XII.
Whether music sharpens the intellects, and has any relation to other sciences?

22, 23. It is asserted, that music does not sharpen the mental faculties; and it has only a slight relation to grammar. The assertion of —— and his followers, about the connexion of music with philosophy, is declared false.

CHAP. XIII.
Whether music disposes the mind to virtue?

24, 25. When Diogenes asserts that music approaches nearly to true philosophy, is most serviceable in all the duties of life, and adds to every virtue, he trifles; as I have shown in the third book of my Hypomnemata, or Commentaria. It is ridiculous to suppose, that any inarticulate sounds can dispose the mind to a speculative disposition, with respect to useful subjects. — If Plato had said that music was an
advantage to justice, he would probably have assigned reasons for the assertion; but he only observes that justice bears an analogy to music; and asserts that not a musician is a just man, nor that a just man is a musician.

26. No man ever studied music in order to facilitate his road to the acquisition of virtue. When the poet and musician unite in the same person, the hearer’s mind derives advantage from the sentiments, not from the rhythm of the verses, or the music to which they are sung.

CHAP. XIV.

What is to be understood by the name of music?

It has been said that we have uncultivated minds, when we suppose that philosophers and thinking musicians imagine, that songs and rhythm, without significant words, impel to virtue, while mankind believe that language, aided by melody and rhythm, produce this; effect. So Plato asserts: we contend not therefore with the ignorant, but with philosophers; moreover, we are surprised at the name of musician being given to an instrumental performer; and we are not willing to rank Pindar, Simonides, and all the lyric poets in the number of musicians.

[In this chapter Philodemus seems to write against some of his contemporaries, as well as Diogenes, Pindar and Simonides, who were musicians as far as they exhilarated the hearts of men; and poets, as far as their verses instructed mankind. This is an important chapter, but in a miserable state.]}

CHAP. XV

Whether music corresponds with the celestial bodies?

[This chapter is so mutilated, that little of it can be understood. Philodemus, however, appears to ridicule the notion of Pythagoras, concerning the music of the spheres, which was heard only by the gods, and inaudible to mortal ears.]

CHAP. XVI.

Whether music can change the affections of the mind?

31. [Philodemus contradicts what appears to have been advanced by Diogenes, concerning the power of music to lead the heart from vice to virtue. He seems to say, that this can be effected only by arguments; and that if such effects are produced on the stage, it is by the words, not the music; for harangues, without music, have achieved this; and if mere sounds could effect this change by the ears, that which pleased the smell or taste, might do the same by means of the rose, and the palate.]

CHAP. XVII.

Whether music is of any real utility?

They are deceived who have asserted, that the art is of real utility to mankind in general. Those arts which benefit life, such as agriculture, weaving, architecture, are truly useful; which cannot be said of what merely delights. It does not appear that music corrects the failings of her own sons; nor would Damon have made such an assertion before the true court of the Areopagites, as he did before a fictitious one. The power of giving pleasure must not be confounded with utility; or else philosophy would perchance be regarded as inferior to music and many other arts.

CHAP. XVIII.

For what purpose is music usually taught?

The professors of music have exalted this art, in order to augment their own consequence, though they are generally of low birth and poor. Riches and fame are derived from other professions; and public affairs are rather objects of study and attention than music.

[Philodemus seems to have written this treatise, in order to counteract any ill effects which might arise from the enthusiastic exaggerations of the virtues and powers of music, in the essay published by the Stoic Diogenes.]
PHONASCIΑ, φωνασκία, derived from φωνη, voice, the art of forming the human voice.

In ancient Greece, there were combats or contests established for the voice, as well as other parts of the gymnastice.

The combats continued to be held in the time of Galen; and they were these that brought the phonasci into vogue. Hence the masters of this art, and those who taught the art of managing the voice, were called phonasci, φωνασκοι; and under their tutorage were put all those destined to be orators, singers, comedians, &c.

PHONICS, φωνικη, derived from φωνη, voice, or sound, the doctrine or science of sounds (which see); otherwise called acoustics; which see.

Phonics may be considered as an art analogous to optics; and may be divided, like that, into direct, refracted, and reflected. These branches the bishop of Ferns, in allusion to the parts of optics, denominates phonics, diaphonics, and cataphonics.

Phonics is improveable, both with regard to the object, the medium, and the organ.

As to the object, sound, it may be improved, both with regard to the production and the propagation of sounds. The first, in speaking or pronouncing, in whistling or singing, or hallooing or luring, which are all distinct arts, and all improveable. The second, by the position of the sonorous body.

With regard to the medium, phonics may be improved by the thinness and quiescency thereof, and by the sonorous body being placed near a smooth wall, either plane or arched, especially cycloidally or elliptically: whence arises the theory of whispering places.

Add to these, that by placing the sonorous body near water, its sound is mollified; that by placing it on a plain, the sound is conveyed to a greater distance than on uneven ground, &c. As to the organ, which is the ear, it is helped by placing it near a wall, especially at one end of an arch, the sound beginning at the other; or near the surface of water, or that of the earth.

And also by instruments, as the stentorophonicon, or speaking-trumpet.

Also by an instrument to help weak ears as spectacles do eyes; by an instrument to take in vastly remote sounds, as telescopes do objects; by a microphone, or magnifying ear-instrument; and by a phonophone, or multiplying ear-instrument.

Cataphonics, or reflected hearing, may be improved by several kinds of artificial echoes; for, in general, any sound falling, either directly or obliquely, on any dense body of a smooth surface, whether plain, or arched, is beat back again, or reflected, i.e. it echoes more or less. See ECHO.

PHORBEIA, φορδεια a musical instrument of the ancients, implies a capistrum or leather bandage, with which the players on the flute surrounded their heads. The phorbeia was placed before the mouth of the musician, opposite to which was a slit for the reed to pass through. See FLUTE.

This bandage was used for the purpose of augmenting the force of the wind, and not only to prevent the swelling the cheeks of the performer, but to prevent the wind from escaping at the sides of the reed. See CAPISTRUM.

PHORMINX, an ancient musical instrument, seems to have been the largest kind of lyre. See LYRE.

PHOTINX, or crooked flute: an Egyptian instrument. Its shape was that of a bull’s horn, as may be seen in many gems, medals, and remains of ancient sculpture. Not only the form of this instrument, but the manner of holding it, is described by Apuleius, in speaking of the mysteries of Isis: “Afterwards,” says this author, “came the flute players, consecrated to the great Serapis, often repeating upon the crooked flute turned towards the right ear, the airs commonly used in the temple.” All the representations in sculpture which we have seen of this instrument, have so much the appearance of real horns, that they encourage a belief of its great antiquity; and that the first instruments in use of this kind, were not only suggested by the horns of dead animals, but that the horns themselves were long used as musical instruments, at least those sounded by the Hebrew priests at the siege of Jericho, we are repeatedly told, were trumpets made of ram’s horns.

PHRASE, Phrase, Fr., in Music, denotes the continuance of an air or harmony, which forms, without interruption, a sense more or less complete, and which is terminated by a cadence more or less perfect. In melody the phrase is constituted by the air; but in harmony, it is a regular series of concords,
united together by dissonances expressed or understood.

Phrase is frequently used as synonymous with passage, in music. It is in the invention of musical phrases, in their proportion and texture, that the true beauties of music consist. A composer who accentuates and phrases his passages well, is, according to Rousseau, a man of wit. Upon this principle, Haydn's music is full of bons mots. A singer who feels, who marks and accents his phrases well, is a man of taste; but he who only sees crotchets and quavers, keys, measures, and intervals in music-in short, who only sings in time and tune, however ready and certain he may be, if he feels not the accents and phraseology of what he executes, is nothing more than a vulgar ballad-singer.

PHRYGIAN Mode, in Music. See Grecian Mode. This mode and its effects are so frequently mentioned in ancient authors, that we must collect into a point its pretended properties. The Phrygian mode is one of the principal and most ancient modes of the Greek music. Its character was ardent, fierce, impetuous, vehement, and terrible. So that, according to Athenæus, trumpets and other military instruments, sounded in the Phrygian mode. All this, however, might be said of our trumpets in sounding the charge, signals of battle, and even in playing marches; and that our kettle drums and side drums are beaten in the Phrygian mode; in which all music seems at present transposed by the eternal din of double drums and trombone.

PIANISSIMO, in the Italian Music. See PIANO. PIANO, an Italian musical term implying soft, with a subdued voice, was at first only used in repeating short passages in the way of echo. It was no otherwise used by Corelli. At present its use is extended to whole periods in the way of chiaro-scuro, and contrast to forte, loud, in every degree of comparison. It is abridged to pia, and the initial letter P., as is its superlative degree, ?pianissimo, to pianiss, and pp. Sometimes pp. stands for pain piano, when it has somewhat more force.

PIANO Forte, a keyed instrument, of which the tone is produced by hammers instead of quills, like the virginal, spinet, and harpsichord. There is a minute account of the invention, and a description of the piano forte, in the “Giornale d’Italia,” tom. v. p. 144, printed at Venice, 1714. This instrument was invented at Florence, by Bartolommeo Christofali, harpsichord maker, a native of Padua, in the service of the grand duke of Tuscany. For the history of the piano forte, see HARPSICORD.

PIFFERO, Ital. a flute, fife, or flageolet.

PINCH, in Music, a kind of grace proper for certain instruments, particularly the harpsichord; it is formed by striking alternately the sound of the written note with the sound of the inferior note, and observing to begin and finish with the note which bears the pinch. The difference between the pinch and trill is this, that the latter is struck with the superior note, and the pinch with the inferior.

To PINCH, is to use the fingers instead of the bow, to make the chords of an instrument sound. There are some chord instruments which have no bow, and which are played only by pinching, as the lute, guitar, &c. and sometimes those with which the bow is generally used are pinched, as the violin, and violoncello; and this method of playing is marked in the Italian by the word pizzicato.

PIOBRACH, a Gælic term, denoting an air played upon the bag-pipe; and now more strictly applied to the ancient Highland martial music. This air is said to be peculiarly expressive. Piobrachs are either simple or compound; some of them consist of a march, &c. and are beautifully varied, and highly characteristic.

PIPE, Horn. See HORN-Pipe.

PIPES, Organ. See ORGAN.

PITCH, in Music, implies the elevation or depression of the general scale. There is no term more common among musicians,—who have the Roman pitch, the opera pitch, the organ pitch, the concert pitch. By the first is understood a low pitch; by the second, the true and most general pitch; by the third, a high pitch; as almost all church organs are pitched very high by the builders, we believe, to save metal; of which more is necessary for a long than a short pipe of the same diameter; and by the fourth, a varied pitch, according to the state an instrument is found in by persons who had never met before.

Editorial note: The following article is missing from American edition. It has been taken from the Hathi Trust edition of the English printing.

PLAGALIS, Lat., παγαγιος, obliquus, à latere. Plagal and authentic, in the ecclesiastical modes, or
canto fermo, imply the different divisions of the octave: the division is called authentic, when the 5th is in the acute; and plagal, when the 4th is in the grave. (see PLAIN CHANT, and MODS, Ecclesiastical.) The terms authentic and plagal are with reason censured by Meibomius and Bontempi as barbarous. Bontempi proposes, instead of the word authentic, to substitute principal; and for plagal, relative or collateral. These distinctions in the Romish church are similar to the discriminations made by the Greek musical writers where they class their modes under the denominations of principal and subordinate, with the distinction of hyper and hypo. It is not surprising that the primitive Christians should give Greek names to the species of octaves in imitation of the Greek modes; nor, if we reflect on the simplicity that was aimed at, and the humble state of those who first employed music in their religious worship, shall we wonder at the incorrect and artless manner in which it was done. How the Roman church acquired Greek terms in canto fermo it is easy likewise to imagine, if we recollect that it was a present from Greek fathers: and Gregory, in reforming the mass, not only retained these Greek terms, but adopted others, both from the Greek and Hebrew languages and ceremonies, in order to conciliate parties, and acquire converts: as Kyrie Eleison from the Greek, and Hallelujah from the Hebrew.

PLAIN Chant, and PLAIN Song, in Music. See CHANT, and CANTO FERMO.

PLAIN Counterpoint, is rigidly composed of common chords of note against note, without discords, and in characters of the same length, as in calvinistical and parochial psalmody. But, provided long and short syllables are distinguished, as in the 104th psalm, and the notes in vocal or instrumental music are struck together, it may still be called plain counterpoint. Very pleasing airs, à 4, in the Greek church, are sung in this manner, not only note against note, but syllable against syllable, which renders the words well accented, and very intelligible.

PLAIN Descant. See DESCANT

PLAY-HOUSE. See THEATRE, AMPHITHEATRE, &c.

The most ancient English play-houses were the Curtain in Shoreditch, and the Theatre. In the time of Shakspeare, who commenced a dramatic writer about the year 1592, there were no less than ten theatres open, four private houses, and six that were called public theatres. Most, if not all of Shakspeare’s plays, were performed either at the Globe, which was a hexagonal building, partly open to the weather, and partly covered with reeds, on the southern side of the river Thames, called the Bankside, and a public theatre, where they always acted by day-light; or at the theatre in Black-friars, which was a private play-house, and where plays were usually represented by candle-light. Both these belonged to the same company of comedians, viz. his majesty’s servants, which title they assumed after a license had been granted to them by king James, in 1603; having before this time been called the servants of the lord Chamberlain. The exhibitions at the Globe seem to have been calculated chiefly for the lower class of people, and those at Black-friars for a more select and judicious audience. The former was a summer, and the latter a winter theatre. Many of our ancient dramatic pieces were performed in the yards of carriers’ inns, in which, in the beginning of queen Elizabeth’s reign, the comedians, who then first united themselves in companies, erected an occasional stage. The form of these temporary play-houses seems to be preserved in our modern theatres. Many circumstances concur to render it probable, that our ancient theatres, in general, were only furnished with curtains, which opened in the middle, and a single scene composed of tapestry, sometimes ornamented with pictures. In the year 1605, Inigo Jones exhibited an entertainment at Oxford, in which moveable scenes were used; but they were not then used in the public theatres. When sir William Davenant first opened, by virtue of his patent, the duke of York’s theatre in Lincoln’s-inn-fields, in the spring of the year 1662, with one of his own plays, the Siege of Rhodes, then scenes made their first appearance upon the English stage: and about the same time actresses were also introduced, probably by him, in imitation of the foreign theatres; and Mrs. Betterton is said to have been the first woman that appeared on the English stage. Before this time, female characters were represented by boys or young men. In the time of Shakspeare plays began at one o’clock in the afternoon, and the exhibition was usually finished in two hours; and so late as 1667, they commenced at three o’clock. See Malone’s Sup-
plemental Observations to Stevens's edition of Shak-
spere.

If any persons shall in plays, &c., jestingly or pro-
phanely use the name of God, they shall forfeit 10l.
(Stat. 1 Jac. I. cap. 21.) And players speaking any
thing in derogation of religion, &c. are liable to for-
eitures and imprisonment. (1 Eliz.) Also acting
plays or interludes on a Sunday is subject to penal-
ties, by 1 Car. I. cap. 1. No person shall act any new
play, or an addition to an old one, &c. unless a true
copy thereof, signed by the master of the play-
house, be sent to the lord chamberlain fourteen days
before it be acted, who may prohibit the represent-
ing any stage play; and persons acting contrary to
such prohibitions shall forfeit 50l. and their licenses,
&c. (Stat. 10 Geo. II. cap. 28.) And by this statute, no
license is to be given to act ..plays, but in the city and
liberties of Westminster, or places of his majesty's
residence: Ibid.

PLECTRUM, πληϰτρου a machine of wood or
ivory used by the ancients in playing upon the lyre,
crooked and pointed at both ends, in using which
there was more spirit given to the tone, and less
danger of hitting the wrong string than by using the
finger. The quill used in playing on the mandoline,
is in miniature what we may suppose the plectrum
to have been with respect to the lyre.

PLICA, Lat. a plait, a fold, a wrinkle, the name of
a musical character in the first time-table that was
formed. It was a kind of ligature, or retardation
(signum morositatis, says de Muris); it served for a
series of notes in passing from one sound to another
by regular degrees from a semi-tone to a fifth as
cending, and descending: it was of four kinds:
1. The long plica ascending, a square
figure with one single stroke or tail as
cending,

2. The long plica descending has two
strokes or tails, one longer than the other,

3. The short plica ascending has a single
tail on the left side turned up,

The 4th plica has a single tail on the left
descending.

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POINT, in Music, is a mark or note anciently used
to distinguish the tones.

Hence we still call it simple counter-point, when a
note of the base answers precisely to that of the
treble; and figurative counter-point, when a note is
syncopated, and one of the parts makes several in-
flexions of the voice or tone, while the other only
makes one.

We still use a point to raise the value of the note,
and prolong its time by one half; e. gr. a point, ad-
ded to a semibreve, makes it, instead of two minims,
equal to three.

In the old music, a point added to a binary note,
or one that was only equal to two others of any kind,
was called the point of perfection, as triple time was
then called perfect, and common time imperfect.

A point, in the art of fugue, generally implies a
new subject of imitation in a regular fugue, and re-
sembles an episode in an epic poem.

The Italians call the principal theme of a fugue
soggetto, subject, as we do; but a new point is by
them generally termed attacco ; which see.

POINT d’Orgue, Fr., or Point de Repos, is a pause
upon a note in the base, equivalent to as to tasto solo
in Italian music; when the treble part, as in Corelli’s
solos, is allowed to wander about in double or single
stops, after the manner of a cadenza or close, till the
terminating shake preceding the final note. A point
covered with a semicircle over any note, simply im-
plies a pause ; and over the last note of a movement,
it implies its final termination. See CORONA.

POINTS, whether ever used in the Greek lan-
guage as musical notes, see NOTATION.

PORT OF THE VOICE, in Music, the faculty and
habit of making the shakes, passages, and diminu-
tions, in which the beauty of a song, or piece of mu-
sic, consists; and which the Italians comprehend un-
der the terms trilli, grufii, strascini.

POSITION, in Music, has various significations.
In the old modal notation, the effect of position was
a more difficult study than prolation. (See MODES,
and MODAL Signs.) In modern music, the position
of notes on the staff among the lines and spaces, as-
certains their gravity or acuteness. In beating time,
the position of the hand or foot up or down ascer-
tains the parts of a bar; and in instruments with a
neck, the French call position, what we call shift; as first shifts, double shift, triple shift; first position, second, third, &c.

POSITIVE, in Music, denotes the little organ usually behind, or at the foot of the organist, played with the same wind, and the same bellows, and consisting of the same number of pipes with the large one, though those much smaller, and in a certain proportion. See ORGAN.

In the organs of the Jesuits, the positive is in the grand body.

PRELUDE, in Music, a short symphony or flight of fancy, which serves as a preface or introduction and preparation to a regular composition. Thus, the overture of an opera is a prelude; as are the first symphonies of songs.

PRELUDE is still further a trait of melody or harmony, to try if an instrument is in tune. (See TOCATA.) To prelude, is in general to play or sing some irregular flights of fancy, in passing through the principal chords of a key, either for exercise, or to prepare the voice or hand before the beginning of a piece of music.

But upon the organ, or other keyed instrument, the art of preluding is more considerable: it is composing or playing extempore whole pieces, replete with every thing that is most learned and curious in composition, design, in fugue, in imitation, in modulation, and in harmony.

It is above all in preluding and giving way to the imagination, that great masters, exempt from the extreme subserviency to rules which the eyes of critics require in written music, display those talents of invention and execution which ravish all hearers far beyond the written labours of meditation and study.

PREPARATION of Discords, in Music. Rousseau has made a long article of this term unnecessarily: to prepare a discord, is its being a concord to the preceding note or sound, and resolving a discord, is its being succeeded by a concord. But an example in notes will be the best explanation of these rules. See COUNTERPOINT, Composition, and explanatory plates.

The following are all the original, prepared, and fundamental discords, except the 7th, which need not always be prepared.

![Image]

The regular prepared discords are 2, 4, 7, 9. The rest, as the 4♯, 5♭, extreme 6♯, and extreme ♪7th, may be used per saltum, or by leaps.

PRESA, in the Italian music, is in general a character which shows when and where a performer in concert is to begin to sing or play; but, in particular, in fugues or canons it is thus marked [See note below] over the note at which the second part must begin, to imitate the first, must begin. If the mark be repeated a second time, it is to show the place where the third part must begin, to imitate the second; and so on through all the parts.

Editorial note: The character here is + topped with double dots "". This does not appear in the Unicode character set.
It is in fugues and canons a signal for the several parts to begin, after the subject is led off. At present, in catches, and *canoni chiusi* written in one line, this is done by numbers, or by this segno,  

PRESTISSIMO, in the *Italian Music*, intimates to perform extremely quick, hastily, and with fury.

PRESTO, Ital. quick. This term written at the beginning of a movement in music, implies the most rapid and animated measure of all the five different degrees of quickness; and this rapidity admits of increase by *più presto*, and *prestissimo*.

PRIMA INTENSIONE, a technical expression in *Music*, as well as *Painting*. No language but the Italian seems to furnish an equivalent to this expression. Rousseau has endeavoured, with his usual good taste and ingenuity, to explain it. We shall, therefore, only translate.

An air or movement *di prima intensione*, or of first conception, is that which is formed entire in all its parts at one and the same instant, as Pallas proceeded from the brain of Jupiter.

These pieces of one conception, are those rare effusions of genius in which all the ideas are so combined that they seem to be but one, and appear as if they could not be conceived separately. They resemble those long but eloquent periods of Cicero, of which the sense is suspended to the last word, and which consequently could have formed but one thought in the mind of the author. There are in all the arts similar beauties produced by similar efforts of genius, and of which all the details intimately connected with each other could not be produced successively; but are necessarily presented to the mind all at once; since the first without the last would have no effect. Such was, for instance, the stocking loom, that prodigious machine, which may be regarded, says the philosopher who described it in the *Encyclopædia*, as one sole and only act of reason, of which the fabrication of the work is the conclusion.

These kinds of operations in the human mind, so difficult to explain, even by analysis, are prodigies of reason, and never conceived but by men of such genius as are able to produce them. Their effect is always proportioned to the effort which they have cost the brain. And in music, it is only the pieces of *one conception*, that give ecstasy, rapture, lift the souls of the audience into Elysium, and make them forget themselves, and all that is around them. They are felt and divined at the instant; connoisseurs are never mistaken.

After one of these sublime productions, let one of those pieces of shreds and patches be performed, of which all the phrases have been composed one after the other, or which have only one phrase repeated through all the keys, and of which the accompaniment is only a crowd of unmeaning notes added by reflection after the original idea is forgotten; but in whatever style this last piece is composed, if the remembrance of the other leaves you any inclination to listen, it will be only to render you chill, tired, and impatient. After an air *di prima intensione*, all other music is without effect.

PRIMO, in the I, is often abridged thus, P° or 1°, and added to other words, as, *primo canto*, the first treble; *alto primo*, the first countertenor; *tenore primo*, the first tenor; *basso primo*, the first bass; *fagotto primo*, the first bassoon; *choro primo*, the first chorus, &c.

PRINCIPAL, in *Music*, the name of a metalline stop in the organ, an octave above the diapason. It had its name probably from its being the stop that is first tuned, and by the temperament of which all the other stops in the instrument are tuned.

PRINCIPALIS, in some ancient Latin writers of *Music*, is used for the chord or note called υπατη by the Greeks. See HYPATE, TETRACHORD, and DIAGRAM.

PROHIBITIONS, in *Music*, during the seventeenth century. The church style, during that period, was much changed, not only by the imitations of dramatic music, and the introduction of instruments, but by writing in transposed keys, and supplying the deficiencies in the scales, which too strict an adherence to the species of octave, and modes of the church had occasioned. Indeed, before this time, there was no decision of keys, either in sacred or secular music, according to our present rules of beginning and ending upon the chord, major or minor, of some determinate note of the scale. The prohibitions were so numerous in the writings of the old theorists, that if the most regular modern compositions were tried by such rules as subsisted at the beginning of the last century, they would appear extremely licentious. No part was to be extended
above or below the staff, or five regular lines, on which it was written; the combination of chords was never to be broken by moving to an unrelative harmony; and the intervals of the sharp seventh, the tritone or sharp fourth, false fifth, sharp second, and even the major sixth, were prohibited. Indeed, an excellent composition might now be produced, merely from ancient disallowances.

PROGRESSIO HARMONICA, Progression in harmonics, is a continued proportion prolonged beyond three terms. (See PROPORTION.) The succession of equal intervals is in all progression: as the triple progression gives perfect fifths, and equal harmony. See PARTICIPATION.

PROHIBITO, in the Italian Music, is a term applied to such parts of a piece as are not proper, or according to just rule. Thus, intervallo prohibito is every interval in melody that does not pass the ear easily or naturally, to give it some pleasure; such are the tritone, the sixth major, the seventh, ninth, &c. though under certain circumstances, even these have pleasing effects, in that by their harshness they render the subsequent concords more agreeable.

PRLATIO Major et Minor. Prolation, in the beginning of figurative counterpoint, was the manner of regulating the value of notes by signs at the beginning of a movement, which determined whether long notes were to be regarded as perfect or imperfect, that is, whether ternary or binary, equal to three notes of the next degree, or 2. Points which answer that purpose now were not then in use. The ternary notes in triple time were called perfect, as we have often observed elsewhere, and the binary, or common time, imperfect. See MODAL Signs, or MOODS, as they were called.

In the MS. of Waltham Holy Cross, there is a tract entitled “Regulæ Magistri Thomæ Walsingham; de Figuris compositis et non compositis, et de Cantu perfecto et imperfecto, et de Modis.” And this comprehensive little tract does not promise more than the author has performed; as the simple and compound figures or notes, their perfect and imperfect powers, the moods and every thing that concerned the time and measure of such music as then subsisted, is very well explained; particularly the moods and signs of prolation, which we do not recollect to have seen represented in any other authors equally ancient. His chapters on rests or pauses, on the signs of perfection and imperfection in the notes, and of the alteration of their value, by position or colour, are very instructive.

The signs of prolation at first were confined to four; two for perfect or triple time, and two for imperfect or common time. The circle with a point of perfection in the centre, thus ⊙, was the sign for the great mode perfect, in which all long notes were equal in duration to three of the next shorter in degree. The simple circle, unaccompanied by the point, was used for notes of a shorter duration, but with the same triple power. These two moods may be compared with our present measures of 3 1/3 and 3 2/3, where each note is occasionally rendered perfect, or equal to three others, by a point, instead of the general augmentation implied by the circle, which the old masters placed at the beginning of a movement.

The signs of imperfect, or, as we now call it, common time, were these C, C, which differ but little from those in present use for dupla proportion, or an equal number of notes in a measure; where each longer note is only equal to two of the next shorter kind. This seems to us even clearer than Morley’s account “of the prolation of the more, and the prolation of the less—the prick of perfection, &c.” which his old English darkens instead of illustrating.

PROPORTION, in Music, equality between two ratios. There are four kinds of proportion: arithmetical, geometrical, harmonical, and contra-harmonic. In order to comprehend all these proportions, it is necessary to understand with which authors have loaded the theory of music.”

PROPORTION, Harmonical, or Musical,

Editorial note: A scientific article by John Farey Sr.

[This] is a third kind of proportion formed out of the other two, thus: of three numbers, if the first be to the third as the difference of the first and second to the difference of the second and third; the three numbers are in harmonical proportion.

Thus 2, 3, 6, are harmonical, because 2: 6 :: 1: 3. So also four numbers are harmonical, when the first is to the fourth as the difference of the first and second to the difference of the third and fourth.

Thus 24, 6, 12, 9, are harmonical, because 24 : 9 :: 8 ; 3. By continuing the proportional terms in the
first case, there arises an harmonical progression, or
series.

1. If three or four numbers in harmonical propor-
tion be multiplied or divided by the same number,
the products or quotients will also be in harmonical
proportion; thus, if 6, 8, 12, which are harmonical,
be divided by 2, the quotients 3, 4, 6, are also har-
monical; and reciprocally their products by 2, viz. 6,
8, 12. 2.

To find an harmonical mean between two num-
bers given; divide double the product of the two
numbers by their sum, the quotient is the mean re-
quired; thus suppose 3 and 6 the extremes, the
product of these is 18, which doubled, gives 36; this
divided by 9 (the sum of 3 and 6), gives the quotient
4. Whence 3, 4, 6, are harmonical.

3. To find a third harmonical proportional to two
numbers given.

Call one of them the first term, and the other the
second; multiply them together, and divide the
product by the number remaining after the second is
subtracted from double the first: the quotient is a
third harmonical proportional: thus, suppose the
given terms 3, 4, their product 12 divided by 2 (the
remainder after 4 is taken from 6, the double of the
first), the quotient is 6, the harmonical third sought.

4. To find a fourth harmonical proportional to
three terms given: multiply the first into the third,
and divide the product by the number remaining
after the middle or second is subtracted from double
the first; the quotient is a third harmonical propor-
tional; thus supposing the numbers 9, 12, 16, a
fourth will be found by the rule to be 24.

5. If there be four numbers disposed in order, of
which one extreme and the two middle terms are in
arithmetical proportion; and the same middle
terms, with the other extreme, are in harmonical pro-
portion, the four are in geometrical proportion:
as here, 2: 3: 4: 6, which are geometrical; of which,
2, 3, 4, are arithmetical, and 3, 4, 6, harmonical.

6. If betwixt any two numbers you put an arith-
metical mean, and also an harmonical one, the
fourth will be in geometrical proportion: thus,
betwixt 2 and 6, an arithmetical mean is 4, and an
harmonical one 3; and the four 2: 3: 4: 6, are geomet-
rical.

We have this notable difference between the three
kinds of proportion; that from any given number we
can raise a continued arithmetical series increasing
in infinitum, but not decreasing; the harmonical is
deceasable in infinitum, but not increasable; the
geometrical is both.

PROPORTION, Contra-harmonical. See CONTRA-
HARMONICAL.

PROVENÇAL Poets, in the History of Literature,
a name given to certain professions of men who
sprang up in Provence about the end of the tenth
century, comprehending those that were called
Troubadours, or Trouverres, Jongleurs, Cantadours,
Violars, and Musars, in whom the faculties both of
music and of poetry seemed to be united. The first of
these were so denominated from the art which they
professed of inventing or finding out, as well sub-
jects and sentiments as rhymes, constituting what at
that time was deemed poetry. The jongleurs are sup-
posed to have taken their name from some musical
instrument, on which they play, probably of a name
resembling in its sound that by which their profes-
sion was distinguished: whence spring the jugglers,
quasi joculatores, as Menage conjectures, who went
about singing their verses in courts and houses of
noble-men, with a viol or harp, or other instrument,
and were dressed in a peculiar habit, for the sake of
entertaining in a burlesque manner their protectors
and patrons. M. de Ravaliere derives jongleur from
ongle, a nail, whence ongleur, a trimmer of instru-
ments with the nails. This etymology, says Dr. Bur-
ney (Hist. Mus. vol. ii. p. 267.), is probable; as the
lyre, cithara, harp, lute, and guitar, the most ancient
stringed instruments, have at all times been played
with the nails and ends of the fingers. The can-
tadours, called also chanteres, were singers of songs
and ballads, as were also the musari; and the violars
were players on the viol. All these arts were compre-
hended, in the French language, under the general
denomination of menestruadie, menestraudise, and
jonglierie. The Provençal poets were not only the in-
ventors and composers of metrical romances, songs,
ballads, and rhymes, to so great a number, and of
such a kind, as to raise an emulation in most coun-
tries of Europe to imitate them; but, if we may credit
the Italian writers, the best poets of Italy, namely,
Petrarch and Dante, owed much of their excellence
to their imitation of the Provençals: and it is also
said that the greater part of the novels of Boccace are
taken from Provençal or ancient. French 'romances.
The learned Dr. Percy, in his Essay on the ancient English Minstrels, has given a very curious and satisfactory account of these fathers of modern poetry and music; and although he agrees that the several professions above enumerated were included under the general name of minstrel, he has, in the notes to that Essay, p. 42. with great accuracy assigned to each his distinct and peculiar office. Of the ancient writers of romance, a history is extant in the lives of the Provençal poets, written in French by J. Nostradamus, compiled and published at Lyons in 1575; but a much more satisfactory account of them is contained in the translation of this work into Italian, with many additions, by Gio. Mario de Crescimbeni, and published, in 1710, under the title of “Commentari Intorno all’ Istoria della Volgare Poesia.” See Hawkins’s Hist. of Music, vol. ii. p. 44, &c.

PRUDENZA, Ital. in Music, a term of caution at the beginning of a difficult movement, lest in playing it at sight, a performer should begin more rapidly than he shall be able to sustain. Con prudenza, therefore, points out the danger. Al suo commodo is of the same import.

PSALMODY, ψαλμωδία, the art of singing psalms.

PSALMODY, Metrical. The metrical psalmody, which John Huss, Jerom of Prague, the Bohemian Brethren, and Martin Luther, published in the German language for the use of the common people, that priests might, not be wanted, was soon imitated in other countries. The celebrated poet, Clement Marot, in France, having, about the year 1540, versified and dedicated to Francis I. about thirty of the psalms, from a prose translation by the famous Hebrew professor Vatable, they soon acquired such favour at court, as to be sung, in spite of the censures of the Sorbonne, by the king, queen, and chief personages of the kingdom, to the tunes of the most favourite songs of the times. Marot, who had long been suspected by the Catholics of heresy, and once thrown into prison for his religious opinions, fearing new persecution, flew to Geneva, where he put into French verse twenty more of the psalms. These, with the thirty that had been published at Paris, were printed at Geneva in 1543, with a preface by Calvin himself, but without music. Marot dying the next year, Theodore Beza versified the rest of the psalms in the same manner, and the whole hundred and fifty were published at Strasburg in 1545. Bayle says, that during the whole sixteenth century there was no French poetry, that approached the salt and natural grace of that with which Marot furnished it. And Menage says, that the French owe the rondeau, the madrigal, and modern form of the sonnet, to this poet, who first confined himself to the mixture of masculine and feminine rhymes, though he did not always strictly adhere to their alternate use, as a law. The sale of his fifty psalms was so rapid, that they could not be printed fast enough to supply the public demand for them; more than ten thousand copies having been sold in a very short time. When those of Beza were added to them, their favour still continued, and they were sung not only by the Lutherans and Calvinists, but the Roman Catholics. As yet, indeed, they had never been used in the conventicles of the sectarists, but in private, merely as moral and spiritual songs, to secular tunes, such as were easy to learn, and play on viols, and other instruments.

It was not till the year 1553, when these psalms appeared in the same book as the catechism of Calvin, and the Genevan Liturgy, that the Catholics took the alarm, and prohibited the further publication and use of them. After which, to sing a psalm in France was a declaration of heretical principles, and Psalmodist became another name for Reformer, Huguenot, and Calvinist. Indeed, the purposes to which this lamentable music was often applied, during the struggles and growth of Calvinism, seems to have been worse than the music itself, as, according to writers of the opposite party, it was made the signal of tumult, sedition, sacrilege, and rebellion.

The chronology of Calvinistical psalmody seems to be this: Zwinglius, the chief of the Protestants in Switzerland, before the arrival of Calvin at Geneva, had introduced among them the same kind of metrical psalmody as John Huss and the Bohemian brethren had recommended to their followers in Germany; and this seems to have been continued till the year 1543, when the psalms of Clement Marot, with a preface by Calvin himself, were first published at Geneva, with the single melodies. of Guillaume Franc, an obscure musician, if such he may be called, whose name has never had admission in any catalogue of books, or been prefixed to any musical publication, that we have been able to discover.
Among the most celebrated composers of music to Calvinistical psalms, and spiritual songs, must be ranked Claude Goudimel, a musician of Franche-Comté, who seems to have lost his life at Lyons on the day of the massacre of Paris. See Goudimel, and CLAUDE LE JEUNE, of whose psalms we have three different editions of the music, in three different forms, and in different countries: for though, according to Bayle, they have never been sung in the church of Geneva, yet, in Holland, and in France, before the revocation of the edict of Nantes, as they were universally sung in Calvinistical churches and conventicles, except at Geneva, they went through more editions perhaps than any musical work since the invention of printing.

Claude le Jeune was doubtless a great master of harmony. The manner in which he first set twelve of the psalms of Clement Marot’s French translation, in four and five parts, that were dedicated to the duke de Bouillon in 1598, at that time head of the French Huguenots, very much resembled the style in which our old masters used to write upon a plain song; as one of the parts is continually singing an ancient melody, or well-known psalm-tune, while the rest are descanting, or singing in florid counterpoint. In some of these there is great merit of composition in the ingenuity and contrivance of the several parts. See CLAUDE LE JEUNE.

The establishing metrical psalmody in England, was the consequence of the reformation, and our communication with foreign Protestants.

Several of the psalms were translated into English metre during the latter end of the reign of Henry VIII. by sir Thomas Wyatt, and printed in 1549. The earl of Surrey wrote a sonnet in their praise, and translated others himself; but both his version and that of Wyatt are lost. Indeed almost all our poets, good and bad, have attempted to translate, or rather versify, the psalms; but for want of success in this, as well as in writing original hymns, or sacred songs, Dr. Johnson has admirably accounted in his Life of Waller.

The first edition of Sternhold’s fifty-one psalms, was likewise printed in 1549, and the second in 1553, but both impressions without musical notes; and in all probability, those that were not in possession of the tunes used by the German Protestants, applied to them such ballad airs as would best suit the metre; as had been done in France, when the version of Clement Marot was in favour at the court of Francis I. Sternhold lived to write a dedication, for the first edition of his psalms, to king Edward VI. following in this the example of Marot, who had dedicated his first thirty psalms to the king of France.

The entire version of the psalms, however, was not published till 1562, when it was tacked for the first time to the Common Prayer, under the following title: “The whole Booke of Psalms collected into English metre by T. Sternhold, J Hopkins, and others. conferred with the Ebrue with apt notes to to sing withal” Imprinted by John

There was no base or other part, but the mere tunes, in this edition; which tunes are chiefly German, and still used on the continent by Lutherans and Calvinists, as appears by collation: particularly the melodies set to the 12th, 14th, 113th, 124th, 127th, and 134th psalms.

PSALMODY Island. The Roman Catholics, in the first ages of Christianity, had their paroxysms of psalm-singing as well as the Protestants. St. Ambrose is not only said by St. Augustine to have brought from Greece the manner of singing the hymns, and chanting the psalms, which he established at Milan, and which was afterwards called the Ambrosian chant, but Eusebius tells us, that a regular choir and method of singing the service were first established, and hymns used in the church, at Antioch, the capital of Syria, during the time of Constantine; and that St. Ambrose, who had long resided there, had his melodies thence. An order of monks was established, there at a very early period of the Christian era, whose discipline obliged them to preserve in their monastery a perpetual psalmody, equally perennial with the vestal fire, or perpetual lamps of antiquity. Psalmody island, in the diocese of Nismes, had its name from a monastery founded by Corbilla, a Syrian monk of this order, about the end of the fourth century. This kind of psalmody is known in the monkish writers by the name of laus perennis; Gregory de Tours calls it psalterium perpetuum.

PSALMODY, Parochial. Singing of this kind among the reformers and schismatics, seems in all ages of our religion to have been the favourite mode of addressing. the Divinity: for not only the Arians practised it in their processions, but the Albigenses,
who may be called the first Protestant martyrs; and who, according to ecclesiastical writers, when Simon Montford, their persecutor, in 1210, had lighted a pile of wood for their destruction, precipitated themselves in the flames, to the number of a hundred and forty, singing psalms.

The disciples of Wickliffe, in England, during the fourteenth century, and those of John Huss and Jerom of Prague, in the fifteenth, were psalm-singers; and the by Luther. hymn-book of the Picards, and Bohemian brethren, printed with musical notes at Ulm, 1538, shows that the melodies used by these sects, originated from the chants to which the ancient Latin hymns of the Romish church were sung. For in this book there are translations and imitations in German metre of most of the hymns and proses still used in the Romish church: such as the “Stabat Mater dolorosa;” “Te Deum laudamus;” “O lux beata Trinitas;” “Pange lingua gloriosi;” &c. Some of these melodies, indeed, are in triple time, which never is the case in canto fermo, or cathedral psalmody. But “Stabat Mater,” and “O lux,” in this book, are set to old Romish chants, and “Te Deum” to the same that is inserted in the preface of Meibomius to the ancient Greek musical writers, as the most ancient melody which the church has preserved.

Among the first reformers who interested themselves about the manner of performing the psalms, we have not only Wickliffe, Huss, Jerom of Prague, and Zuingle, but Luther, Cranmer, Calvin, Beza, Buchanan, and John Knox; who, though each of them had different ideas on the subject of sacred music, yet they agreed in stripping it of all the energy and embellishments of measure and melody, as indeed the Calvinists did likewise of harmony. Nor were the original institutes of psalmody more favourable to poetry than music; for by giving to each syllable, whether long or short, a note of the same length, all prosody, rhythm, and numerical cadence are destroyed. And however beautiful the poetical measures may be to read, when sung in this drawing and isochronous manner, they not only afford the ear no pleasure, but become unintelligible.

That metrical psalmody, in slow notes of equal length, had its origin in Germany, and was brought thence by reformers to other parts of Europe, is demonstrable: for the 28th psalm, “Beati omnes qui timent Dominum,” had been translated into German verse, in order to be sung in this manner, by John Huss, in the beginning of the fifteenth century; which translation was afterwards modernized in the same measure, and to the same tune And the same melody, which we sing to the 100th psalm, is not only given to the 134th in all the Lutheran psalm-books, but by Goudimel and Claude le Jeune, in those of the Calvinists; which nearly amounts to a proof that this favourite melody was not produced in England. It is said to have been the opinion of Handel, that Luther himself was its author; but of this we have been able to procure no authentic proof. Tradition, however, gives to this celebrated heresiarch, as he is called by the Roman Catholics, several of the ancient melodies, which are still used in Germany.

PSALTER, Ψαλτηριου or, the book or collection of psalms, ascribed to David. See PSALM.

There is a multitude of editions of the psalter. Augustine Justinian, a Dominican and bishop of Nebo, published a Polyglot psalter at Genoa, 1516. And Contarinus published the psalter in Hebrew, Greek, Chaldee, and Arabice, with Latin notes and glosses.

PSALTERY, PSALTERION, also denotes a musical instrument much in use among the ancient Hebrews, who called it nebel.

We know but little of the precise form of the ancient psaltery. Kircher has taken pains to prove, that it was of a square form; and from an old book in the Vatican library he has exhibited a figure of it.

That now in use is a flat instrument; in form of a trapezium, or a triangle truncated at top. It is strung with thirteen wire cords, set to unison or octave, and mounted on two bridges on the two sides. It is struck with a plectrum, or little iron rod, or sometimes with a crooked stick, whence it is usually ranked among the instruments of percussion.

Its chest, or body, is like that of a spinet. It has its name à psallendo; some call it nablum, or nablium. Papius also gives the name psaltery to a kind of flute, used in churches to accompany the singing; called in Latin sambucus.
PYCNI, οὐκοῦν, in the *Ancient Music*, was used for such sounds or chords of a tetrachord as might enter the spissum, or οὐκοῦν.

These were the hypatæ, the parypatæ, and the lichani, of the several tetrachords. The hypatæ were called barybycni, βαρυκύοι; the parypatæ, mesopycni, μεσόπυκνοι; and the lichani, oxypycni, οξυπύκνοι; because the first were the lowest notes; the second, the middle notes; and the third, the highest of the spissum. Such chords as could never enter the spissum were called apycni, απύκνοι, ἀπαταιεῖς, παραπαταιεῖς, λιχαιοεῖς.

Hence, in the Greek scale or diagram, containing eighteen chords, there were five barypycni, as many mesopycni, and an equal number of oxypycni, together with three apycni. The apycni and barypycni were stables or fixed chords; but the mesopycni and oxypycni were moveable, or mobiles.

**QUADRO**, Ital, literally means square, and in music, at present, it implies a natural, ♭, or Gothic B, in opposition to tondo, round, or the round ♯, used for a flat. The durum hexachord is sometimes called the quadro hexachord, from the circumstance of B being ♭.

It was the opinion of Padre Martini and the prince abbot of St. Blásius, that accents and points, enlarged, disfigured, and lengthened, became musical characters for time as well as tune. At first, when lines and spaces were used, from their being chiefly employed in a square form for writing the chants established by St. Gregory, they acquired the name of Gregorian notes quadrata, and in barbarous Latin, quadriquarta. As the church is slow in receiving new doctrines, and generally a century later in admitting those improvements or corruptions in music (the reader may call them which he pleases) that are adopted by the laity as fortunate efforts of cultivated genius, the notation of chants was at first, the second, and the third, the highest of the spissum. Such chords as could never enter the spissum were called apycni, απύκνοι, ουκοῦν, ουπαταιείς, παραπαταιείς, λιχαιοείς.

This quarter-tone is pretended to be of two kinds; the enharmonic major, in the ratio of 576 to 625, which is the complement of two minor semitones to a tone major; and the enharmonic minor in the ratio of 125 to 128, which is the complement of the same two minor semitones to the minor tone. Rousseau.

QUARTE, Fr., *Quarta*, Ital., the 4th in music, and the third consonance in point of perfection, according to the order in which concords are generated.

The 4th is a perfect concord; its ratio is 3 to 4. It is composed of three diatonic degrees, formed of four sounds; whence it has its name of fourth. Its interval is composed of two tones and a half: a tone major, a tone minor, and a major semitone.

The 4th may be altered two several ways: 1st, by diminishing its interval a semitone, and then it is called the diminished or false 4th; 2dly, by augmenting it a semitone, and then it is called a tritonus, or superfluous 4th. (See TRITONUS.) But the diminished 4th is never used in harmony, and only touched now and then in melody as an appoggiatura, or note of refinement.

The 4th in thorough-base is accompanied by the ♭, and called by some the chord of the 11th.

Another chord is called the superfluous 4th, or tritonus, by the French; which is what we call the chord of the ♭ or ♮ in which the discord is in the 2nd base; but it is not the chord of the tritonus, unless the 4th is sharp. See CHORD, and ACCOMPANIMENT.

The succession of two perfect 4ths is allowed in compositions, even in similar motion, provided they are accompanied by the 6th; but these are passages...
that must not be abused, or pushed too far, as they are not authorized by the fundamental base. The Italians call a regular succession of chords of the 6th \textit{falso bordone}; for which see \textsc{fourth}.

\textsc{Quatorzieme}, Fr., the 14th, or double octave of the 7th. It is called the 14th, because 14 sounds must be formed to pass diatonically from one of its terms to the other.

\textsc{Quatrichroma}, in the Italian Music, is what we call a \textit{demi-semi-quaver}, thirty-two of which make a bar in common time. See \textsc{time}, and \textsc{triple}.

\textsc{Quatuar}, Lat., a name given to any musical composition, vocal or instrumental, in four parts, and in dialogue, or \textit{a parte equale}, when each have solo parts alternately. The Italians sometimes call a quatuor \textit{quartello}, but more frequently \textit{quartto}, and the English

A vocal quartet, says Rousseau, is more difficult for the poet to write, as well as for the composer to set, than a trio or chorus. In the vocal quartet of a musical drama, four distinct characters should be supported both in the words and music, according to the situation and state of mind of the several personages who have petitions or complaints to make, or answers to give.

The instrumental quartets of Haydn have been the delight of all that have performed, or heard them performed, for full thirty years, and bid fair to continue to afford delight for at least thirty years more.

\textsc{Quatuor Principalia Artis Musicae}, the title of a M.S. in the Bodleian library at Oxford (Digby 90), which has been ascribed to several authors. Anthony Wood gives it to Tewkesbury, to whom it is likewise ascribed in the Oxford Catalogue of MSS., with very little foundation. Bishop Tanner has honoured Dr. John Hambois with this production, a writer on music, who flourished more than a century after this MS. was finished, as appears from the testimony of the scribe himself.

There is, however, at Oxford, among the MSS. another volume of Musical Tracts (Bodl. 515) which had not been sufficiently examined by any of the catalogographers who have mentioned it: for, on a careful perusal and collation, we found in it, besides two other tracts by Simon Tunstede, or Tustede, a duplicate of the Quatuor Principalia: and as no doubt has been thrown upon Tunstede having been the author of the two first tracts in the volume, it seems as if we might venture, without doubt or hesitation, to assign to him this ample, and, for the time when it was written, excellent treatise. That Simon Tunstede was a man of science, and an able musician, as well as a doctor of divinity, appears at the end of MS. Digby 90. After saying that the book was finished in 1351, we have the following passage: “Ille autem anno regens erat inter minores Oxoniae fratres, Simon de Tunstede, doctor sacrae theologiae, qui in musica pollebat, et eciam in septem liberalibus artibus.” Pits, Bale, Tanner, and all our biographical writers, speak of him as a learned musician; and Pits enumerates the Quatuor Principalia among his writings. (De illust. Angl. Script.) Simon Tunstede, a Franciscan friar, born at Norwich, was in such favour for his learning and piety, as to be unanimously chosen provincial master of all England. He died at Bruzard, in Suffolk, in 1369.

The title of the tracts in the Oxford Catalogue of MSS. has occasioned the great diversity of opinions about the writer of the Quatuor Principalia; for N° 515 is entitled “De Musica continua et discreta, cum Diagrammatibus, per Simonem Tunstede, A.D. 1351.” However, in the beginning of the volume, the author proposes to treat “De quatuor Principaliibus in quibus tocius Musica radices consistunt,” &c. which exactly agrees with the other MS.; and there is no difference from the beginning to the end, except in the omission of a kind of prologue, or argument to the work, which appears in the tract ascribed to Tewkesbury (Digby 90.), beginning “Quemadmodum inter Triticum,” and is omitted in that to which the name of Tunstede is prefixed. Bodl. 515.

What the author calls the “Four Principals of Music,” will best appear from his own manner of dividing the work. In the first part or principal, consisting of nineteen chapters, he treats of music in general, its constituent parts and divisions. II. Of its invention, intervals, and proportions, twenty-four chapters. III. Of plain chant, and the ecclesiastical modes, fifty-eight chapters. IV. Of measured music, or time; of discant, and their several divisions. This last principal is divided into two sections, of which the first contains forty-one chapters, and the second forty-nine. The whole treatise fills a hundred and twenty-four folio pages; the diagrams, which are very numerous, are beautifully written, and illuminating.
ated with different coloured inks; and it seems to be in all respects the most ample and complete work of the kind which the fourteenth century can boast.

QUAVER, in Music, a measure of time, equal to one-half of the crotchet, or one-eighth of the semibreve.

The quaver is marked by the character \( \underline{\text{\textit{\textbullet}}}_\text{\textit{\textbullet}} \).

The English quaver makes what the French call crochue, crotchet, because of the hook at bottom. See CROTCHET.

The quaver is divided into two semiquavers, and four demisemiquavers, marked \( \underline{\text{\textit{\textbullet}}}_\text{\textit{\textbullet}} \).

See CHARACTER.

QUAVERING, the act of trilling, or shaking; or the running a division with the voice.

QUEEN'S Theatre in the Haymarket, now the Opera house, was built in queen Anne's time by sir John Vanburgh, and not finished till the summer of 1705, at which time there were only two theatres open; Drury Lane, and Lincoln's-Inn-Fields. Betterton, who was at the head of the Lincoln's-Inn-Fields company, removed to the new theatre in the Haymarket, April 9th, 1705; when it was opened with a new prologue, written by Sir Samuel Garth, and spoken by Mrs. Bracegirdle. The play was Dryden's "Indian Emperor," with singing by the Italian boy. April 23d, "The Merry Wives of Windsor," Falstaff by Betterton, with dancing by Mad. de la Val. And on the 24th, a new farce called "The Consultation;" after which was performed an Indian pastoral, called the "Loves of Ergasto," set to music by Giacomo Greber, the German musician, who had brought over from Italy Margarita de l'Epine; the part of Licoris by the Italian boy. And this was the first attempt at dramatic music in the Opera-house. The company continued acting plays here till the end of June, when there were three representations of "Love for Love," acted all by women. July 20th, according to the Daily Courant, Betterton and his company returned to the theatre in Lincoln's-Inn-Fields, where they continued to act till the Queen's theatre was entirely finished. We are the more minute about the performances in this theatre, as Cibber's account, which has been generally followed by others, is very inaccurate. October 30th, Betterton and his company quitted Lincoln's-Inn-Fields a second time, and returning to the Haymarket, opened that theatre, not with an opera, but with sir John Vanburgh's comedy of the "Confederacy," which was now acted for the first time. This excellent comedy, though the parts were very strongly cast (Leigh, Dogget, and Booth, being among the men, and Mrs. Barry, Mrs. Porter, and Mrs. Bracegirdle, among the women,) ran but six nights successively, though the performance of M. des Barques, a dancer just arrived from France, was added to the entertainment. It was, indeed, repeated once in November, and twice in December, this year; but it was generally found necessary, even in a new theatre, and with so strong a company, to fortify the best plays with dances or music, and often with both. Sometimes there was singing in Italian and English, by signora Maria, as lately taught by signor N. Haym: and sometimes music composed by signor Bononcini, and songs by signora Lovicini, &c. Daily Courant.

QUINTA, Ital. Quist E, Fr. (See FIFTH and DIAPENTE.) The chord of the \( \frac{6}{5} \) in thorough-base is resolved two ways: first, by the base rising one note, and the lowest treble note descending; secondly, by the highest note of the chord rising, and the lowest remaining stationary, when the discord is resolved upwards. This is what Rameau calls \textit{le double emploi de la dissonance}.

QUINTA Pars, in old madrigals, a 5th vocal part, composed of the refuse of the other four.

QUINTE, in French Music, is the name of the instrumental tenor part in full pieces, usually written in the mezzo soprano clef on the second line. All the instrumental tenor or alto viola parts, in Purcell's time, were written in this clef, as may be seen in his overtures and act-tunes. This was an imitation of France, where all the tenor parts in Lulli and Rameau's operas are in the mezzo soprano clef.

QUINTELLO, Ital. QUINQUE, Fr. a vocal or instrumental composition in five parts, dialogued, and generally a parte equale. The instrumental quintets of Boccherini and Mozart are sublime productions: there is, perhaps, no instrumental music in which more genius and abilities are manifest, than in the quintets of these great masters.

QUINTER, QUINTOIER, Fr. in the first attempts at harmony, was counterpoint in a series of 5ths, any two of which in aftertimes, would ruin for ever the reputation of a composer.
RALLENTANDO, Ital., a musical term of late invention, for relaxing the measure at particular parts of a composition, which, when done by a great master, manifests feeling and intelligence; but when attempted by mean performers, it has no other effect upon an audience than that of breaking time: and we think that this refinement is often abused. It has been chiefly practised in France, and savours of affectation, and that overcharged tenderness which renders the national airs tendres so disagreeable, or so ridiculous, to the natives of all other countries.

RANELAGH, Rotunda and Gardens, built and opened for musical performances and public amusements in 1742. The building was erected in the spacious garden belonging to the residence, at Chelsea, of lord Ranelagh, one of the ministers of Charles II., when paymaster of the army.

It was planned by the late Mr. Lacey, afterwards joint patentee of Drury-lane theatre with the great actor Garrick.

At the first opening of this stupendous building, several experiments were made in placing the orchestra, in filling it, and in the time of performance, before it was settled as an evening promenade. The orchestra was at first placed in the middle of the rotunda. The performance was in a morning; and oratorio chorusses chiefly furnished the bill of fare. Sir John Barnard complaining to the magistrates, that the young merchants and city apprentices were frequently seduced from their counting-houses and shops by these morning amusements, they were prohibited, and the doors opened at six o’clock in the evening. The performance, however, did not begin till eight o’clock, but was ended at ten.

It was intended to rival Vauxhall, and was little injured by bad weather; as the company, at such times, had a safe and pleasant retreat into the rotunda, and as few went thither but in carriages.

Its success as an evening’s amusement remained undiminished more than 40 years. It was ruined by the late hours to which it was gradually brought by fine folks, who, at length, never came thither till past ten o’clock, when the musical performances were over, and sober people used to return home before eleven o’clock to their supper, which enabled them and their servants to go to bed, and rise, at their accustomed time.

But, at length, persons of rank and fashion made a debauch of this innocent amusement, and went to it and departed from it as late as at a masquerade. This precluded all that had any thing to do themselves, or any employment for their servants in the morning, and so much refined the company, that at midnight there had been seldom sufficient money received at the entrance, to cover the expenses of the lamps, the terms of admission being only 3s., for which, besides a good concert by the best performers in London, the company was furnished with excellent rolls, butter, and tea. In the year 1803 it was shut up, and only used occasionally for a masquerade, a festival, or an exhibition of fire-works. But since the period just-mentioned, the building has been pulled down, and the materials sold piecemeal, as was the case at Cannons, the splendid mansion of the duke of Chandos, (or Palazzo, as it would have been called in Italy,) and the ground is now (1809) of no other utility than occasionally to drill and exercise the Chelsea volunteers.

RATTLE, among the ancients, a musical instrument called by the Romans a crepitaculum.

Mr. Malcolm takes the tintinnabulum, crotalum, and sistrum, to have been only so many different kinds of rattles.

The invention of the rattle is ascribed to the famous mathematician Archytas; whence Aristotle calls it Αρχυτες ωλαταγη Αρχυτας’s rattle. Diogenianus adds the occasion of the invention; viz. that Archytas, having children, he contrived this instrument to prevent their tumbling over things about the house. So that how much soever some instruments have changed their uses, the rattle, we are sure, has preserved its original application.

RAVALEMENT, Fr. equivalent, among organ-builders and harpsichord-makers, to compass in English. The complete set of keys, or whole system of musical sounds, (said Rousseau in 1768,) instead of confining itself to four octaves, like common keyed-instruments formerly, extends now to five octaves, adding a fifth below double C, and a fourth above C in alt., including five octaves (This was the common compass of our harpsichords made by Tabel, Kirckman, and Shudi, long before 1768.) The word ravalement is confined to keyed-instruments; there are no others of so extensive a compass as five octaves. But in the year 1777, when Dr. Burney, first composed
and published duets “à quatre mains,” or for two performers on one instrument, the ladies, at that time wearing hoops, which kept them at too great a distance from each other, had a harpsichord made by Merlin, expressly for duets, with six octaves; extending from the octave below double C in the base, to the octave above C in alt. in the treble. And as duets à quatre mains have been composed by all the great masters in Europe since that time, instruments with additional keys are now become general. At first it was only in the treble that the compass was extended, except in the instrument above-mentioned by Merlin; but at present notes are added in the base to complete the six octaves: and, indeed, the additional notes in the base are better worth having for particular effects, than those in the treble; which often, from the shortness of the strings and feeble vibration, more resemble the tone of wood than wire; whereas the tone of those in the base of large piano fortés, by the best makers, is so rich and full, that each sound below double F resembles that of an organ-pipe in slow notes, more than the transient tone of a string.

Rousseau very justly observes, that almost all instruments are limited in their compass below, except harps and instruments with keys. The violoncello can go no lower than double C, its 4th string, nor the violin below G. The flute and hautbois descend only to D and C. But the notes in alt. have been extended in the acute to sounds that are seldom in tune, and never pleasing. Like rapid notes of difficult execution, they surprize, and the performer’s dexterity is applauded; but neither the harmony nor the melody of very high or rapid sounds can excite rapture like those of moderate quickness, when produced with feeling and expression, in the middle of the scale.

REBECC, a musical instrument resembling a fiddle, with a neck, finger-board, three strings tuned 5ths, and played with a bow.

Etymologists have tortured themselves to find a derivation for the name of a vulgar instrument, no longer in use. Some trace it from the Arabic, some from the Celtic, the Welsh, the Spanish, Italian, and old French. Indeed, so numerous, discordant, and unsatisfactory are their opinions, as neither to be worth writing, nor perusal, if we could give them a place.

Rebec and ribible seem to be the same instrument, and are often indiscriminately used by Gower, Chaucer, and the still more ancient bards of Normandy, and our own country.

As the head, or scroll-work, of old viols and violins used to be curiously carved, so seems to have been that of the rebec. Chaucer compares the face of an old woman, an old trot, to the head of a rebec. Rabelais does the same.

“— A tel minestrier tel rebec
Tenant toujours le verre au bec
Carelle avoit visage de rebec.”

Recit, Fr. a generical term in music, for what is sung by a single voice. It is likewise applicable to instruments; as, recit de basse, recit de hautbois, a solo part for the violoncello or hautbois. Indeed recit, in French, seems synonymous with the word solo in Italian, to whatever vocal or instrumental part it is applied, in opposition to tutti, or chorus, in which the whole band is employed.

Recit in France is not only a technical term in music, but in the drama, where, at the opening of a tragedy, or subsequent to an event, it implies an account, a narration, the recital of an event. In the French and Italian tragedies, in imitation of the Greeks, battles and murders are always recited, but never transacted on the stage.

Recitativo, Ital., Recitative. The Crusca Dictionary gives no more early authority for the use of this word, as a musical term, than that of Batista Doni, de Præst. Mus. Veteris, published in 1647; who defines it “a musical composition in an andante or plain style, different from air: it is used in narrative poetry, in imitation of reciting on the stage.”

Rousseau’s definition is more full and clear. He terms it “a discourse, or speech, in musical and harmonical tones. It is a melody nearly approaching to common speech; a musical declamation, in which the musician ought to imitate, as much as possible, the inflexions of voice in declaring. This melody is called recitative, because it resembles a narration, a recital; and is used in the dialogue of musical dramas.”

We have presented our readers, under the article OPERA, with extracts from the prefaces of the poets and composers by whom recitative was invented, as
well as from contemporary writers, who thought its origin of sufficient importance to be recorded.

Giovanni Batista Doni, about the middle of the 17th century, (Op. Omm. tom. ii. in Firenze, 1763, folio,) a learned and elegant writer on music, though extremely warped in his judgment by a predilection for the music of the ancients, in a dissertation on the Origin of Stage-singing, during his own time, gives so curious and instructive an account of the first operas that were performed at Florence, that we shall translate a part of it.

“Some kind of cantilena, or melody, has been introduced in dramatic representations at all times, either in the form of intermezzi (interludes), between the acts; or, occasionally, in the body and business of the piece. But it is still fresh in the memory of every one, when the whole drama was first set to music, and sung from the beginning to the end.”

The revival of theatrical music was brought about by the invention of recitative, as we have already stated in our article OPERA.

“The beginning of this century (1600) was the era of musical recitation on the public stage at Florence, though it had been used there in several private exhibitions before. There resided in that city, during these times, signor Gio. Bardi de’ Conti di Vernio, who was afterwards called to the service of pope Clement VIII., by whom he was tenderly beloved, and made his maestro di camera. This most accomplished noble man was particularly attached to the study of antiquity, and to the theory and practice of music, to which he had applied himself for many years so closely, that he became, for the time in which he lived, a correct and good composer. His house was the constant rendezvous of all persons of genius, and a kind of flourishing academy, where the young nobility often assembled to pass their leisure hours in laudable exercises and learned discourse; but particularly on musical subjects, when it was the wish of all the company to recover that art of which the ancients related such wonders, as well as other noble inventions, which had been ruined by the irruptions of barbarians.

“During these discussions, it was universally allowed that as modern music was extremely deficient in grace, and the expression of words, it became necessary, in order to obviate these objections, that some other species of cantilena, or melody, should be tried, by which the words should not be rendered unintelligible, nor the verse destroyed.”

Euridice was the first musical drama after the invention of recitative. It was written by Ottavio Rinuccini, set by Jacopo Peri, and performed at Florence in 1600, on occasion of the marriage of Mary of Medicis with Henry IV. of France. The poem and the music were published separately the same year. The poet, in his dedication to the queen of France, says, “It is generally imagined that the tragedies of the ancient Greeks and Romans were entirely sung; but this noble kind of singing had not till now been revived, or even attempted, to my knowledge, by any one; and I used to think, that the inferiority of our music to that of the ancient was the cause; till hearing the compositions of Jacopo Peri to the fable of Daphne, I wholly changed my opinion. This drama, written merely as an experiment, pleased so much, that I was encouraged to produce Euridice, which was honoured with still more applause, when sung to the music of the same composer Jacopo Peri, who, with wonderful art, unknown before, had merited the favour and protection of the grand duke our sovereign, it was exhibited in a most magnificent manner at the nuptials of your majesty, in the presence of the cardinal legate, and innumerable princes and nobles of Italy and France.”

Such is the abridged history of recitative. The only printed copy of the music to this primitive opera was in the library of the marchese Rinuccini, a descendant of the poet at Florence: in examining and making extracts from which, we observed that it was printed in score, and barred; two very uncommon circumstances at the time of its publication; that the recitative seemed to have been not only the model of subsequent composers of early Italian operas, but of the French operas composed by Lulli, a native of Florence; and that the time was as frequently changed as in the old French operas.

The confusion arising from all the parts singing different words at the same time, together with some other circumstances, mentioned under OPERA, account for the necessity of a recitative, or a musica parlante, a speaking music, and for solo singing in general on the stage: besides, poetry was injured, and rendered unintelligible in fugues, can-
ons, and in choruses, full of imitations and contriv-
ances, all unfit for narration and dialogue.

To describe the characteristic difference of recitativ-
e from air, and common speech: it is not air, as no
time is kept; it is not speech, as every inflexion of
voice is in tune with some one note of the instru-
ment by which it is accompanied; and as to the
length or shortness of the notes that are written, the
accompanier watches for the accents or termination
of phrases, or lines in the Verse, to give the chord to
which the note that is sung belongs.

It is sometimes accompanied by the orchestra
with ritornelli, or interstitial symphonies; but then a
regular time must be kept. This only happens in sol-
lemn scenes of dignity or distress, and in soliloquies.

No flats or sharps are placed at the clef in recitativ-
e: these are all regarded as accidental; nor is Italian
recitative ever confined to any one key.

After recitative was found, it was long ere any
thing like an air appeared in these musical dramas.
(See OPERA, AI R, MOTIVO, and MEASURE.)
Rousseau has treated the article recitative at large,
with great intelligence and good taste.

RECITATIVE Style, is the way of writing accom-
modated to this sort of music.

RECORD, among fowlers. A bird is said to re-
cord, when it begins to tune or sing within itself; or
to form its notes and dispose its organs for singing.
The cock thrush is distinguished from the hen in re-
cording; the first being more loud and frequent in it
than the second. Instances have been known of birds
beginning to re-record when they were not a month
old. This first essay does not seem to have the least
rudiments of the future song; but as the bird grows
older and stronger, one may perceive what the nest-
ling is aiming at. A young bird commonly continues
to record for ten or eleven months, when he is able
to execute every part of his song, which afterwards
continues fixed, and is scarcely ever altered. The
term record is probably derived from a musical in-
strument, formerly used in England, called a re-
corder, which seems to have been a species of flute,
and was probably used to teach young birds to pipe
tunes. Lord Bacon describes this instrument (in his
second Century of Experiments) to have been
straight, to have had a lesser and greater bore, both
above and below, to have required very little breath
from the blower, and to have had what he calls a
fipple or stopper.

RECOR DER, in Music. See RECORD, supra.

RED Notes, in old Music, before the invention of
printing, were used for diminution. In the MS. at
Paris of the Latin and French poems of Guillaume
Machau set to music, chiefly motets for a single
voice, some are written in black and red notes, with
this instruction to the singers; “nigrae sunt perfectae,
et rubrae imperfectae;” an admonition worth remem-
bering by those who wish to decipher music of the
fourteenth and fifteenth centuries, in which red
notes frequently occur. It was an easy expedient of
diminution till the invention of the press, when the
use of different coloured inks on the same page oc-
casioned the trouble and expense of double printing.
See MACHAU.

In the Pepysian collection at Cambridge, there
are examples of the use of red notes for diminution
in fragments of music by Joseph Gwinneth and
Robert Davie, who flourished in the time of Edward
IV. Morley has given some examples of the use of
red notes in his annotations.

REFRAIN, Fr, in Music. The termination of every
verse or stanza in a song, by the same words and the
same melody. (See BURDEN.) The word, according
to Menage (Dict. Etym.) is derived from the Spanish
refran.

REGAL, Fr., a musical term, which the Encyc-
lopédie defines, “first, an ancient instrument com-
posed of many sticks of sonorous wood of different
lengths, forming a scale, played upon by an ivory
ball fastened to the end of a stick.” This is exactly the
description of the sticcado, said to be invented by
the brother of Bremner, the late music-seller in the
Strand, who published a book of instructions for
playing upon it.

“Regal is, secondly, a spinet organized, or rather a
small organ of two or three stops placed under a
keyed instrument, very common in Spain and Italy.
In France this kind of instrument is called a positif.”
Craing, an organ-builder in London about the
middle of the last century, furnished organs of this
kind to many harpsichords and spinets in a virginal
form. Snetzler, when he first came hither from Stras-
burg, was employed by Shudi to organize his harpsic-
chord.
But regal in all Roman Catholic countries is a portable organ used in processions, carried by one person and played by another. We have seen that use made of this kind of organ at Naples. The pipes are of reeds, for the lightness of carriage.

In the list of Edward VI. and queen Elizabeth’s musical establishments in the Sloane MSS. at the British Museum, among the instrument-makers, the regal-maker is allowed 201. yearly. And in our own memory there was an office in the chapel royal under the title of “tuner of the regals;” but it was abolished, and united to some more useful officer in the chapel.

In the supplement to the folio Encyclopédie, we are told that the regal is a portable organ, which has no pipes, or at most such as are very short, the tones being produced by reeds. This we believe to be the truth. The instrument is sometimes so small as to be set on a table.

REGISTER, in Organ-Building, is another word for a stop in that instrument; but is in fact only a lath pierced with holes, corresponding with those in the sound-board, which by drawing out the stops opens the holes, and putting them in shuts them. By these sliders each stop speaks or is silent. Register is figuratively used by musicians in speaking of a voice, in which real and falset notes are not well united. Mr. Braham’s high notes, for example, are said to be of a different register from the low.

REGLE de l’Octave, Fr., a rule for accompanying the octave ascending and descending in the base; giving to each note of the scale its appropriate harmony in every key. This rule, well known and practised in the 24 keys, major and minor, will enable students in thorough-base to figure a base themselves, and to accompany modern music without figures.

It is disputed in France who was the inventor of this rule: Rameau and Rousseau assign it to De Lai re, M. Laborde to Campion. “This formula,” says Rousseau, “was first published by De Lai re in 1700.” If this date could be ascertained, it would remove all doubts concerning the author of the rule; as Campion’s “Treatise of Accompaniment” is not pretended to have appeared till after 1705.

This rule ascertains what chords or harmony belong to every diatonic movement of the base, ascending and descending. See ACCOMPANIMENT, or THOROUGH-BASE; where the base will be figured, and the chords written over it. We confine the infallibility of this rule to modern music, as no provision is made for 4ths and 9ths, which so frequently occur in Corelli, Geminiani, and Handel. But these discords, and several other combinations, are considered in the articles COUNTERPOINT and ACCOMPANIMENT, or Thorough-base; which See.

By this formula it will appear, that to the key-note there is always a common chord; to the 2d of the key, a $\frac{6}{3}$ to the 3d of the key, a 6th; to the 4th of the key, a $\frac{5}{3}$ to the 5th of the key, a common chord. Thus far the chords are rigorously in one key; but in order to connect the 6th to the 5th, Rameau gives the chord of the $\frac{6}{3}$ to the 6th, as in descending, which makes it the 2d of a new key; but then to recover the modulation into the original key, he gives $\frac{7}{5}$ to the 7th or note sensible of the key, and then terminates the scale by a common chord to the octave of the key-note.

In descending, it is necessary to imagine the harmony in the 5th of the key for the four first notes: as, supposing the scale to be in C major, after repeating the common chord to the octave, the 7th of C must be regarded as 3d of the key of G, and be only accompanied by the 6th. A, as 2d of G, by a $\frac{2}{3}$; as in ascending; and the 5th of the key by a common chord, or close in G. The 4th of the key in descending has a $\frac{2}{3}$, or chord of the 5th of the key repeated; the next three chords are the same as in ascending.

In minor keys, in all which supposing A natural to be the archetype, the chords are much the same; only: whenever the 7th of the key is wanting in the ascending scale, it must be accidentally sharp. as to A, a common chord minor; to B, the 2d of the key, a $\frac{6}{3}$; to the 3d of the key, a 6th; to the 4th, a $\frac{5}{3}$; to the 5th, a common chord, with a sharp 3d; to the 6th, if natural, a 6th; if sharp, a $\frac{6}{3}$; to the 7th sharp, a $\frac{7}{5}$ and a common chord to the octave.

In descending, to the 7th natural, a 6th; to the minor 6th, a $\frac{3}{2}$, or 6 doubling the 3d; to the 5th of the key, a sharp 3d; to the 4th of the key, the same
chord, or $A^6_4\frac{1}{2}$, and to the three last, the same as in ascending.

These chords will be more clearly comprehended in notation on the thorough-base plates, to which we refer.

Though the regle de l'octave only provides for the regular ascent and descent of the base in plain counterpoint, we know, by long experience, that it teaches more thorough-base and counterpoint in a short time, than any other rule that has been proposed since the laws of harmony were settled. See THOROUGH-BASE, ACCOMPANIMENT, and COMPOSITION.

REGOLA, Ital., a rule in music, a canon
REGOLA Armonica, a monochord
RELATIO, Lat., Relation, Engl., in Music. Relative sounds are in general such as belong to two or more chords, as in the key of C. The chords of A, F, G, and F., a relative chords; as E, the 5th of A. is 3d of C: in the chord of F, C is the 5th; in the chords of G and E, each of those sounds is a part of the chord of C.

The relatives to A minor are obvious here.

In the modulation by rising and falling a 3d in the base, two relative notes are in common with each chord. The most agreeable relation of a minor key to a major, is in the modulation from a minor key to the 3d above: as from A to C, or D to F; the scales of both keys being the same in descending. But falling a 3d in the base from a minor 3d to a major, as from A to F, or from D to B $\frac{1}{2}$, is still more pleasing.

False relation is C $\#$ against C $\natural$, or G $\#$ in the chord of C E. But even these false relations are allowed now, as passing-notes of taste, though not in the body of the harmony.

RENTRÉE, Fr. in Music, a return to the subject of a musical composition, after a pause, or some excursion or deviation from the theme; or in a fugue, an imitation of some particular passage or design.

RENVERSE, Fr. in Music. With respect to intervals inverted, this term is opposed to direct. (See DIRECT.) With respect to chords, it is opposed to fundamental; which see.

RENVERSEMENT, Fr. in Music, an inversion in the order of sounds which compose the chords, and in the parts which constitute the harmony: which is done by substituting, by octaves, treble notes for the base, and base notes for the treble. It is certain that every common chord has a fundamental and natural order pointed out by the harmonics of a single string, a great bell, or organ pipe. (See HARMONICS, and RESONANCE.) But the circumstances of the succession, taste, expression, selection of notes for melody, variety, approximation of the harmony, frequently oblige a composer to change this order, by inverting the chords, and consequently the disposition of the parts. As any three things may be arranged in six different ways, and four things in twenty-four ways, it seems at first as if a common chord was susceptible of six changes, and an accompanied discord of twenty-four; as the one is composed of three sounds, and the other of four; and that the inversion only consists in the transposition of octaves. But it must be remembered, that in harmony a change in the upper parts is not regarded as an inversion, provided the base or fundamental sound remains the lowest. Thus, these two orders of sounds, C e g, or C g e, are not regarded as inversions of the harmony. And in the chord of the 7th no change in the upper parts constitutes an inversion.

As long as the fundamental sound is the lowest part, the order is direct. But when this order is changed, or the fundamental sound is given by transposition to one of the upper parts, the harmony is inverted. In whatever part a discord is prepared, it must be resolved by the same part; a sharp 7th must ascend, a flat 7th must descend; false relations must be avoided. This is the key to the chief mysteries of composition. Binding notes in syncopation in the treble and base must be differently treated: in the 9th
the chord is direct; in the 2d it is inverted, the discord being in the base.

Upon the organ, and other keyed-instruments, inversions are necessarily made for the convenience of the hand, in giving different faces to the same chord. See FACE.

RENOVI, Fr. in Music, a reference to a strain, or part of a strain that is to be repeated; either implied by dots in the spaces of the staff, or by an ¦ dotted, which is the initial of segno, Ital, a sign. See REPEAT.

REPEAT, in Music, a character showing that what was last played or sung must be repeated, or gone over again.

The repeat serves instead of writing the same thing twice over. There are two kinds of repeats, the great and the small.

The great repeat is only a double bar, dotted on each side; or two parallel lines drawn perpendicular across the staff; with dots on either hand. See its form under CHARACTERS of Music.

This mark shows, that the preceding strain is to be repeated; that is, if it be near the beginning of the piece, all hitherto sung or played is to be repeated; or, if towards the end of a piece, all from such another mark.

In gavots, we usually find the repeat at about the third part of a piece; in minuets, borees, courants, &c. towards the end.

Some make this a rule, that if there be dots on each side the bar, they direct to a repetition both of the preceding and the following strain; if there be only dots on the side, then only the strain on that side is to be repeated.

The small repeat, is where only some of the last measures of a strain are to be repeated: this is denoted by a character set over the place where the repetition begins (see CHARACTERS in Music), and continues to the end of the strain.

When the song ends with a repetition of the first strain, or part of it, instead of a repeat, they use the word da capo, i. e. from the beginning.

REPERCUSSION, in Music, iteration, a repetition of the same note or sound.

This often happens in the modulation, where the essential chords of each mode, or of the harmonical triad, are to be struck oftener than the rest; and of these three chords, the two extremes, i. e. the final and the predominant one, (which are properly the repercussions of each mode) oftener than the middle one.

REPETITION. The French make use of this word for a rehearsal, which the Italians call a prova. “Rehearsals (says Rousseau) are necessary for compositions that are to be performed in public, in order to prove whether the several parts are correctly copied, and for ascertaining the entrances and the exits of the several characters, as well as to see that they seize the spirit of their parts, and of the entire drama. Rehearsals are likewise of use even to the composer himself, to enable him to judge of effects, and to make such changes as may seem necessary.”

REPETITION, in Music, denotes a reiteration or playing ever again the same part of a composition, whether it be a whole strain, or part of a strain, or a double strain. The repetition is denoted by a character called a repeat; which is varied so as to express the various circumstances of the repetition.

REPETITION, Reply, is also used when, after a little silence, one part repeats or runs over the same notes, the same intervals, the same motions; in a word, the same song, which a first part had already gone over during the silence of this.

REPETITION, Reply, is also a doubling or trebling, &c. of an interval, or reiteration of some concord or discord. Thus, a fifteenth is a repetition of the octave, i. e. a double octave, or a second octave.

REPLIQUE, Fr. in Music. This term, which implies an octave, has been, not very happily, rendered into English by replicate, in the wretched translation of Rameau’s treatise; but though it has been generally adopted, it has never seemed properly naturalized to our language. Sir Francis Bacon has used the word recurrence for the same purpose, which is much more congenial with our idiom. There is necessarily a repetition of the same.

REPONSE, Fr. in Music, the answer to a subject of fugue. The answer to a fugue, and the time when it is to be introduced, are difficulties in the art of regular fugue, concerning which young contrapuntists are long doubtful. See FUGUE and COUNTER-SUBJECT.

REPRISE, Fr., in Music. Every part of an air or strain that is to be repeated, without being written or printed twice over, is called by the French a reprise. There are various ways of marking repetitions in
music: first by a double bar dotted; if on both sides, both parts or strains are to be repeated; if only one side of the double bar is dotted, that side only is to be repeated. This sign and and sometimes del capo al segno imply a repetition of particular portions of a melody; as do, likewise, dots in the spaces of the staff. (See RENVOI and REFERENCE.) Gretry, in his Memoires, says that the repeating of the first and second parts or strains of a movement is a barbarous custom.

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**RESOLUTION**, in *Music*, is when a canon or perpetual fugue is not written all on the same line, or in one part; but all the voices that are to follow the guida, or first voice, are written separately, either in score, i.e. in separate lines, or separate parts, with the pauses each is to observe, in the beginning, and in the tone proper to each.

The resolution of discords, in music, is generally by their descent upon concords; except the tritonus, or sharp 4th, and the note sensible, or sharp 7th of a key, which ascend, while the base descends or remains stationary.

**RESONANCE**, in *Music*, is sounding again, repeating or continuing the sound. The resonance of a string, a bell, or other sonorous body, ceases with the vibration.

It expresses the sound returned by the air enclosed in the bodies of stringed musical instruments, as lutes, &c.; or even in the bodies of wind instruments, as flutes, &c.

Elliptic and parabolic vaults resound strongly, i.e. they strongly reflect or return the sound. See ECHO.

The mouth, and the parts thereof, as the palate, tongue, teeth, nose, and lips, Mons. Dodart observes, contribute nothing to the tone of the voice; but their effect is very great as to the resonance.

Of this we have a very sensible instance in that vulgar instrument called *Jews-harp*, or *trompe de Bearn*: for if you hold it in your hand, and strike the tongue or spring thereof, which yields all the sound of the instrument, it scarcely makes any noise at all; but, holding the body of the instrument between the teeth, and striking the spring as before, it makes a musical buzz, which is heard to a good distance, and especially in the lower notes.

So also in the hautboys, the tone of the reed is always the same; being a sort of drone: the chief variety is in the tone of the resonance, produced in the mouth by the greater or less aperture, and the divers motion of the lips.

**RESPONSARY SONG**, an anthem in which the choristers sing by turn.

**RESPONSORIA**, responses sung in chorus by the choir, in answer to the priest in the cathedral service.

**REST**, in *Music*, is a pause, or interval of time, during which there is an intermission of the voice, or sound.

Rests are sometimes used in melody, that is, in music of a single part, to express some simple passion, or even for variety sake; but more frequently in harmony, or compositions of several parts, for the sake of the pleasure of hearing one part move on while another rests, and this interchangeably.

Rests are either for a whole bar, or more than a bar, or but for a part of a bar. When the rest is for a part, it is expressed by certain signs, corresponding to the quantity of certain notes of time; as minim, crotchet, &c.; and is accordingly called *minim-rest*, *crotchet-rest*, &c.

The characters or figures of which, see under **CHARACTERS of Music**, where the notes and corresponding rests are found together.

When any one of those characters occurs, either on a line or space, that part is always silent for the time of a minim, or crotchet, &c. Sometimes a rest is for a crotchet and quaver together, or for other quantities of time for which there is no particular note; in which case the signs of silence are not rests, but such silence is expressed by placing together as many rests, of different time, as make up the designed rest. When the rest is for a whole bar, the semibreve rest is always used. If the rest be for two measures, it is marked by a line drawn across a whole space. For three measures it is drawn across a space and a half, and, for four measures, across two spaces. But, to prevent ambiguity, the number of bars is usually written over the sign.

Some of the more ancient writers in music make these rests of different value in different species of time, e.g. the character of a minim-rest, in common time, say they, expresses the rest of three crotchets in
triple time; in that of the triples $\frac{6}{8} \div \frac{12}{8} \div \frac{12}{16}$, it always marks a half-measure, how different soever these may be among themselves.

They add, that the rest of a crotchet in common time is a rest of three quavers in the triple $\frac{6}{8}$ and that the quaver-rest of common time is equal to three semiquavers in the triple $\frac{3}{16}$. But this variety in the use of the same character is now laid aside. Malcolm’s Treat. of Music, p. 409, &c.

Franco, the inventor of musical characters for time, commonly ascribed to John de Muris, in the fourth chapter of his tract in the Bodleian library, entitled “Ars Cantus Mensurabilis,” says, “as the sounds in each mood are expressed by different notes or figures, and as discant itself is as much regulated by silence as by sound, it will be necessary to treat not only of the signs or representatives of sounds, but of their equivalent rests or pauses.”

But though Magister Franco may have invented the first time-table, consisting of full or black notes; John de Muris seems to have arranged the second time-table, consisting of void or open notes, from the maxima to the minim. And in Molley’s time, the notes were multiplied and accelerated to the semiquaver, with their equivalent rests. See the third TIME-TABLE

RETROGRADO, Ital. in Music, a retrograde motion of a melody, or subject of canon. This motion is sometimes termed by the Italians, imitatione cancherizante; imitation of the movement of a crab-fish. See CANON.

RETO, Ital. in Music, straight forward, direct, one of the three movements of musical notes or sounds in melody; which are, moto retto, moto contrario, and moto obliquo. Moto retto is, therefore, a regular ascent of the scale, or a part of it: as moving from the key-note to the 5th through all the intermediate sounds, in regular order; as c d e f g &c. Another species of movement seems wanting to express wide intervals, such as skips or leaps beyond the regular progression, which in Latin is expressed by the words per saltum, and in Italian either is, or might be, called moto de salto.

REVELS, formed from the French reveiller, to awake, as alluding to the night season, when they were chiefly held; entertainments of dancing, masking, gaming, acting comedies, farces, &c. anciently very frequent in inns of courts, at certain seasons, and in noblemen’s houses, &c. but now much disused.

The officer who has the direction or ordering of the revels at court, is called the master of the revels.

RHAPSODI, ῥαψῳδος, RHAPSODISTS, in Antiquity, persons who made a business of singing or reciting pieces of Homer’s poems.

Cuper informs us, that the rhapsodi were clothed in red, when they sung the Iliad; and in blue, when they sung the Odyssey.

They performed on the theatres; and sometimes strove for prizes, in contests of poetry, singing, &c.

After the two antagonists had finished their parts, the two pieces, or papers they were written in, were joined together again; whence the name, viz. from ἐριτο, suo, I join together, and ὀδη, ode, song.

But there seem to have been other rhapsodi of higher antiquity than these; people who composed heroic poems, or songs in praise of heroes and great men, and sung their own compositions from town to town, for a livelihood; of which profession, it is said, was Homer himself.

Hence, some critics, instead of the former origin, derive the word rhapsodist from ἑριτο ἀδειφα to sing with a laurel-rod in the hand, which, it seems, was the badge of the primitive rhapsodi.

Philochorus, again, derives the word from ἑριτειν τας ᾧδας q. d. συνιτινειαι, to compose songs or forms; as if they were the authors of the poems they sung. This opinion, to which Scaliger inclines, reduces these rhapsodi to the second kind.

In effect, it is probable, that they were all of the same class, whatever distinction some authors may imagine among them; and that their business was to sing or rehearse poems, either of their own, or other people’s composition, as might best serve their purpose, which was gaining a pecuniary advantage by them. So that we do not apprehend it any injury to them, to set them on the foot of our ballad-singers; some of whom may probably pen their own ditties. After Homer’s time, it is no wonder they confined themselves altogether to his pieces, for which the people had the utmost veneration; nor is it surprising, that they should erect stages, &c. and dispute the point of recitation in fairs and markets.

The import of the word rhapsodist underwent several changes in antiquity: it was first appropriat-
ed to bards, who sung their own verses from town to town, or at the tables of the great; in this sense Homer was called a rhapsodist. It was next bestowed on those who sung the verses of Homer on the stage, usually for a prize, allotted to the best performer of them; and, lastly, to such singers of cantos, as have been just described. A rhapsody, in modern language, conveys no other meaning than that of an incoherent jumble of ideas. This sense of the word undoubtedly took its rise from the notorious folly and absurdity of the rhapsodists, in their rapturous comments upon their favourite poets; for they undertook to explain, as well as to recite. Hence it is that in Suidas, the word ῥαψωδία is defined by φλυαρία, nonsense.

RHYTHM, RHYTHMUS, Ῥυθμός, in Music, the variety in the movement, as to the quickness or slowness, and length and shortness, of the notes. Or the rhythmus may be defined, more generally, the proportion which the parts of a motion bear to each other. In ancient poetry rhythm or rhythm denotes the measure of the feet, or the number and combination of long and short syllables, called also metre and quantity.

A continued motion in every organized body that is capable of rhythm, is susceptible of some kind of measure. This measure marks the several parts of motion, and enables us to judge of their proportions. It is to point out these proportions that the Greeks, among many other terms, have made use of ῥυθμός, rhythm, which they have applied to different purposes. They have not only expressed by it the kind of cadence, or vibration of the wings, in the flight of birds; the movement of the feet in the progressive motion of animals; and the gestures, figures, and steps of dancers; but every species of regular motion, such as is observable in the beating of the pulse, and in respiration. They have even abused the πoμος ὁ μοσυνακός τό ῥυθμός, say the Greeks; it was the principal point in their music, without which they regarded melody as wholly unmeaning and lifeless. Hence Plato refuses the title of musician to every one who was not perfectly well versed in rhythm, as we should now to a bad timeist. It is of such importance, that, without it, music can have no power over the human passions. Pythagoras, according to Martianus Capella, used to call rhythm, in music, the μοσωνινας and Melos the female; and Doni has compared rhythm with design, in painting, and Melos to colouring. It is certain that an ordinary melody, in which the time is strongly marked, and the accents are well placed, has more effect than one that is deficient in those particulars, though more refined, and uncommon, and set off with all the richness of harmony, and learning of modulation.

Isaac Vossius, in his Dissertation “De Poematum Cantu, et viribus Rhythmī,” has attributed to rhythm all the miraculous powers of ancient music. As vocal music was chiefly cultivated among the ancient Greeks, the first part of these rhythmical observations shall be confined to lyric poetry.

Aristides Quintilianus defines musical rhythm Χροονοῦ κατὰ τῶν ταξεῖς συγκειμένων; “the assemblage of many parts of time, which preserve a certain proportion with each other;” which, since the use of bars in music, may be called aliquot parts of a measure, or a given portion of time. For the better understanding of this definition, it is necessary to remember that the music in question was constantly...
sung to verses, the words of which were all composed of long and short syllables; that the short syllable was pronounced as quick again as the long, and the short syllable being regarded as one part or portion of this measure, the long was equal to two; so that, consequently, the sound which was applied to the long syllable, was equal in duration to two such sounds as were sung to short syllables, or, in other words, that one note was equal to two portions of time, and the other to one. It must likewise be remembered that the verses thus sung, were composed of a certain number of feet, formed by these long and short syllables differently combined, and that the rhythm of the melody was regulated by these feet; as, whatever was their length, they were always divided into two parts, equal or unequal, the first of which was called ἀρσις, elevation, and the second ἀποσις, depression. A foot in poetry seems to answer to a bar in music. A time, among the ancients, was a proportion of that foot or bar; as, with us, a bar is divided into accented and unaccented parts. In like manner the rhythm of the melody, corresponding with these feet, was divided into two parts, equal or unequal, which we now call the down and up parts of a bar, expressed by beating down the hand or foot, and lifting it up. Thus far concerns vocal rhythm; what follows belongs to instrumental.

As the notes of the ancient music were constantly written over each syllable of the verses which were to be sung; as the quantity of each of these syllables was perfectly known to musicians; and as the duration of each sound was regulated by the syllables; it did not seem necessary that the time should be marked by any particular sign or character. However, for the ease and convenience of the musician, a canon, or rule, was given of the rhythm at the beginning of a lyric poem. This canon consisted of nothing but the numbers 1 and 2, that is, the alpha and beta of the Greek alphabet, disposed according to the order of the breves and longs which composed each verse, and divided according to the number of its feet. The alpha, or unit, marked a breve because it contained only one portion of time; and the beta or binary, marked a long, being equal to two portions. Some of these poetical, or rhythmical canons, are still to be found in the Manual of Hephaestion.

Rhythm in Latin was called numerus; and this term, in process of time, was extended to the melody itself, subjected to certain numbers of rhythms, as appears from this line of Virgil:

“Numeros memini, si verbatenerem:”

If I knew the words, I could remember the tune well enough.”

The Romans had signs for rhythm, as well as the Greeks; and these signs were not only called numerus, but ara, that is, number, or the mark for time. Numerus nota, says Nonius Marcellus. In this sense we find the word used in a verse of Lucilius:

“How est ratio? perversa ara? summa subducta impróbē”

“Do you call that settling accounts? such a confusion of figures; and the sum falsely cast up”

Though the word ara was at first only applied by musicians to the time, or measure of the melody, they afterwards made the same use of it as numerus, to express the tune or melody itself; and it has been thought that the word air, or, as the Italians call it, aria, which includes a certain piece of music of a peculiar rhythm, or cadence, is derived from ara.

Such was the manner in which the ancients marked the measure of their written music; but to make it still more sensible in the execution, they beat time in several different ways. The most common was by the motion of the foot, which was lifted up and beat down alternately, according to what we call common, or triple time. To regulate the time was generally the office of the music master or director, called as μεσοχορος, κορυφαιος, corsicus, because he was placed in the middle of the orchestra, among the musicians, and in an exalted and conspicuous situation, in order to be seen and heard the more easily by the whole band.

The directors of the time were likewise called in Greek, ὀροστέτα, and ὁδοϊπόδος; from the noise of their feet. In Latin they were called pedarii, podarri, and pedicularii, for the same reason. Their feet were generally furnished with wooden or iron sandals, in order to mark the time in a more distinct manner; these implements the Greeks called κροσπεξια, κροσπεξια, κροσπεξια, and the Latins pedicula, scabilla, or scabilla, because they resembled little pattens, or clogs.

But it was not only with the feet that the ancients beat the time, but with all the fingers of the right hand upon the hollow part of the left; and he who
marked the time or rhythm in this manner, was called *manu-ductor*. For this purpose they sometimes used oyster-shells, and the shells of other fish, as well as the bones of animals, in beating time, as we do of castanets, tabors, &c., Both Hesychius, and the scholiast of Aristophanes, furnish passages to confirm this assertion. What a noisy and barbarous music! All rhythm, and no sound. The drums and syrtrums of the Idaei Dactyli could not have been more savage.

Many ancient instruments were monotonous, and of little use, but to mark the measure; such were the cymbalum and sytrum; and it was for this reason, perhaps, that the cymbal was called *ara*, by Petronius. But it would afford us no very favourable idea of the abilities of modern musicians, who should require so much parade and noise in keeping together. The more time is beat, says M. Rousseau, the less it is kept; and, in general, bad music, and bad musicians, stand most in need of such noisy assistance.

However, if any thing like the power which ancient music is said to have had over the passions can be credited, it must have derived this power chiefly from the energy and accentuation of the rhythm. Aristides Quintilianus gives a long list of different metres, with their several properties of calming or agitating the mind, according to the nature of the syllables, or feet of the verses, as well as the sentiments which they were intended to express; and as it will afford the reader an opportunity of seeing how much stress was laid on this part of music, and how fanciful and ideal many of the distinctions seem to have been, we shall give the whole passage in English.

"Measure, which begins by a *down part* of the metrical division, is calm and gentle; whereas that which begins by an *up part*, expresses trouble and agitation. Full time, that is, always accompanied with melody, is noble in its effect; and that arising from catalectic verses, deficient in a syllable or note, if it be supplied by a test or pause, has more simplicity. Time of equal proportions, is graceful; and that of odd numbers, or sequilral proportion, is more proper to excite commotion. Double time is a kind of mean betwixt the graceful and the turbulent. Among the movements of two even notes, if they are short, their effect is lively, impetuous, and proper for military dances, called *Pyrrhics*, in which the dancers are armed; and time, of which the movement is regulated by poetic feet composed of long syllables, is more grave, serious, and fit for hymns which are sung in honour of the gods, at festivals, and in sacrifices; the measure composed of a mixture of long and short notes, participates of the qualities of both these last mentioned.

"Among the duplicate proportions, the lambic and Trochaic have the most vivacity and fire, and are peculiarly proper for dancing. Those called of *σημαυτία* and *σημαντία*, of which the arsis answers to two long syllables, are full of dignity. Compound measures are more pathetic than simple; and such as are confined to one genus, move the passions much less than those which pass from one genus to another."

After giving these characteristics of time, Aristides proceeds to prove their reality and foundation in nature, by drawing a parallel between some particular species of rhythm, and the gait and actions of man. He pretends, for instance, "that the motion which answers to the Spondaic measure, is a sign of moderation and fortitude; that Trochaics, or *Pæans*, indicate a greater degree of fire and vivacity; that the Pyrrhic has something low and ignoble in it; that an irregular velocity implies dissoluteness and disorder; and finally, that a movement resulting from all these, is wild and extravagant."

With respect to the excellence and effects of ancient music, it is very difficult to steer between the extremes of credulity and scepticism. Such enthusiasts as Aristides Quintilianus, by asserting too much, have thrown a ridicule upon the subject, and inclined us, perhaps, to believe too little. The simplicity of ancient melody, and its slavish dependence upon poetry, may probably have given birth to some of these fancies.

In addition to the account already given of the poetic feet under their respective articles, we shall here introduce a short description of each as they more immediately relate to music, at the same time rendering our dissertation on rhythm more complete.

A poetical foot consists of a certain number of syllables, which constitute a distinct part of a verse, as a bar does of an air in music. An hexameter verse consists of six of these feet, a pentameter of five.
The Spondee, Iambus, Trochee, and Pyrrhic or Periambus, are dissyllabic feet, or of two syllables each.

The Spondee

consists of two long syllables, as vertutn.

An Iambic foot has one short and one long syllable, Φεός, λεγω, potens amas.

The Trochee has one long and one short syllable, as gratus, musa.

The Pyrrhic, or Periambus, two short syllables, as mare, probus.

The Dactyl, Anapæst, Malossus, Tribrach, Bacchius, Antibacchius, Amphibrachys, and Creticus, are trisyllabics, or of three syllables. To some of these we have no equivalents; however, the Dactyl, consisting of one long and two short syllables, is very common in our language, as tenderly, lastily; and we have verses composed of dactyls as well as the Greeks and Romans:

My | bāns thēy wēre | ūrnish’d with | bēēs,
Whose | mūrmūrs | vite |绮ōne tô | sleeēp.

These may be compared with the following celebrated passages in Homer and Virgil, where the sound is manifestly, and intentionally, an echo to the sense. Homer (Odyssey, book xi.) after he has described in labouring Spondees the slow and painful manner in which Sysiphus rolled the stone up hill, makes use of nimble Dactyls in describing its swift descent:

And Virgil, lib. viii. v. 596, describes, in pure Dactyls, the galloping of the horse:

“——— It clāmōr, êt āgmēnē fāctō
Quadrupēdantē pūtrēm sōnitū quātit ʊngūlā cāmpūm,”

The Anapæst has two short and one long syllable; as sapiens, recubans.

Isaac Vossius, “De Viribus Rhythmi,” p. 56, has said, that the French have no Dactyls, nor the English a perfect Anapæst in their language. Let the French speak for themselves; but as to our own part of the charge, it is easily confuted by the mere mention of the words recommend and disappoint.

We shall enumerate the rest of the poetic feet of the ancients, merely to show what resources they had in varying their melody by different combinations of two kinds of notes

The Molossus has three long syllables.

The Tribrach, three short.

The Bacchius, which is the reverse of the Dactyl, has one short, and two long syllables.

The Antibacchius, two long and one short.

Amphibrachys, one short, one long, and one short, or one long between two short.

Creticus, one short between two long.

The quadrisyllabics are compounded of feet already mentioned.

The Proceleusmaticus is composed of four short syllables, or of two Pyrrhics.
The Choriambus, two short between two long, or the junction the Trochæus and Iambus, ˘ ˘ ˘.

Epitrite; of this foot there are four species: 1. The Iambus and Spondee ˘ ˘ ˘; 2. The Trochee and Spondee ˘ ˘ ˘; 3. The Spondee and Iambus ˘ ˘ ˘; 4. The Spondee and Trochee ˘ ˘ ˘.

Paean or Pæon, which is the contrary of this last, consists of one long syllable, and three short: ˘ ˘ ˘, ˘ ˘ ˘, ˘ ˘ ˘.

Servius reckons more than a hundred different kinds of verse among the Latins; and, according to Hephæstion, the number was still more considerable among the Greeks; consequently their melody might have been in as many different ways. There is not, however, the least appearance of the ancients having had in their vocal music that kind of measure which we call pointed; nor did they admit rests in the middle of a verse, though at the end of catalectic, or broken verses, the singer was allowed to make up the deficiency by a silence, equivalent to a rest in modern music; and though they had so great a variety of feet in their poetry, many of those already instanced are unfit for modern melody.

"After all the researches," says Dr. Burney, "which I have been able to make, it must be acknowledged that the subject of ancient music, in general, still remains, and probably ever will remain involved in much difficulty and uncertainty. It is fortunate, however, for those who wish to view as near as possible this dark angle of antiquity, that the prospect happens to be the clearest just in that part where all its admirers assure us it is best worth examining; for however ignorant we may be of the melody of ancient music, the rhythm, or time of that melody, being regulated entirely, as has been already observed, by the metrical feet, must always be as well known to us as the prosody and construction of the verse; so that we have nothing to do but to apply to the long and short syllables any two notes, one of which is double the length of the other, in order to know as exactly as if we heard, in what manner any particular kind of metre was set by the ancients with respect to time and cadence, that boasted rhythm, which we are so often told was every thing in their music. It may, therefore, afford some gratification to the curiosity of those who have never considered the poetry of the ancients in this point of view, if I produce a few examples, which will, perhaps, help to throw a little light upon the dramatic music of the Greeks, and give some idea of the rhythmical resources of the poet-musician in one of the most interesting provinces of his art.

"The first example shall be of the Iambic verse, which chiefly prevails in the Greek tragedies, and in which the dialogue and soliloquy, indeed all but the chorus and ode, were generally written. I shall content myself with applying notes of correspondent lengths to the syllables, and marking the time; leaving the melody to the imagination of the reader. Should I presume to supply it, I might expect to be reproached as another Salmoneus for my temerity.

"Demens, quinimbos et non imitabile fulmen, &c.

This measure, when pure and unmixed, consisted of six Iambic feet, as,

êquēs|sŏnān|ĕt vēr|bĕrā|bit ūn|gŭlā

Such verses, however, seldom occur. The laws of this metre only required that the second, fourth, and last feet should be Iambics; in the other places, Spondees, Anapaests, and Dactyls, were admitted. This metre answers to our Alexandrine, or verse of twelve syllables; but more exactly in the number and kind of feet, than in its cadence, or general effect upon the ear. The pause after the third foot, so essential to a melodious Alexandrine, has no place but by accident, in the Iambic, which runs more swiftly, and has a more prosaic effect. This, undoubtedly, led the ancients to measure it per disodiam, or by double feet (see Hor. Art, Poet. v. 252. pes citus: unde, &c.) which answer to double bars in modern music. Ariosto wrote some comedies in this Iambic measure. One of his lines will, perhaps, be as exact a representation of the ancient Iambic as can be produced, in point of cadence.

Per dio son quas in pensier di l tornarmene.
The following Alexandrine of Spenser may also serve for the same purpose."

"So in his angry courage fairly pacified."

The above Greek lines are the beginning of the Hecuba of Euripides, and were sung by the ghost of Polydorus. The bars in the verse are only to show how the ancients divided it into three portions of two feet in each; but the bars of time, the thesis, or beat, must always fall in the middle of the foot:

\[ \text{\textbar}{\text{\textbar}{\text{\textbar}{\text{\textbar}{\text{\textbar}}}}} \]

For the sake of distinguishing the feet more clearly, Dr. Burney barred them singly; though it would have been more conformable to the ancient manner of scanning this kind of verse, and probably more expressive of its cadence and effect, to have made but three bars in each line. The Iambics of Greek comedy differ from these only in a little more liberty of construction; those of the Roman, in Plautus and Terence, are so licentious, as often not to differ perceptibly from prose, even in the judgment of Cicero himself: "propter similitudinem sermonis, sic stepe sunt abjecti, ut nonnunquam vix in his numerus et versus sentiri possit." Orator, cap. 55.

Besides this metre, the dialogue admitted occasionally, Trochaic verses. They are generally introduced in scenes of hurry and disorder; being, as Aristotle has described them, and as their name implies, a voluble and dancing measure. A character which the reader will not be inclined to dispute, when he compares the ancient Trochaic with a measure exactly corresponding to it in our own language, but which we have not yet admitted into our tragedy.

\[ \text{\textbar}{\text{\textbar}{\text{\textbar}{\text{\textbar}}}} | \text{\textbar}{\text{\textbar}{\text{\textbar}{\text{\textbar}}}} \]

This is a pure Trochaic, and is precisely in the measure of our

"Jolly mortals fill your glasses,
Noble deeds are done by wine."

The whole difference is, that the ancient Trochais were written in one line; but this is merely to the eye; for they really consist of two verses; the last syllable of the fourth foot being, as Dr. Burney believes, constantly, the end of a word.

Mr. West, in his translation of the "Iphigenia in Tauris" of Euripides, has given a whole scene of Trochais in the correspondent English measure. A single line of the original, with his translation, will be a sufficient example of Trochaic rhythm.

Such were the metres appropriated to the dialogue of the ancient tragedy, and such must have been the rhythms or times of the music to which they were set.

We shall close these observations with one example more, taken from the chorall part of the drama, that part which was more particularly musical, and the circle marked out for the musician, where all the magic of his art, with all the wonders of rhythm, were to be displayed. Of the metre of this part, we shall only observe, in general, that it seems to have admitted of such an unbounded variety in the mixture and arrangement of feet, and to have been fettered by so few restraints, that, to a modern ear, it is frequently not to be distinguished from a smooth and elegant prose. We can therefore be certain of nothing, concerning the music applied to the ancient chorus, except the relative lengths of the notes as they are determined by the prosody: in what manner the ancients divided them by beats, we do not even presume to guess; and we believe it may be proposed to the musical reader as a problem, worthy, for its difficulty at least, if not for its importance, to exercise his sagacity, how the following specimen should be barred, in order to render it as little tormenting to the ear as possible.
The most striking circumstance in all these examples, is the perpetual change of time, occasioned by the mixture of unequal feet. To the eye, indeed, the recitative of the old French opera presents a similar appearance; but where no strict time is observed, the changes are less perceptible to the ear. No circumstance relative to ancient music has been more frequently and triumphantly opposed to the modern, in proof of superiority, than its inviolable adherence to the fixed quantity of syllables. It is, perhaps, equally difficult to disprove this, and to conceive how such a music could be rigorously executed, without throwing both the hearers and performers into convulsions. If, however, this was the case, we need no longer wonder at the noisy expedients, to which the ancients had recourse in beating time; for we believe the best modern band would find it difficult, if not impossible, to keep exactly together in the execution of a Greek chorus, though assisted by all the clatter of an ancient coryphæus.

Upon the whole, perhaps, even the imperfect view which we have here attempted to give of the rhythmical resources of ancient music, may be sufficient to warrant something more than a doubt, whether, after all that Isaac Vossius, and many others, have said, a fixed prosody, and the rigorous, uncompromising length of syllables, be any recommendation of a language for music; that is, whether a music formed and moulded closely upon such a language, must not necessarily be cramped and poor, in comparison of that free, unshackled variety; that independent range of rhythmical phrase, which constitutes so considerable a part of the riches of modern music. Let the most inventive composer try to set half a dozen Hexameters, pure Iambics, or any other verses that will fall into regular common or triple time, and he will soon find that no resources of melody are sufficient to disguise or palliate the insipid and tiresome uniformity of the measure; and as for any thing like expression, we may as well expect to be affected by the mechanical strut of a soldier upon the parade. In other metres, such as those already given in the preceding examples, where feet of different times are intermixed, some variety is indeed acquired; but it is a misplaced variety, which, without obviating the tiresome effect of a confinement to no more than two lengths of notes, adds to it that of an awkward and uncouth arrangement; the ear is still fatigued with uniformity where it requires change, and distracted by change where it requires uniformity.

Modern music, on the contrary, by its division into equal bars, and its unequal subdivision of these bars by notes of various lengths, unites to the pleasure which the ear is by nature formed to receive from a regular and even measure, all the variety and expression which the ancients seem to have aimed at by sudden and convulsive changes of time, and a continual conflict of jarring and irreconcilable rhythms.

Nothing seems more essential to musical pleasure, than the division of melody into equal portions of time, or bars. Quintilian attributed to this natural mensuration of the ear, the first production of poetry: “Poema — aurium mensura, et similiter decurrientium spationum observatione esse generatum.” Hexameters and Iambics appear to have been the most ancient Greek metres; and the latter, if we may credit Horace, Art. Poet. 253, were at first pure and uncompounded. The mixture of unequal feet, and the Dithyrambic license of lyric poetry, were later refinements. The progress of musical rhythm was, of course, the same. Plutarch expressly says, in the dialogue de Musica, that the compositions of Terpander, and other old masters, were set to Hexameters, chiefly of Homer; that is, they were in regular common time. The change and intermixture of
rhythms is spoken of as the innovation of modern artists. Plato rejects these complicated measures from the music of his republic; and even Isaac Vossius, the great champion of ancient rhythm, who asserts that “no man can be a good musician, that is not a good drummer,” owns, p. 11, that “vitiousum et incompositum imprimis, fiet carmen, si duorum, trium, quatuor, pluriumve temporum pedes, veluti Pyrrichii, Iambi, Dactyli, Pæones, Ionici, simul copulentur,” though this is done continually, not only in the lyric part, but even in the dialogue of the ancient drama.

It is evident, from the proofs already given, that the Greeks and Romans had but two different degrees of long and short notes; and even the old lozenge and square characters still used in the canto fermo of the Romish church, under the denomination of Gregorian notes, are but of two kinds; the time of these may, indeed, have been accelerated or retarded, but still the same proportion must have been preserved between them; and all their variety must have arisen from different combinations of these two kinds of notes, such as any two of ours could afford; as semibreves and minims, minims and crotchets, or crotchets and quavers.

This accounts for the facility with which even the common people of Greece could discover the mistakes, if any were committed, in the length and shortness of the syllables, both with respect to the poetry, and the music, a point of history in which all writers agree; for besides the intervals peculiar to the melody, rhythm, or time, must have contributed to characterize the modes, though it has no kind of connexion with our flat and sharp keys; and this gives an idea quite different from what our modern modes, taken as keys, and our music, in general, furnish. Tartini, upon this subject says, that we make the prosody subservient to music, not the music to the prosody; and adds, “that as by the laws prescribed to the ancient musicians, they were obliged to preserve rigorously in their music the quantity of syllables, it was impossible to protract a vowel, in singing, beyond the time which belonged to a syllable; we, on the contrary, prolong the vowels through many bars, though in reading they are oftentimes short.”

Tartini, however, in pure courtesy, allows to the ancients a discretionary power of making syllables longer or shorter than rigorous time would admit, in order to diversify expression, and to enforce the passion implied by the words; but if time was rigorously beaten, in the manner the ancients have related, it is not very easy to subscribe to this opinion.

Having explained the nature, difference, and properties of ancient rhythm, Dr. Burney bestows a few words on an examination of the modern, and endeavours to show what it has, in common with the ancient, and what peculiar to itself.

We no longer know rhythm now under its ancient name; however, it has been continued, with a small change of pronunciation, merely to express the final cadence of verses, or the agreement and familiarity of sound in the last syllables of two or more lines in poetry; being at present what we call rhyme; whereas the proportion subsisting between the different parts of a melody are called time, measure, movement.

And when we come to examine this proportion, we find that it only consists of two kinds, differently modified; and these two are known by the names of common time, consisting of equal numbers, and triple time, of unequal.

Tartini has deduced all measure from the proportions of the octave and its fifth. “Common time, or measure,” says he, “arises from the octave, which is as 1 : 2; triple time arises from the fifth, and which is as 2 : 3. These,” adds he, “are the utmost limits within which we can hope to find any practicable proportions for melody. Indeed many have attempted to introduce other kinds of measure, which, instead of good effects, have produced nothing but the greatest confusion; and this must always we the case. Music has been composed of five equal notes in a bar, but no musician has yet been found that is able to execute it.”

By the improvement of instrumental music, and indeed by the liberties which we have taken with poetry in singing, we have multiplied notes, and accelerated the measure. Instead of one sound to one syllable, or one portion of time for a short syllable, or two for a long one, we frequently divide and subdivide the time of these several portions into all their aliquot parts, and sometimes into incommensurable quantities.

After the invention of musical characters for time, different from those in poetry, the study of
their relations become one of the most laborious and perplexed parts of a musician's business. These characters were of different value and velocity, according to other characters placed at the beginning of a musical composition, and likewise frequently occurring in the course of a piece, to announce a change of measure; as from common time to triple, from quick to slow, or the contrary. These characters were called *moods*, but they were so extremely embarrassing and ill understood, till the invention of bars, by which musical notes were divided into equal portions, that no two theorists agreed in the definition of them.

These modes, by which the kind of movement, with respect to quick and slow, as well as the proportions of the notes, used to be known, since the use of technical terms, chiefly taken from the Italian language and music, has been adopted, serve no other purpose than to mark the number and kind of notes in each bar.

But by this invention of musical characters for time, and the use of bars, we have certainly advanced in the performance of instrumental music, by giving to it more energy and accentuation; it has now a cadence and feet of its own, more marked and sensible than those of poetry, by which it used to move.

We have also, in our *airs*, a distinct species of music for poetry, wholly different from recitative and chanting; for in these we are no more tied down to stated measure than the ancients, but are governed by the accent and cadence of the words. However, our florid-song, it cannot be dissembled, is not always sufficiently subservient to poetry; for in applying music to words, it frequently happens that the finest sentiments and most polished verses of modern languages are injured and rendered unintelligible, by an inattention to prosody. Even the simple and plain rules of giving a snort note to a short syllable, a long to a long; and of accentuating the music by the measure and natural cadence of the verse, which the mere reading would point out to a good ear and understanding, are but too frequently neglected.

Modern melody requires, perhaps, more than a single song sound to a single syllable; and a fine voice deserves, now and then, a long note to display its sweetness; but this should be done upon long syllables, and to open vowels, and, perhaps, in general, after the words have been once simply and articulately sung, for the hearer to know what passion is intended to be expressed, or sentiment enforced by future divisions.

Expletives, particles, and words of small importance, are forced into notice by careless or ignorant composers, who, only intent upon mere music, pay no regard to her sister, poetry. But then, poetry, in revenge, is as little solicitous about musical effects; for symmetry of air, or simplicity of design, are generally so little thought of, that every heterogeneous idea, which can be hitched into rhyme, is indiscriminately crowded into the same. Indeed music and poetry, like man and wife, or other associates, are best asunder, if they cannot agree; and on many occasions, it were to be wished, that the partnership were amicably dissolved.

Salinas tells us, from St. Augustine, that poets and musicians have ever been at strife concerning long and short syllables, accents, and quantity, since they have ceased to be united in one and the same person, and have set up different interests.

There is some poetry so replete with meaning, so philosophical, instructive, and sublime, that it becomes wholly enervated by being drawled out to a tune, which affects no part of the head, but the ear.

And there is, again, some kind even of instrumental music, so divinely composed, and so expressively performed, that it wants no words to explain its meaning; it is itself the language of the heart and of passion, and speaks more to both in a few notes, than any other language composed of clashing consonants, and insipid vowels, can do in as many thousand.

And, upon the whole, it seems as if poetry were more immediately the language of the head, and music that of the heart; or, in other words, as if poetry were the properest vehicle of instruction, and modulated sound that of joy, sorrow, and innocent pleasure. “Let the musician,” says M. Rousseau, “have as many images or sentiments to express as you please, with few simple ideas; for the passions only sing, the understanding speaks.”

But, notwithstanding both poetry and prosody are so frequently injured by injudicious composers, it must not be imagined that in our simple airs of the gavot and minuet kind, we have no musical rhythm, or that it always clashes with the poetical. Innumer-
Ricable instances may be given from well-known English songs, where the cadence of the verse, and even the pronunciation of each syllable, is carefully preserved by the air. For though our time-table furnishes six different degrees of long and short notes, without points, yet, if the divisions in songs designed to display a particular talent for difficult execution be excepted, we seldom use more than two kinds of notes in the same air.

“Mirth, admit me of thy crew,” by Handel, as well as several popular songs by Dr. Arne, Mr. Jackson, and others, are sufficiently conformable to poetical numbers and rhythm, to satisfy the greatest admirers of ancient simplicity, or even such as love poetry better than music, from whom complaints of non-conformity generally proceed.

Isaac Vossius says it is now above a thousand years since musicians have lost that great power over the affections, which arose only from the true science and use of rhythm; and he accuses modern music of such a want of time and accent, as to be all of one style and colour. We will not defend the age in which Vossius wrote from the charge, nor the music of the present serious opera in France; but the compositions of Italy and Germany are certainly free from the censure, as music is now more divided into phrases, and sentences, than it was; time is more marked, and more easily felt than it has ever been since the days of Guido. What it was before, is not very well known; but to confess the truth, it is our opinion, that whatever it has comparatively lost in some particulars, it has gained in others.

RHYTHMICA, RHYTHMICÆ, Ῥῡθμιϰη, in the Ancient Music, that branch of music which regulated the rhythmus. See the preceding article.

RHYTHMOPŒIA, one of the musical faculties, as they are called, which prescribes rules for the motions, or rhythm.

The ancient rhythmopœia is very defective. We find nothing of it in the books of the ancients, but some general hints, which can scarcely be called rules. In their expositions there appears nothing but what belongs to the words and verses of their songs, which is a strong presumption they had no other. See RHYTHM.

RIBATTUTA, Ital, in Music, is iterating, striking, or sounding the same note again.

RIBATTUTA di Gola is one of the graces used in singing; it is performed by beating or striking two diatonic notes, the one slow and the other quick, in the following manner.

It differs from the shake and the beat.

Editorial note: The following article is part of a longer article about different meanings of the word.

RING is also used for the sound or tone of a bell; which see.

The ringing of bells, though now a recreation chiefly of the lower class of people, is a very curious exercise. As for the tolling of a bell, this is nothing more than the producing of a sound by the stroke of the clapper against the side of the bell; the bell itself being in a pendant position, and at rest. In ringing, the bell, by means of a wheel and rope, is elevated to a perpendicular: in its motion to this situation, the clapper strikes forcibly on one side, and, in its return downwards, on the other side of the bell, producing at each stroke a sound. The music of bells is altogether melody; but the pleasure arising from it consists in the variety of interchanges, and the various succession and general predominance of the consonances in the sounds produced.

The practice of ringing bells in change is said to be peculiar to this country, which for this reason is called the ringing island; but the antiquity of it is not easily ascertained. There are in London several societies of ringers, particularly one known by the name of the College Youths. Mersennus has said nothing of the ringing of bells in changes; and Kircher has only calculated the possible combinations arising from a given number. See ALTERNATIONS.

In England, the practice of ringing is reduced to a science; and peals have been composed, which bear the names of the inventors. Some of the most celebrated peals now known were composed about fifty years ago, by Mr. Patrick, so well known as the maker of barometers.

For the method of ringing in the Low Countries, see CARILLONS.

RISOLUTIONE, Ital. in Music, the resolution of a discord. See DISCORD, and PREPARATION.
RISOLUTO, Ital. resolved solution, as of a close canon by putting it in score, or by signs.

RISPONDATE, or RISPONDE, Ital. an answer, whether in a dialogue or to a regular fugue. For the bringing in the answer to a fugue agreeable to the rigid laws established by the fathers of the science, the old ecclesiastical composers, there are many rules to be observed. See FUGUE.

RISVIGLIATO, Ital. in Music, when applied to a gay and lively movement succeeding one that is sorrowful, implies vivacity and spirit.

RITARDATO, and RITARDANO, Ital. in Music, is relaxing the measure; better expressed now by rallentando, which see.

RITORNELLO, or REFRET, in Music, the burden of a song, or a repetition of the first or other verses of the song, at the end of each stanza or couplet.

The word is Italian, and signifies properly a little return, or a short repetition, such as that of an echo, or of the last words of a song; especially when the repetition is made after a voice, by one or more instruments. But custom has extended the use of the word to all symphonies, played before the voices begin, and which serve by way of prelude or introduction to what follows.

In the partitions or score of the Italian music, we frequently find the ritornellos signified by the words si suona, to shew that the organ, harpsichord, pianoforte, or the like, are to repeat what the voice has been singing.

In accompanied recitatives, the ritornels, or interstitional symphonies, are not repetitions of vocal passages; but are often beautiful and picturesque periods of symphony, expressive of the sentiments and situation of the singer.

RITROGRADO, Ital. in Music. See RETROGRADO.

RIVOGLIOMENTO, Ital in Music, changing the place of the parts of a composition. It is placing the treble or other upper part in the tenor or base, and vice versá. This frequently happens in double counterpoint, when the treble serves for the base, or the base for the treble and in such a manner, as that the harmony, though different, shall remain equally correct and pleasing as in the first arrangement of the arts.

RIVOLTARE, Ital. in Music, to reverse; whence, RIVOLTATO, reversed. See ROVERSCIO.

ROBES to Minstrels. Innumerable bands of tumblers, buffoons, rope-dancers, musicians, players on instruments, and actors, were formerly retained in the courts of princes, who, by their gambols, farces, sports, and songs, diverted the company. These were called in Tuscany Giulare and Giocolari, and, by those who mentioned them in Latin, Joculares and Joculatores. These fabricators of amusement never departed without being well rewarded. But what appears the most extraordinary and different from our present customs is, that the costly and gorgeous robes, which it was usual for princes to receive from other great personages who visited their courts at feasts, or upon their marriage, as marks of their friendship and respect, were bestowed on these people. Benvenuto Aliprando, an old rustic poet, in his Chronicle, describes a marriage at the great court of Mantua, in the year 1340, while under the dominion of the Gonzaga family. “At that time,” says he, “the different princes and nobles of Italy whose names he mentions, presented the Gonzaghi with a variety of rich and precious vestments, which were called robe, robes, and which were afterwards given to musicians and buffoons,” as the old poet informs us in the following lines:

“Tutte le robe sopra nominate,
Furon in tutto trent’ otto e trecento,
A buffoni e sonatori donate.”

The family of Gonzaga, in return, reciprocally exercised munificence towards the nobles who visited them, as the same old poet informs us in the following rude verses:

“Otto giorno la corte si durare
Tornieri, giostri, bagordi facia,
Bellar, cantar’, e sonar facean fare,
Quattro cento sonator si dici,
Con buffoni alla corte si trovoe,
Roba e danar donar lor si facia.
Ciascun molto contento si chiamoet, &c.”

“Eight days these sports were held, where valiant knights...
In tilts and tournaments their prowess show,
And minstrels, full four hundred, crown the rites,
While dance and song teach ev'ry heart to glow
To these and each buffoon who here was found,
Or gold was given, or robes of costly sort;
And all, so well their spritely arts were crown'd,
Depart contented from the splendid court.”

With what magnificence the princes of the house
Visconti supported their court at Milan, during the
same century, is frequently described by Corio the
historian; but he particularly excites our wonder by
his account of the solemn pomp with which the nup-
tials of Lionel, duke of Clarence, son of Edward III.
king of England, was celebrated in 1368, with Vi-
olante, the daughter of Galeazzo Visconti, duke of
Milan. This event is circumstantially related by sev-
eral other ancient historians of Italy; and Aliprando
of Mantua tells us, that Lionel gave five hundred su-
perb dresses to the minstrels, musicians, and buf-
foons, who were then assembled at Milan; that
Galeazzo presented them with many more; and
Bernabo, his brother, rewarded them munificently
with money on the occasion.

The splendid robes and gorgeous attire of bards
and minstrels at all times are upon record. The flow-
ing vest of Orpheus, in the triple capacity of priest,
legislator, and musician, is specified by Virgil; Arion
is related by Herodotus to have leaped into the
sea, in the rich vestments he usually wore in
public; Suidas speaks of the saffron robe and
Milesian slippers worn by Antigenides; and the per-
formers in the tragic chorus, which used to be fur-
nished at the expense of some wealthy citizen of
Athens, wore also a splendid and costly uniform.
In France the jongleurs, and in Provence the
Troubadours, or minstrels, during the middle ages,
had frequent presents of costly robes from their pat-
rons. In the “Fabliau Conte” or Tale of the red Rose,
a female complains to a vavassor, or yeoman, of his
having taken from her a robe, to give to the minis-
trels.

“The custom of presenting musicians with superb
and expensive dresses during the 14th century, in
the manner already related, seems to have travelled
into England, and to have continued here till after
the establishment of the king’s band of four-and-
twenty performers; part of their present salary being
still paid at the wardrobe office, as an equivalent for
the annual dress with which they used to be fur-
nished at his majesty’s expense. To this we may add,
that the waits, or musicians who attend on the mayor
and aldermen, in most of our incorporate cities and
towns, are furnished with splendid cloaks.

ROLLE, Fr. a part in Music and Dramatic Works.
The French have a distinct term in music for a vocal
and instrumental part in an opera or concert. The
singer’s or the actor’s part in an opera or play, is
equally termed rolle; in a concert or opera each in-
strumental part is called partie. We make no distinc-
tion, in England, between a vocal or instrumental
part in an opera or concert; each is called part: as the
part of Hamlet, in a play, of Mandane, in an opera;
the first violin, tenor, or violoncello part needs no
other distinction than the name of the character, or
instrument.

ROMAN Ecclesiastical Singing and Music, during
the middle ages. These were in such general favour
throughout Europe, that it was the custom, during
the times of the greatest musical and mental dark-
ness, when reason, and reflection were the least cul-
tivated, for the priests, of almost every part of
Europe, to visit Rome, in order to learn canto fermo,
and the manner of performing those rites of the
church, in which music had any concern. Even those
historians who are the least friends to bigotry, and
the most ready to combat superstition and papal
usurpations, allow that it was only at the court of
Rome that the arts of elegance and refinement were at all cherished, during these times. King Pepin, Charlemagne, and Alfred, had applied to the Roman pontiffs, for singing-masters to instruct their subjects.

The learned Jusquin went thither as a singer, during the pontificate of Sixtus IV. And before the year 1600, are recorded, who were employed in the pontifical chapel. Yet all this proves nothing more than that musicians of great abilities, from whatever part of the world they came, were certain of encouragement there. For more facts to this purpose, see ITALY.

ROMAN Operas. In treating of the progress of the musical drama, in that ancient and renowned capital, during the former part of the 17th century, it does not appear that any regular theatre was opened there for the performance of operas; nor, indeed, can we discover that any secular musical drama was exhibited there till the year 1632, when, “Il Ritorno di Angelica nell' Indie, Drama Musicale,” is recorded by Leo Allacci, in his Drammaturgia, to have been performed in that city; but without informing us where, or by whom set to music or sung. Several musical dramas, however, were performed there at the palaces of ambassadors, and other great personages, between 1632 and 1661, when “Clearco,” set by Tenaglia, a Roman master, was performed. This composer, who had distinguished himself by his productions for the church, is celebrated by P. Della Valle among great Roman musicians in 1640.

The first public theatre, opened for the exhibition of musical dramas at Rome, in modern times, was il Torre di Nona, where “Giasone” was performed, 1671. No other theatre seems to have been used for this purpose in that city till 1679, when the opera of “Dov’ & Amore, è Pietà,” set by Bernardo Pasquini, the famous organist, was represented Nella Sala de’ Signori Capranica. This theatre still subsists.

Editorial note: It is not clear of Burney wrote the following article, but it is included as it discusses minstrelsy.

ROMANCE, anciently Romaunt, and Romant, a fabulous relation of certain intrigues and adventures in the way of love and gallantry, invented to entertain and instruct the readers.

M. Fontenelle calls romances poems in prose; and Bossu is not averse to their being admitted as poetical pieces, though not written in verse.

Setting aside the versification, it is certain an epic poem and a romance are almost the same thing. The just notion, therefore, of a romance is, that it is a discourse invented with art to please and improve the mind, and to form or mend the manners, by instructions, disguised under the allegory of an action, or series of actions, related in prose, in a delightful and probable, yet surprising manner.

A just romance consists of two parts: viz. a moral, as its foundation, and end; and a fable, or action, as the superstructure and means.

It must also have the manners; that is, the characters must be distinguished, and the manners must be necessary; and it must have all the other qualities of poetical manners.

The incidents must be delightful, and, to that end, rightly disposed and surprising. The sentiments fall under the same rules as in the drama.

But the diction is allowed to be more lofty and figurative; as being a narration, and not having terror or pity, but admiration for its end.

A romance of chivalry, according to the definition of a late writer, is any fabulous narration, in verse or prose, in which the principal characters are knights, conducting themselves, in their several situations and adventures, agreeably to the institutions and customs of chivalry.

As compositions of this kind have a long time been little else but histories of amorous adventures, and feats of knight-errantry, the origin of romances is referred to that of love-histories; and accordingly Dearchus, a disciple of Aristotle, who first wrote of those matters, is usually termed the original author of romances. Though Photius is of opinion, that Antonius Diogenes’s book on the errors and amours of Dinias and Dercyllis gave birth to most of the works of this kind. Be this as it will, it is certain the ancients have had their romances as well as we. Such are the amours of Rhodanis and Simonides, described in iambics; such is the romance of ‘Leucippe and Clitophon, composed by Achilles Tatius, a Greek writer, afterwards a bishop; such are the Four Books of Incredible Things, written by Damascius; such are the Ethiopics of Heliodorus, in which he relates the amours of Tileagenes and Charicle. Lastly, under the
same class may be ranked the Fables a Parthenius Nicenus, of Athenagoras, Theodorus Prodromus, Eusta-thius, and Longus.

Indeed antiquity could scarce be reconciled to such pieces, and always looked on them as abuses. Photius, in his Bibliotheca, cod. lxxvii. gives a frightful account of that of Tattius; and the Ethiopics of Heliodorus, though one of the most modest and most reserved pieces of the kind, met with a very severe treatment. The author was bishop of Tricca, in Thessalia, in the fourth century. Nicephorus tells us, that a synod, considering the danger which might accrue to youth from reading his romance, authorized as it was by the dignity of its author, proposed it to him, either to suppress his book, or renounce his bishopric; and that he chose the latter. But his history is a little doubtful.

Be this as it will, Heliodorus has served as a model to all the romances written since; and the marriage of Theagenes and Chariclea has produced a very numerous issue, even all the romances now extant in the world.

Mr. T. Warton, in his "Dissertation on the Origin of Romantic Fiction in Europe," prefixed to the "History of English Poetry," vol. i. is of opinion, that the peculiar and arbitrary species of fiction, which we call romantic, was entirely unknown to the writers of Greece and Rome; and it appears to have been imported into Europe by a people, whose modes of thinking, and habits of invention, are not natural to that country. Whatever their origin, which will be a subject of inquiry in the sequel of this article, it must be allowed that the ancient metrical romances were very early superseded by prose works upon the same subjects. These last, although far inferior, in interest and merit, to the poetical tales which preceded them, claimed and obtained a superior degree of credit, founded upon the fiction alleged to be inseparable from metre; upon the degraded state of the minstrels, whose province it was to recite these disparaged rhyming legends; and, above all, upon a grave pretext set up by the author of each prose work, that he had translated it verbatim et literatim from an ancient Greek or Latin original. As no such Greek or Latin original for a romance of chivalry has ever been produced, we may be safely allowed to doubt whether any such ever existed. But our ancestors received these accounts with unhesitating credulity, and gravely read the voluminous romances of Lancelot du Lac, and Palmerin of England, as translations from ancient annals, while they rejected with scorn the rhyming legends of the minstrels on the same subjects. Thus the metrical romances were obliged to give way to the prose works, which were, in fact, borrowed from them; and so complete was the substitution of the one species of fable for the other, that the press, which was then invented about the period of this revolution in public taste, groaned under the splendid folios of the former, while the latter remained in obscure manuscripts, or were only printed in the meanest manner, and for the meanest of the people. Thus the very existence of the metrical romance, as a distinct, separate, and more ancient kind of composition, was unknown and unnoticed till the publication of the works of some modern writers.

Bishop Percy, the venerable editor of the "Reliques of Ancient Poetry" seems to have been the first person in our country who directed the public attention to this subject, by an "Essay upon Metrical Romance," prefixed to the third volume of his work, in which the merits and qualities of the poetry and chivalry are critically investigated, and a list given of such metrical romances as had the learned prelate was followed by Mr. T. Warton; and not to mention the collectors and publishers of some of the shorter and more ancient of our metrical tales of chivalry, both in London and Edinburgh, the first comprehensive and general work upon this interesting subject was undertaken by Mr. Ritson, which was soon succeeded by the more popular and elegant performance of Mr. George Ellis, entitled "Specimens of early English Metrical Romances, chiefly written during the early Part of the 14th Century: to which is prefixed a historical Introduction, intended to illustrate the Rise and Progress of Romantic Composition in France and England." Mr. Ritson’s work is a selection of "Ancient English Metrical Romances," containing twelve metrical romances of chivalry; to which is prefixed a long and elaborate dissertation on Romance and Minstrelsy.

In imitation of the archbishop Turpinus, who passed for author of the romance of the Feasts of Charlemagne and Orlando, a great number of histories, of the like kind, were written in France, during the time of Philip the Fair; the authors of which...
seemed to improve on each other, contending who should go farthest in the merveilleux. These books, being intended for polite people, were written in the court language of that age, which was called the romans, roman, or romantic; whence the books themselves were called by those names: and thus, by degrees, roman, &c. became the general name of all books of this kind; whence, at length, our romance.

To this purpose, Crescimbeni, reciting the several opinions respecting the name romanza, derives it from the word Roma, and tells us, that it means that vulgar idiom which, with colonies of Romans, passed into Provence, and elsewhere, and was esteemed, even by the barbarians who inhabited those kingdoms, and called Romano and Romanza; and in this they wrote the acts and achievements of knights; which writings were, therefore, styled romanzi, or romances.

Others derive the word from the Spanish romansero, I invent; as intimating romances to be mere fictions. And hence it is that the ancient poets of Provence, who were the first great dealers in romances, are called troubadours, q. d. finders, or inventors.

Crescinabeni remarks, that the Italians derived from Provence, not only the origin and art of writing romances, but also the very subjects on which they were founded; and though it is not precisely known who were the romance writers of Provence, yet many of their romances are found in the Italian libraries; and, indeed, from such a source of poetical fiction as the county of Provence appears to have been, nothing less could be expected than a vast profusion of romances, and other works of invention. See PROVENÇAL poets, and also minstrels, with whose history that of romances, of which they were the composers, is nearly connected.

It has been a received opinion amongst modern critics, that the fictions of romance, borrowed from the Arabians, were communicated to the Western world by means of the Crusades. Mr. Warton (ubi supra) is of opinion, that although these expeditions greatly contributed to propagate this mode of tabling in Europe, they were introduced at a much earlier period by the Saracens, or Arabians, who came from the northern coasts of Africa, and settled in Spain, about the beginning of the eighth century. From Spain, he imagines, they found an easy passage into France and Italy; and the close connexion which subsisted for many centuries between the Welsh and their colonists, the Armoricans, might have been the means of bringing them from France into this island. (see ARMORICA.) A strict intimacy also subsisted between Cornwall and Wales; and hence we are able to account for Cornwall’s being made the scene and the subject of so many romantic adventures in the French romances. Their language, customs, and alliances were the same; and by British writers, Cornwall, separated from Wales only by a strait of inconsiderable breadth, is frequently styled West Wales. At the invasion of the Saxons, both countries became indiscriminately the receptacle of the fugitive Britons. We find the Welsh and Cornish, as one people, often uniting themselves as in a national cause against the Saxons. They were frequently subject to the same prince, who sometimes resided in Wales, and sometimes in Cornwall; and the kings or dukes of Cornwall were perpetually celebrated in song by the Welsh bards. Traditions about the Arthur and Charlemagne, according to Warton, are the first and original heroes of romance. And as Geoffroy’s history is the grand repository of the acts of Arthur, so a fabulous history, ascribed to Turpin above-mentioned, is the ground-work of all the chimerical legends which have been related concerning the conquests of Charlemagne, and his twelve peers. Its subject is the expulsion of the Saracens from Spain; and it is filled with fictions evidently congenial with those which characterize Geoffroy’s history. Some have supposed this romance to have been written by Turpin, a monk of the eighth century, who for his learning, sanctity, and gallant exploits against the Saracens of Spain, was preferred by Charlemagne to the archbishopric of Rheims. Others suppose it to have been forged under archbishop Turpin’s name, about that time; others, very soon after-wards, in the reign of Charles the Bald, that is, about the year 870. Historical evidence curcurs with numerous internal arguments to prove, that it must have been compiled after the crusades, or about the year 1110. In the two fabulous chron-
cles now mentioned, the foundations of romance seem, in Mr. Warton's opinion, to be laid. The principal characters, the leading subjects, and the fundamental features, which have supplied such ample matter to this singular species of composition, are here first displayed. And although the long continuance of the crusades imported innumerable inventions of a similar complexion, and substituted the achievements of new champions, and the wonders of other countries; yet the tales of Arthur and Charlemagne, diversified indeed, or enlarged with additional embellishments, still continued to prevail, and to be the favourite topics. Upon the whole Mr. Warton concludes, that these volumes are the first specimens extant in this mode of writing; but he considers the Saracens, either at their immigration into Spain, about the ninth century, or at the time of the crusades, as the first authors of romantic fiction among the Europeans.

In examining the hypothesis of Dr. Percy and Mr. Mallet, who derive these fictions, in a lineal descent, from the ancient historical songs of the Gothic bards and scalds, he allows this opinion to be in some measure well founded, and that so far it is also reconcilable with his own system.

The scaldic inventions, he says, had undoubtedly taken deep root in Europe, and prepared the way for the more easy admission of the Arabian fabling, about the ninth century, by which they were, however, in a great measure superseded. As a proof of which he observes, that the enchantments of the Runic poetry are very different from those in our romances of chivalry. The former chiefly deals in spells and charms, such as would preserve from poisons, blunt the weapons of an enemy, procure victory, al- lay a tempest, cure bodily diseases, or call the dead from their tombs, in uttering a form of mysterious words, or inscribing Runic characters. The magicians of romance are chiefly employed in forming and conducting a train of deceptions. There is an air of barbaric horror in the incantations of the scaldic fablers: the magicians of romance often present visions of pleasure and delight: and although, not without their alarming terrors, sometimes lead us through flowery forests, and raise up palaces glittering with gold and precious stones. The Runic magic is more like that of Canidia in Horace, the romantic resembles that of Armida in Tasso. The operations of the one are frequently but mere tricks, in comparison of that sublime solemnity of necromantic machinery which the other so awfully displays.

He adds, it is also remarkable, that in the earlier scaldic odes we find but few dragons, giants, and fairies. These were introduced afterwards, and are the progeny of Arabian fancy. Nor, indeed, do these imaginary beings often occur in any of the compositions which preceded the introduction of that species of fabling.

That the ideas of chivalry, the appendage and the substance of romance, subsisted among the Goths, our author readily allows, but not without certain limitations. It was under the feudal establishments, which were soon afterwards erected in Europe, that it received new vigour, and was invested with the formalities of a regular institution.

From the whole of his observations, the author deduces the following general conclusion.

Amid the gloom of superstition, in an age of the grossest ignorance and credulity, a taste for the wonders of oriental fiction was introduced by the Arabians into Europe, many countries of which were already seasoned to a reception of its extravagancies by means of the poetry of the Gothic scalds, who, perhaps, originally derived their ideas from the same fruitful region of invention. These fictions, coinciding with the reigning manners, and perpetually kept up and improved in the tales of troubadours and minstrels, seemed to have centered, about the eleventh century, in the ideal histories of Turpin and Geoffroy of Monmouth, which record the supposititious achievements of Charlemagne and king Arthur, where they formed the ground-work of that species of fabulous narrative called romance. And from these beginnings, or causes, afterwards enlarged and enriched by kindred fancies, fetched from the crusades, that singular and capricious mode of imagination arose, which at length composed the marvellous machineries of the more sublime Italian poets, and their disciple Spenser.

Hearne imagines, that the old metrical romance, call-ed "Richard of Lyon," was written by Robert de Brunne. It is probable, however, that the leisure of monastic life produced many rymers, nor is it at all unlikely, but that the monks often wrote for the minstrels, and that many of our ancient tales.
in verse, containing fictitious adventures, were written, although not invented, in the religious houses. The romantic history of "Guy earl of Warwick" is expressly said, on good authority, to have been written by Walter of Exeter, a Franciscan friar of Carocus in Cornwall, about the year 1292. (Carew’s Survey of Cornwall, p. 59.) The libraries of the monasteries were full of romances. Among the many French minstrels invited into England by Richard I., it is natural to suppose that some of them made their magnificient and heroic patron a principal subject of their compositions. We have a romance now remaining in English rhyme (which we have just mentioned) that celebrates the achievements of this illustrious monarch. It is called "Richard, &c." and was probably translated from the French about this period. That this romance, either in French or English, existed before the year 1300, is evident from its being cited by Robert of Gloucester, in his relation of Richard’s reign, and also by Robert de Brunne, who wrote much about the same time with Robert of Gloucester; and hence we may infer that Hearne must be mistaken in supposing that he was the author of it.

The French, above all other nations, have applied themselves to this kind of writing; whether it be owing to the natural taste and genius of the people, or to the freedom, &c. with which they converse with the women. They appear to have written metrical romances before or about the year 1200. Some of these seem to have been formed from prose histories, enlarged and improved with new adventures and embellishments from earlier and more simple tales in verse on the same subject. They began chiefly with romances of chivalry; hence their Amadis, in twenty-four volumes; Palmerin d’Oliva; and of England, king Arthur, &c. of which we have an agreeable critique in Don Quixote.

Chrestien of Troyes wrote "Le Romans du Graal," or the adventures of Sangrale, which included the deeds of king Arthur, sir Tristram, Lancelot du Lake, and the rest of the knights of the round table, before 1191. Chrestien also wrote the romance of "Sir Percival," and left unfinished "La Charette," containing the adventures of Launcelot. The first French writers of romance were the Troubadours, which see.

The later romances are much more polite; the best of which are the Astrea of d’Urfe; the Cyrus and Clelie of Mademoiselle de Scuderi; the Cassandre and Cleopatre of La Calprenede; Ariane, Francion; and the Adventures of Telemachus, by the late arch-bishop of Cambry, worth all the rest.

The Germans, too, have their romances; especially Hercules and Herculiscus, the Aramena, Octavia, Arminius, Otbert, &c.

The Italians have their Eromena, by Biondi; the works of Loredano, Marino, &c. The Spaniards, who, from their temper and constitution, were extravagantly fond of chivalrous exercises, had their Amadis of Gaul, their Diana, and Don Quixote. Some critics have even supposed, that Spain, having learned the art of romance-writing from their naturalized guests the Arabians, communicated it at an early period to the rest of Europe. The English, their Arcadia, &c. And in modern times, the number has been so great, that our circulating libraries are full of them.

The Argenis of Barclay is rather a satire than a romance.

Although we owe to the Norman minstrels the greater part of the romances now extant, which were avowedly translated into English, as soon as that language superseded the French; yet some few were most probably originally composed in English for the use of the Scottish court, where French was never exclusively spoken, and afterwards imitated or translated by French minstrels. Hence it is curious to observe, that as the earliest French romances were written in England, so the earliest English romances were composed in Scotland.

Mr. Ellis makes an arrangement of romances into classes introducing each with appropriate remarks. The first class comprehends romances relating to king Arthur; which were probably the earliest in order, and were most popular and numerous. The next class included what he has ventured to call Saxon romances, that is, romances referring to Saxon subjects, and claiming, perhaps, some foundation in the history of that people. Guy of Warwick and Bevis of Hamptoun occupy this station entirely. These two, notwithstanding their demerits, equalled, or excelled in popularity, almost all the romances of the middle ages. The next is entitled an Anglo-Norman romance, and recites the adventures of no less a person than Richard Cœur de Lion. The next class of romances comprehend such as relate to Charlemagne
and his Paladins. Under this head Mr. Ellis has enumerated three, viz. Roland and Ferragus, Sir Ottuel, and Sir Ferumbras. The next romance is of oriental origin, being the earliest tradition of the Seven Wise Masters, long known among the school-boys of this country. To this he has added ten miscellaneous romances, which we must content ourselves to pass over without mentioning their names. The importance of the ancient metrical romances in an historical point of view must be acknowledged. They hold out to us, like Shakspeare’s plays, the abstract and brief chronicles of the time, and demand the consideration of every historian. Even in a literary point of view, their merit is not contemptible. It is true, the story is generally rambling and desultory, utterly incapable consequently of exciting the pleasure arising from a well-conducted plan, all the parts of which depend upon each other, and tend, each in due degree, to bring on the catastrophe. So far is this from being the case, that in a long romance, the adventures usually are all separated and insulated; only connected with each other, by their having happened to the same hero; just as a necklace of beads is combined by the thread on which they are strung. This arrangement, in fact, best suited the reciters, whose narration was to be proportioned to the time and patience of their audience; and whom this loose structure of story permitted to use freedom of compression or dilatation as best suited their purpose, since any single adventure might be inserted without impropriety, or left out without being missed. The same cause accounts for the loose and often tedious style in which the minstrels indulged. It was of consequence that their stanza should be so simple, as to be easily recollected, and their diction so copious, as not to suffer by any occasional deficiency of memory. For these reasons, Robert de Brunne tells us, that the common minstrels were unable to repeat tales written in a concise style and complicated stanza, and that such became naught in their imperfect recitation. To these faults, we have often to add those of extreme awkwardness of contrivance and improbability of incident; but which neither offended the taste, nor shocked the faith of our plain and hardy ancestors. On the other hand, there is a sort of keeping in these ancient tales, which did not depend upon the minstrel’s inclination, and from which he could not have departed, if he had a mind to do so. This arises from his painting the manners of his own time, as they passed before his eyes, and thus giving a truth and unity to the chivalrous events he relates, which the modern labourers in the vineyard of romance are utterly unable to imitate. With all the pains these last can use to deck their champions in the antique taste, they are perpetually confounding the past time with the present, and are guilty of anachronisms almost as gross as his who introduced a tea-table scene into the history of John of Gaunt. Neither is the language in which these legends are told altogether unworthy of our applause. There often occur passages, which, from the spirit of the poet rising with the situation, may justly claim a rank among the higher and more masculine orders of poetry. And although, as we have already noticed, the general conduct of the story is desultory and slightly put together, yet many of the individual adventures, of which each long romance is composed, are happily conceived and artfully executed. The gloom of superstition likewise added a wild and dismal effect to the wonders of the minstrel; and occasionally his description of supernatural events amounts nearly to sublimity. See Warton, Ritson, Ellis, ubi supra, and Edinb. Review, N° XIV.

RONDE, Fr., in Music, a semibreve. See TIME-TABLE, and Musical CHARACTERS.

RONDE de Table, Fr., a kind of chanson à boire, or drinking song, with a refrain, or burden to it, and generally mixed with sentiments of gallantry, composed of different stanzas, which are-sung by turns at table, and in which all the guests join chorus in the refrain.

RONDEAU, Fr., an air of two or more strains, always returning to, and finishing with the first. In order to do this in an artful, pleasing manner, the modulation should pass into some key relative to that of the first strain.

Rousseau has very justly censured the writing and setting vocal rondeaus, in which the thought is begun in one strain, and continued or ended in another; or begins with a simile, of which the application is made in the second strain.

The term rondeau, derived from rondel, is of great antiquity in France. In old English it was called a roundelay.
But Rousseau, after pointing out poetical and musical defects in the composition of rondeaux, indicates the means of avoiding both. “Whenever a sentiment, expressed in the first strain, suggests a reflexion which confirms and enforces it in the second; whenever a description of the singer’s state of mind is the subject of the first strain, and illustrates a simile in the second; whenever an affirmation in the first strain, contains its proof and confirmation in the second; every time, in short, that the first strain contains a proposition to perform some action, and a reason for it is given in the second; in these, and similar cases, a rondeau will be always well placed.”

ROSALIA, in Music. See REPETITIONS.

ROSALIND, a mask, written by Lockman, set by Smith for Hickford’s rooms, and performed there in still life, oratorio wise, in 1740. This little drama would not be mentioned here, as the poetry is upon a level with Mr. Lockman’s other productions; and of the music we know nothing, as it was never published. But as, “to raise the pamphlet price a shilling,” the poetry is preceded by “inquiries into the origin of operas.”

ROSAMOND, an English opera, written by Addison on the Italian model. After the great success of Arsinoe and Camilla in 1705 and 1706, in which the dialogue was wholly spoken in recitative, and the performers all English singers; in 1707, notwithstanding the deficiencies of those dramas in poetry, music, and performance (for as yet no foreign composer or captivating singer was arrived) this kind of exhibition became so formidable to our own actors, that a subscription was opened the beginning of this year, “for the encouragement of the comedians acting in the Haymarket, and to enable them to keep the diversion of plays under a separate interest from operas.” Daily Courant, January 14th, Cibber gives a circumstantial account of this humiliating transaction, and speaks of its success with considerable triumph. See CLAYTON.

The verses of Rosamond are highly polished, and more lyrical perhaps than in any poem of the same kind in our language. And yet this drama is not wholly free from opera absurdities, on which Addison was afterwards so severely pleasant. For instance, the king’s approach to the secret bower of bliss, where his fair Rosamond was treasured up from the resentment of his jealous queen, is always announced and published by a loud concert of military instruments: Act i. sc. 1.

“Hark, hark! what sound invades my ear? The conqueror’s approach I hear. He comes, victorious Henry comes! Hautbois, trumpets, fifes, and drums, In dreadful concert join’d, Send from afar the sound of war, And fill with horror ev’ry wind.”

It was the fashion in almost all the serious operas that were written in Italy, before the time of Apostolo Zeno and Metastasio, to mix comic and buffoon characters with the tragic, even in dramma sacri, notwithstanding the severity of some Italian critics upon our Shakspere for the same practice.

And Mr. Addison has, fully complied with this custom, in the characters of Sir Trusty and Grideline, which are of the lowest species of comic.

If it can be proved that gunpowder was invented, and in military use in the time of Henry II. Mr. Addison was guilty of an anachronism in making him ask,

“Why did I not in battle fall Crush’d by the thunder of the Gaul?”

The loss of Rosamond in the second act of this drama is not compensated by a single interesting event in the third, which drags and languishes for want of her so much, that neither the flat and forced humour of sir Trusty and Grideline, nor the elegant compliments made to the duke of Mariborough and Blenheim, ever kept the audience awake in the performance.

In 1733, Rosamond was set by Mr. (afterwards Dr.) Arne, his first attempt at dramatic music, in the performance of which his sister, Miss Arne, afterwards the justly celebrated actress Mrs. Cibber, performed the part of Rosamond. The airs in this coup d’essai of Arne, were extremely pleasing, and far superior to those of any English composer of that period. Many of them were afterwards sung at Vauxhall by Mrs. Arne and Low with great applause. “Was ever Nymph like Rosamond,” was long in universal favour all over the kingdom.

ROULADE, Fr. in Music, a division or passage in a song of many notes to one syllable. (See Division and NEUME) A roulade is only an imitation of in-
strumental melody, either to grace a treble part, render an image more obvious, enforce the expression, or, when it is necessary, to suspend the discourse and prolong the melody. But it is likewise necessary that it should be on a long syllable, that the voice should be spirited, active, and capable of allowing the throat full liberty to warble and express with facility and neatness the notes of the division, without fatiguing the organs of the singer, and consequently the ears of the audience. Rousseau.

The vowels most proper for these flights are a, o, and e, open. The i and u are not sonorous, but distort the mouth: the diphthongs still more. (Rousseau is here considering the vocal properties of the French alphabet.) As to the nasal vowels or syllables, they should never be employed in roulades. The Italian language, in which the a and o abound, is more fit for inflexions of voice than the French; and these vowels are not spared by Italian composers, but brought into action as frequently as possible. On the contrary, the French, obliged to compose almost all their melodies to syllables instead of vowels, on account of their defects, are constrained to give the notes a slow and heavy motion, or to admit a clash of consonants in accelerating syllables; which necessarily renders the melody languid or harsh. And we join with the citizen of Geneva in confessing, that we trow French vocal music can never surmount these inconveniencies. "

It is a vulgar prejudice to imagine, that divisions are improper in plaintive and pathetic airs; on the contrary, when the heart is moved and affected to an uncommon degree, the voice more easily finds accents of passion, than the mind can furnish words, and thence arise interjections in all languages. (See Neume.) It is equally erroneous to imagine that a division is always proper, whenever a favourable vowel or syllable occurs, without considering the situation of the singer, and whether the sentiment, which he ought to express, authorizes it. "

Roulades are of modern invention. It does not appear that the ancients ever admitted them in their music, or ever gave them more than two notes to a syllable. And this constitutes the difference between the two musics; one of which was subservient to the language, to which the other gives the law."

These reflections are admirable, deep, comprehensive, and convincing; yet, since they occurred to the penetrating author, more changes and refinements have happened in lyric poetry and singing, which make it necessary to extend this article, in order to keep pace with the times.

Till about the middle of the last century, many Italian composers gave divisions to a, e, and o, indiscriminately; all Farinelli’s divisions are confined to the vowel a. (See a collection of them in Burney’s Hist. Mus. vol. iv.) Even the vowel o closes the lips and teeth more than the Italian a, on which account, we suppose, it has been wholly refused divisions or roulades in its vocal music. See Language, Euphony of, where this subject has been fully discussed.

ROUND, in Music. A round in catch books is sometimes called a canon in the unison, and sometimes, but erroneously, a catch: but it is distinct from both, being no more than a song of as many strains or sections, as parts; which, instead of being begun together, are performed after each other, always singing different words and different notes in harmony with the rest; till a signal is given, by holding up the hand, for finishing upon the perfect chord of the key note, where the author has placed this final mark, ♫

Round is also used in music to denote a species of fugue. See Roundelay.

Roundelay, or Roundo, a kind of ancient poem, thus called, according to Menage, from its form; and because it still turns back again to the first verse, and thus goes round.

The word is formed from round and lay. The French call it rondeau; the Spaniards gloses.

The common roundelay consists of thirteen verses, eight of which are of one rhyme, and five in another. It is divided into couplets; at the end of the second and third of which, the beginning of the roundelay is repeated; and that, if possible, in an equivocal or punning sense.

The roundelay is a popular poem among the French, but little known among us. Marot and Voiture have succeeded the best in it.

Rapin observes, that if the roundelay be not very exquisite, it is intolerably bad. In all the ancient roundelay, Menage observes, that the verse preceding has a complete sense, and yet joins agreeable with that of the close; without depending necessarily on it. This rule, well observed, makes the round-
elay more ingenious, and is one of the finesses of the poem.

Some of the ancient writers speak of the roundelay, or roundel, as a kind of air appropriated to dancing; and in this sense the term seems to indicate little more than dancing in a circle, with the hands joined. See RONDEAU.

RUSSIAN MUSIC

Editorial Note: This passage appears in the middle of a long article about Russia by William Tooke, (Vol 30, gathering 5C2, column 1), so perhaps it is not by Burney.

Their music is more usually vocal than instrumental. Their songs are simple recitations, ancient or modern, on the subjects of love, nature, and tales of chivalry, giants, and heroes, frequently lewd; and their melodies are uniform and monotonous, but sometimes sufficiently pleasing. The little groups of girls, sitting together in an evening and singing, afford much amusement. The most complete vocal music is that which is heard in their churches, on Sundays and holidays; which, as the church allows of no instrumental music in divine worship, is performed by singers expressly taught and mostly brought from the Ukraine. The substance is Slavonian poetry; the notes are expressed by points, after the very old fashion, for four voices. The present choral music is mostly by motette. The most common instrument of the nation is the Cow horn, which is a kind of cornet, of from one to four feet in length, made of wood or tree-bark. For a description of the balalaika, see BALALAIKA. The gudak is a miserable violin with three strings: the dutka consists of two parallel reed-pipes, each with three holes, differing in their notes up to an octave, so that the hearer conceives that two ale played on it. The rilek is a common village lyre; and the valinka a diminutive pair of bagpipes. The gussi is a horizontal harp with wires, played on with the fingers, and capable of any kind of music: it is a pleasing instrument and much used; and, so is likewise the cornet among sailors and boatmen: the sailors also make a kind of jingling noise with two bunches of little bells, keeping time with their music. Dancing is a diversion to which the Russians are very much devoted; and they are no less attached to gymnastic pastimes.

RUSSIAN MUSIC, in the Church. See GREEK Church.

RUSSIAN Secular Music. The only instruments known in Russia till the time of Peter the Great, were such as the peasants still use in the provinces, which are described in the Gotha Almanac, and in Guthrie's Dissertations, with drawings. Peter had at first only such military instruments as he had seen in Germany. But the first good music that was heard in Russia, was brought thither by duke Charles Frederick of Holstein-Gottorp, at Petersburg. This prince, destined to marry the princess Anne Petrowna, daughter of Peter, had a complete band, or chapel, as the Germans call it, in his suite, composed of twelve good German musicians; the concerts by this band were new and acceptable to all the great Russian nobility, who had never heard any other music than that of the natives, which was coarse and barbarous. The emperor himself used to frequent these concerts, and established two regular performances in his palace each week, employing the German musicians to teach the boys about the court, and in the army.

All the successors of Peter have followed his example as a model in this instance, as in all others.

The empress Anne, the niece and successor of the great Peter in 1730, who died in 1740, early in her reign first regaled Petersburg with an Italian opera composed by Araja, a native of Italy, of some eminence, whom she appointed her maestro di cappella; and who likewise composed intermezzi to Italian words, and in the musical style of his country. Concerts twice a-week, which had been established at court, have been continued ever since. All the grandees of Russia imitated this example, had private concerts in their mansions, and many of them became dilettante performers themselves in a high form of excellence.

The empress Elizabeth, daughter of Peter, began her reign in 1741, by a revolution which set aside the czar Ivan as incapable of reigning. She had been affianced, in 1747, to the duke of Holstein-Gottorp; but that prince dying before the marriage took place, she passed the rest of her days in a single state. This princess, on whom nature had bestowed a nice discriminating ear, with a passion for music and all the fine arts, by her patronage caused them to flourish in her dominions, in a way superior to most of the
other states of Europe. She built an opera-house at Moscow, capable of containing 5000 people. At her coronation, “La Clemenza di Tito,” written by Metastasio, and set by Hasse, was performed by the best Italian singers of the time; and a prologue to this drama, entitled “La Russia afflita e consolata,” was set by Araja, maestro di cappella to the court of Petersburg. Soon after this, Petersburg first heard an opera in the Slavonian language, set likewise by Araja.

Such was the progress which music had made in Russia, when Peter Federowitz, consort to the empress Catharine, was called to the throne as presumptive heir. The passion which this prince had for music contributed considerably to its further advancement into favour in his dominions. He performed himself on the violin sufficiently to bear a part in a symphony. If he now and then played a wrong note, or missed a difficult passage, the Italian musicians were too polite to notice it; on the contrary, they persuaded his imperial majesty that he had a particular talent for music, and that his performance on the violin was perfect. Music became his favourite, and almost sole amusement, even to a degree of enthusiasm. He became also a great connoisseur in violins; and, in a short time, purchased a great collection of those made by the most celebrated artists, particularly those of Cremona, by Amati, Straduarius, Guarnerio, &c. and by Steiner and Albani, Germans. He was never more happy than when at the head of his band in his concerts. He intended assembling at his court all the great musicians in Europe, and he would doubtless have succeeded, if his reign had been more durable; but aiming at more important revolutions in his state (which, happily for his country, were stopt), a termination was put at once to his musical and political projects.

Catharine II. mounted the throne, attended not only by all the sciences and fine arts, but by the genius of legislators and victory. The state, the church, public order, industry, commerce, maritime force, and the state of her army, had her first attention.

After having provided for the safety and power of her empire, she attended to its embellishment by means of the fine arts; and erected a temple to painting, sculpture, architecture, and formed an imperial academy of sciences and beaux arts at Petersburg.

After this latter establishment, which has since become so illustrious, she turned her thoughts to music, and called to her court from Venice the celebrated Baldassar Galuppi, detto il Buranello, the most fertile and spirited composer of his time. His “Didone abbandonata,” in which the Gabrielle performed the part of Dido, had such prodigious success, that, after the first representation, the empress, with her own hands, presented the composer with a magnificent box filled with pieces of gold: telling him that “the unfortunate Dido, when she expired, bequeathed it as a legacy to the illustrious Buranello.”

Those who recollect the turn which this princess gave to her munificence in the purchase of Diderot’s library, will be less surprised at her liberality to Buranello. Diderot, in his latter years, being constrained to offer his library to sale, unsuccessfully, to the principal sovereigns in Europe, in order to enable him to educate his only daughter, when his wish was communicated to the empress Catharine, she said, “she would willingly purchase his library of him at his own price, upon condition that he would be so obliging as to take care of it as long as he lived; and in order to improve it, and to keep pace with the times, she hoped that he would take the trouble to lay out for her 2000 rubles a-year in the purchase of new books.”

Buranello was succeeded at Petersburg by Traetta, an excellent composer; and the compositions of these great masters, sung by the finest voices of Italy, and accompanied by the best instrumental performers with which the orchestra could be supplied, together with the taste and magnificence of the decorations, and the splendour of the dances, rendered the opera at Petersburg the most brilliant and renowned spectacle in Europe.

When the empress and her son, the grand duke, had so happily recovered of the small pox, by the inoculation of baron Dimsdale, the agreeable French comic opera of “Annette and Lubin” was performed by the principal nobility of the court; however, too good a taste in singing and in dramatic music was formed at Petersburg now, for the vocal performers of France to captivate much, even with the composi-
SACBUT, SAQUEBUTE, a musical instrument of the wind kind; being a kind of trumpet, though different from the common trumpet both in form and size.

The sacbut is very fit for playing bass; and is contrived so as to be drawn out or shortened, according to the gravity or acuteness of the tones. The Italians call it trombone, the Latins tuba ductilis.

It takes asunder into four pieces, or branches; and hath frequently a wreath in the middle; which is the same tube only twisted twice, or making two circles in the middle of the instrument; by which means, it is brought down one-fourth lower than its natural tone. It has also two pieces or branches on the inside, which do not appear, except when drawn out by means of an iron bar, and which lengthen it to the degree requisite to hit the tone required.

The sacbut is usually eight feet long, without being drawn out, or without reckoning the circles. When extended to its full length, it is usually fifteen feet. The wreath is two feet nine inches in circumference. It serves as bass in all concerts of wind music.

There are sacbuts of different sizes, serving to execute different parts; particularly a small one, called by the Italians trombone picciolo; and by the Germans, cleine alt posaune, proper for a counter-tenor. The part assigned it is usually called trombone primo, or I°. There is another large kind, called trombone maggiore, which may serve as a tenor, its part is usually called trombone secondo, or II° or 2°. There is a third still bigger, called trombone grosso; its part is called trombone terzo, or III° or 3°. Lastly, there is another, which exceeds all the rest, and which is much heard in the music, especially in the bass; its part is called trombone quarto, or IV° or 4°, or simply trombone. It has usually the key of F, ut, fa, on the fourth line; though frequently also on the fifth line from the top, on account of the gravity or depth of the sounds.

SADLER’S Wells, a well-known place of entertainment in the neighbourhood of London. It derives its name from Mr. Sadler, who erected a music-house near the spot, which was much frequented, before the Reformation, on account of the famous well, to the waters of which many extraordinary cures were ascribed, and which was, therefore, deemed sacred, and called holy well. The priests belonging to the priory of Clerkenwell used to attend there, and hence the people were led to believe, that the virtues of the water proceeded from the efficacy of their prayers.

Upon the Reformation the well was stopped up, on account of the superstitious use that was made of it.
it; till, in 1683, Mr. Sadler found it, covered with a carved arch of stone. After his decease, one Francis Forcer; a musician, became occupier of the wells and music-house. His son succeeded him, and first exhibited in this place the diversions of rope-dancing, tumbling, &c.

SALMI, Ital., the plural of salmo, a psalm; as “Salmi vespertini,” psalms for the evening service; Salmi dominicale;” psalms for Sunday; “Salmi passeggiati,” the title of a small book which we procured in Italy, that was published at Rome, 1615, by Francese Severi Perugino a singer in the papal chapel, and dedicated to cardinal Borghesi This publication shews to what excess the rage of gracing, even in the most solemn melodies of the church, was carried before there were any bravura airs, or florid singing in the musical drama or opera, which is accused of all the corruptions of modern music. The book is very neatly engraved on copper-plates, and contains such fashionable graces and embellishments for every kind of voice as were then allowed to be used even in the pontifical chapel, when the ecclesiastical tunes were sung in parts. This book contains passages in notes tied twice, and often three times, that would be too rapid and difficult for many opera singers now of the first abilities, and such as musical methodists, from their absurdity, and impropriety, would with good reason call Lenocinia of the church of Rome.

SALMODIA, Ital. psalm-singing. Sometimes bad music and bad singing are called salmodia, in derision; comparing them to the vulgar music and singing in parochial churches.

SAMBUCA, in Ancient Musical Instruments. The sambuca is said to have been invented in Syria by a person of the name of Sambicus, and it is pretended that it was used by the first Sybil; Suidas, however, asserts it to have been invented by Ibycus. Athenæus describes it as an acute instrument with four strings. Porphyry pretends that it was of a triangular form, and that its strings were of different lengths. St. Jerom, St. Isidor, and many others, assure us that it was a wind instrument. How unprofitable, alas! is all the information we are now able to acquire concerning the musical instruments of the ancients: we are not only ignorant of their form and species, but even uncertain of their names. The prophet Daniel is the first who speaks of symphony as an instrument, and of the sambuca, when he describes the magnificence of Nebuchad-nosor, at the time when he commanded every one to fall down and worship the golden calf.

SAMBUCA lincea, an instrument of more modern times, invented in the 16th century by Fabio Colonna of Naples, descended from the illustrious Roman family of that name. This instrument had 500 strings, and the inventor in describing and recommending its use as a perfect instrument, published a tract in 4to, at Naples in 1618. It was not only to express the three genera of the ancients, but to have distinct strings for the major and minor tones and semitones of the modern diatonic genera. This impracticable instrument has been described by Mersennus, lib. 6. Harmonicorum, prop. 13, and Walther has given his divisions of a tone into five parts, in his plates, tab. ix. fig. 7.

SALTARELLA, or SALTARELLO, in the Italian Music, is applied to triple time, the first note of which is pointed thus:

\[
\begin{array}{c}
\overline{\text{\textbf{3}}}
\end{array} \quad \text{or} \quad \begin{array}{c}
\overline{\text{\textbf{2}}}
\end{array}
\]

Airs in this kind of movement are said to be in saltarello. Such are the Venetian orlanos, sicilianas, some jigs, and other gay dances.

SAUVER, Fr. in Music, to resolve a discord. (See COUNTERPOINT, and RESOLUTION.) A discord must be resolved upwards or downwards diatonically, never by the sharp 2d, sharp 4th, and sharp 7th, ascend; all other discords descend one degree upon a concord to the next bass. Double discords, such as the \(9\) and \(9\), must be doubly prepared and doubly resolved. Rousseau regards the resolution of every discord as a kind of cadence. See CADENCE.

SAXONS

Editorial note: the following are passages from the conclusion of the article There is a paragraph in the middle about popular song. It is possible this is not by Burney, who barely discusses it in his General History. (Vol 1, pp 559-60 of Mercer’s ed.)

The poetry of the Anglo-Saxons was of two sorts; the poems which they composed in their own tongue, and the poems which they wrote in Latin.
These two kinds of poetry were completely distinct from each other;—distinct in origin, distinct in style.

The characteristics of the Anglo-Saxon native poetry seem to be these: it consists chiefly of periphrasis, and metaphors expressed in a metrical but simple arrangement of words, with some alliteration. The usual particles are most frequently omitted; and the intended meaning is conveyed in short and contracted phrase, multiplied by the periphrasis and metaphor. The position of the words is forced out of their natural arrangement by a wilful inversion, and the regular course of the subject is frequently interrupted by violent and abrupt transitions. By these peculiarities, which seem to be quite artificial, the Saxon poetry is distinguished from prose.

The style of the Anglo-Saxon poetry seems to have been originally the common, imperfect language of the people, in its half-formed and barbarous state; but its metre is the simplest that can be conceived, and is, indeed, often little else than a series of short exclaimations. Its inversions are more artificial. But when music was applied to it, and men found it beneficial to sing or recite a chieftain's praise, we may conceive, that, to secure to themselves the profits of the profession, some little ingenuity was exerted to make difficulties which would raise their style above the vulgar phrase. Its inversion was one of the easiest modes of making a peculiar style of composition; and as society advanced in its attainments, the transition, the alliteration, and other ornaments, may have been added, either as new beauties or as new difficulties.

The history of the Saxon poetry, and, indeed, of all modern European poetry, in its ruder state, may be divided into three heads: songs, or ballads; the lengthened narrative poems, or romances; and that miscellaneous kind which, if we term it lyric, it is more for the convenience of using a short generic word, than for the exact appropriation of its meaning.

That our ancestors had popular songs on the actions of their great or favourite characters, or on such other subjects as interested the vulgar mind, is proved by many instances, which may be traced in the ancient writers. Aldhelm applied himself to compose songs, or ballads, in the Anglo-Saxon language, to instruct, as well as to amuse, his countrymen.

None of Aldhelm's vernacular poetry has survived; but the circumstance that he composed and sang these ballads as if "he professed the art of singing," show that the harpers of the day were accustomed to recite them. That such things were then in general circulation is also implied in Berle, when he mentions, that in a festive company the harp was sent round, that those might sing who could.

It was a book of Saxon poems which first allured Alfred to learn to read; and the fact, that he had his children taught to read Saxon poems, and that he himself visited the Danish camp as a harper, which, in the reign of his grandson, Anlaf imitated, prove the existence of popular songs, which interested both the child and the rude warrior.

The genuine ballad seems to have originated when the old Saxon poetry began to decline. The laboured metaphor, the endless periphrases, the violent inversion, and the abrupt transition, were the great features of the Saxon poetry. These constituted that pompousness which William of Malmsbury truly states to have been its great characteristic. But it was impossible that, while these continued prevalent and popular, the genuine ballad could have appeared. The ballad, therefore, probably arose from more vulgar and homely poets; from men who could not bend language into that difficult and artificial strain, which the genius of the Anglo-Saxon bard was educated to use. The ambulatory glee men, who strove to please the public by their merry-andrew antics, were most probably the first inventors of the genuine ballad. While at one time they tumbled and danced, showed their bears, and frolicked before the people in the dresses of various animals; at others, they may have told little tales to interest the mob, from whose liberality they drew their maintenance.

Incidents narrated in verse were more intelligible than the pompous songs of the regular poets, and far more interesting to the people. In time they gained admission to the hall and the palace; and, by the style of Canute's ballad, this revolution must have been achieved by the beginning of the eleventh century. Then the harsh and obscure style of the old Saxon poetry began to be unpopular; and being still more discredited after the Norman conquest, it was at length completely suspended by the ballad and the metrical romance. See ROMANCE.
The Anglo-Saxon versification, says Mr. Turner, possesses occasional rhyme and occasional alliteration, and sometimes the alliteration peculiar to the Welsh poetry. But none of these form its constituent character. Mr. Tyrwhit and Mr. Ellis are also right in asserting, that it does not depend upon “a fixed and determinate number of syllables, nor on that marked attention to their quantity which Hickes supposed to have constituted the distinction between verse and prose.” The only rule of the Saxon versification, which we can now discover is, in our author’s opinion, that the words are placed in a peculiar rhythm or cadence, examples of which the specimens of their poetry extant supply; and to produce this rhythm seems to have been the perfection of their versification: but, happily for the strength of their poetry, they extended their rhythm into a more dignified cadence. The Latin poetry of the Anglo-Saxons originated from the Roman poetry, and was composed according to the rules of Roman prosody.

The literature of the Anglo-Saxons must be dated from their conversion to Christianity, which event took place about the year 570; and it is certain, if we allow that they had Runic letters and songs before this era, that their knowledge of books, and of the learning which had been accumulated in happier regions of the world, were derived from their religious intercourse with Rome. During this period, it was the prevailing practice among the Saxons, not only of the clergy, but of the better sort of laity, to make a voyage to Rome; and Rome, in return, sent her emissaries to Britain. The first step of their intellectual progress was the introduction into England of the Latin and Greek languages; and the next was the collection of the authors who used these languages. St. Augustin, and the monks who accompanied him, not only succeeded in establishing Christianity, but also occasioned a desire of knowledge to spread among the Anglo-Saxons, in the seventh century. At this period, Ireland was distinguished for its religious literature; and many of the Anglo-Saxons, both of the higher and lower ranks, retired into it to pursue their studies or their devotion. In the Jewish and Christian scriptures, to which the Anglo-Saxons had access, they would find a rich treasury of general knowledge. Theodore, archbishop of Canterbury, and Adrian, an abbot of a monastery near Naples, and an African, visited England about this time, A.D. 668; and nothing could be more fortunate for the Anglo-Saxon literature than the settlement of these men in the country. Their conversation and exhortations excited among the Anglo-Saxons a great emulation for literary studies. Benedict, who founded the abbey at Weremouth, must in this connexion be mentioned with applause. Egbert also, who was archbishop of York in 712, was famous in his day. Wilfrid was another benefactor to Anglo-Saxon literature, by favouring the collection of books. The three great luminaries of the Anglo-Saxons, whose attainments contributed so much to increase intellectual cultivation among their country men, in the century preceding Alfred the Great, were Aldhelm, Bede, and Alcuin. In the days of Alfred, a great accession of knowledge was introduced among the Anglo-Saxons by the taste and patronage of that illustrious king. It is certain that literature was at its height among our Saxon ancestors about the eighth century; and this was almost entirely owing to the attention of king Alfred, who encouraged learning by his own example, by founding seminaries of instruction, and by rewarding the labours of scholars.

Among the arts and sciences of the Anglo-Saxons we may mention music, the art of design and painting, and architecture. Besides the rules of Latin poetry and rhetoric, the Anglo-Saxons studied arithmetic and astronomy as laborious sciences. Their geography and topography, though not wholly neglected, were not much studied. To the science of medicine the Anglo-Saxons directed their attention as early as the seventh century; and some of them practised it as a profession. With surgery they were little conversant. On the establishment of Christianity among the Anglo-Saxons, after its introduction into Kent by St. Augustin, it is needless to enlarge; nor need we trace its beneficial effects on the dispositions and manners of the people. Of the Anglo-Saxon language we have given as ample an account as our limits will allow, under other articles. See ANGLO-SAXON, ENGLISH, and SAXON, supra.

SCALDS, in the History of Literature, a name given by the ancient inhabitants of the northern countries to their poets; in whose writings their history is recorded.

They were called “Scaldi,” or “Scaldri,” as some say, from the sound skal, often heard in their verses and poems: and the dialect in which they wrote was
called “Asamal,” that is, the Asiatic dialect, because it was brought by Woden or Odin out of Afia, who is also said to have brought with him the Runic characters, and to have taught the northern nations the art of poetry. The learned Torfaeus, a native of Iceland, and historiographer of Norway, suggests (Praefat. ad Orcades, fol.) that the word Scald signified originally, “a smoother and polisher of language.” Whatever was the origin of their name, they were an order of poets or fingers, who were imported into Europe by the Goths, who migrated from the East with Odin, and were dispersed among the northern nations, particularly in Scandinavia. (See ODIN and SCANDINAVIA.) These men were held in the highest veneration; they were employed to compose odes or songs, which related all the most illustrious exploits of the ancient Scandinavians, and sometimes the whole history of their lives. They attended the festivals of heroic chiefs, accompanied them in battle, and celebrated their victories. Their songs were propagated from one reciter to another; and there was no public solemnity in which they were not sung or chanted. The praises which these poets gave to valour, the warlike enthusiasm which animated their verses, the great care which men took to learn them from their infancy, being all of them the natural effects of the ruling passion of these people, served in their turn to strengthen and extend it. At a period when the use of letters was very limited, verse was a necessary medium of knowledge, and the poet was an essential officer of the state; and as it required a peculiar and uncommon genius to excel in this art, the professors of it would of course acquire a very high degree of esteem and respect, and receive for their verses the most liberal rewards. All the historical monuments of the North testify in the most ample manner the honours that were paid to this order of men both by princes and people; nor can the annals of poetry produce any age or country which reflects more glory and lustre upon it. The ancient chronicles represent the kings of Denmark, Norway, and Sweden, as attended by one or more Scalds. They were more especially honoured and caressed at the courts of those princes who distinguished themselves by their great actions and passion for glory. Harold Harfagre, e. g. placed them at his feasts above all the other officers of his court. Many princes entrusted them, both in peace and war, with commissions of the highest importance. They never set out on any considerable expedition without some of them in their train. Hacon, earl of Norway, had five celebrated poets in the famous battle, when the warriors of Jomsburg were defeated; and history records that each of them sung an ode to animate the soldiers before they engaged. Torfaeus produces other instances to the same purpose; particularly that of Olave, king of Norway, who placed three of his Scalds near him to be witnesses of his exploits; each of whom composed a song on the spot, which Bartholin has printed and accompanied with a Latin version. Other songs of the same kind may be found preserved by the same author. They also enjoyed another advantage, which would be more an object of envy to the poets of these days. They were rewarded for the poems they composed in honour of the kings and heroes with magnificent presents. The Scald never sang his verses at the courts of princes without a recompence of golden rings, glittering arms, and rich apparel. Their respect for this order of men often extended so far as to induce them to remit the punishment of crimes which they had committed, on condition they sued out their pardon in verse; and we have still extant an ode, by which Egill, a celebrated poet, atoned for a murder of which he had been guilty. In a word, the poetic art was held in such high estimation, that great lords, and even kings, did not themselves disdain to cultivate it with the utmost pains. Rogvald, earl of the Orkney islands, passed for a very able poet. King Regner was no less distinguished for his skill in poetry than in war and navigation; and it is well known that he died no less like a poet than a hero. The respect, however, which the northern nations paid to their Scalds was not owing to the nobility of their extraction. A people whose object was glory, could not fail of shewing a great deference to those who both published it abroad, and consigned it to futurity, let their original be what it would. A prince or illustrious warrior oftentimes exposed his life with so much intrepidity only to be praised by his Scald, who was both the witness and judge of his bravery. It is affirmed that this kind of men, although poets, were never guilty of flattery, and never lavished their praises on heroes and kings themselves, unless their gallant exploits were quite incontestible. Hence arose the custom of always
bringing them into the scene of action: Olave, king of Norway, placing three of them one day around him in battle, cried out with spirit, “You shall not relate what you have only heard, but what you are eye-witnesses of yourselves.” The same poets usually sung their verses themselves at solemn festivals and in great assemblies, to the sound of the flute or harp. But the subject of these poems was not confined to one fingle event, such as a victory or some generous action; it was frequently a genealogical history of all the kings of the country, deduced down from the gods to the reigning prince, who always derived his origin from them. These poems were, according to Tacitus, the only annals of the Germans: they had great numbers of them, which were not wholly forgotten in the eighth century; since Eginhard relates, that Charlemagne caused them to be committed to writing. —“And even learnt himself,” adds the historian, “the rude and ancient songs in which the exploits and the wars of the first princes were celebrated.” In poems of the same kind confin’d for many ages all the history of the Scandinavians. A bard named Thiodolfe, celebrated in his verses the exploits of Harold and thirty of his predecessors; another called Eyvind, composed an historical poem which went back as far as Odin. Such are the sources whence Saxo drew his materials for the first six or seven books of his history; and he might doubtless have derived great assistance from them, if he had not happened to live in an age wholly destitute of that exact skill in criticism, which knows how to separate facts from the fictions with which they are blended.

The necessity there was for poets, the natural attractions of the art itself, and those it derived from the manners of the age, greatly multiplied the number of Scalds. Icelandic manuscript has preserved a list of all such as distinguished themselves in the three northern kingdoms, from the reign of Regner Lodbrog to that of Valdemar II. They are in number two hundred and thirty, among whom we find more than one crowned head. But what is not less remarkable is, that most of them are natives of Iceland.

The stile of these ancient poems is very enigmatical and figurative, very remote from the common language, and for that reason, grand, but tumid; sublime, but obscure. If it be the character of poetry to have nothing in common with prose, if the language of the gods ought to be quite different from that of men, if every thing should be expressed by imagery, figures, hyperboles, and allegories, the Scandinavians may rank in the highest class of poets: nor is this unaccountable. The soaring flights of fancy may possibly more peculiarly belong to a rude and uncultivated, than to a civilized people. The great objects of nature strike more forcibly on rude imaginations. Their passions are not impaired by the constraint of laws and education. The paucity of their ideas, and the barrenness of their language, oblige them to borrow from all nature images fit to clothe their conceptions in.

The most affecting and most striking passages in the ancient northern poetry, were such as now seem to us the most whimsical, unintelligible, and overstrained: so different are our modes of thinking from theirs. We can admit of nothing but what is accurate and perspicuous. They only required bold and astonishing images, which appear to us hyperbolical and gigantic. What also contributes to render their poetry very obscure at present, is, that the language of it is borrowed from their mythology; a mythology not so familiar to us as that of the Greeks and Romans. When they did not allude to their own fables, they took their metaphors from other subjects, which were commonly very far-etched and remote. Each of their deities might be expressed by an infinite variety of phrases. In short, a peculiar study of this kind of language was necessary to constitute a poet; for which reason they early composed a dictionary of it for the use as well of the Scalds as their readers. The fame Rogvald, earl of the Orkneys, before spoken of, is said to have composed a work of this sort, which, according to Wormius, is still extant, under the name of the Poetical Key. Another is found at the end of the Icelandic Edda, and is intitled Scalda, or the Art of Poetry. This is a collection of epithets and synonymous words selected from their best poets, very like those which are put into the hands of young people when they first apply themselves to Latin poetry.

Yet they sometimes composed verses in a more simple stile, and nearer approaching to common language; but this only happened when in conversation a Scald, either to shew his happy talent, or to do more honour to the person with whom he con-
versed, answered in extemporary metre. This singular mode of expressing themselves was very common among the ancient Scandinavians, and proves in what degree of esteem this people held the art of poetry. The chronicles have preserved a great number of such conversations in verse; and there is reason to believe that these poems, which might be sung at first, and easily committed to memory, were oftentimes the text of which succeeding chronicles were nothing more than commentaries or expositions. There is no appearance that the verses were composed by the authors of those histories: they are never assigned to any but the Scalds by profession; and are quoted by the historians as their proofs and vouchers: and besides, it is known to have been usual with the Scalds to interlard their discourse with extemporary verses.

We are not to imagine that these poets were wholly unconfined by rules, or that they were not subject to such as were very severe. It is an erroneous opinion, that rhyme was wholly unknown to the northern Scalds, and by parity of reason to all the Gothic poets: whereas it was undoubtedly from these that this modern ornament of verse derived its origin and use.

The Scandinavian bards, of whom we have now given an account, appear to have been esteemed and entertained in other countries besides their own, and by these means to have probably communicated their fictions to various parts of Europe. The northern emigrants, who by their emigrations and invasions visited England, Ireland, Scotland, and the Orkney islands, were undoubtedly attended by their Scalds or poets. And even in time of peace these Scandinavian Scalds, possessing a specious and pleasing talent, frequented the courts of the British, Scottish, and Irish chieftains. They were itinerants by their institution, and made voyages out of curiosity, or in quest of rewards, to those islands or coasts which lay within the circle of their maritime knowledge. By these means they established an interest, rendered their profession popular, propagated their art, and circulated their fictions in other countries, and at a distance from home. Torfaeus (Pref. ad Orcad.) asserts positively, that various Icelandic odes now remain, which were sung by the Scandinavian bards, before the kings of England and Ireland, and for which they received liberal gratuities. Wormius informs us (Lit. Dan. p. 195. 4to.) that the northern Scalds, in great numbers, constantly resided in the courts of the kings of Sweden, Denmark, and England; from which circumstance it has been inferred, that Odin’s language was originally used, not only in Denmark, Sweden, and Norway, but even in England. From these suggestions it may be naturally concluded, that the Scandinavian tongue became familiar in the British islands by the songs of the Scalds; unless it be rather presumed that a previous knowledge of that tongue in Britain was the means of facilitating the admission of those poets, and of preparing the way for their reception. Moreover, the fictions of Odin and of his Scandinavians must have taken still deeper root in the British islands, at least in England, from the Saxon and Danish invasions. That the tales of the Scandinavian Scalds flourished among the Saxons, who succeeded to the Britons, and became possessors of England in the sixth century, may be justly presumed; for the Saxons were a branch of the Scandinavian tribes, and boasted of the descent of their princes from Odin. They imported with them into England the old Runic language and letters. And even after the conversion of the Saxons to Christianity, when they became a more mild and polished people, their poems were chiefly moral rhapsodies, scriptural histories, or religious invocations, in which occur frequent allusions to the old Scaldic fables and heroes.

As literature, together with true religion and civilization, gained ground among the Saxons, poetry was no longer regarded as a separate science, and the profession of bard, under the appropriated characteristics and peculiar appointment which he sustained among the Scandinavian Pagans, declined; and instead of the old Scaldic a new rank of poets arose, called Gleemen (corresponding to Joculators), or harpers; and these probably gave rise to the order of English minstrels, who flourished till the sixteenth century.

The songs of the Irish bards are conceived by some persons to be strongly marked with the traces of Scaldic imagination, which are believed still to survive among a species of poetical historians called “tale-tellers,” supposed to be descendants of the original Irish bards. Nor is it improbable, that the Welsh bards might have been acquainted with the
Scandinavian Scalds. We may also observe, that the Scandinavians had conquered many countries bordering upon France in the fourth century; and hence the Franks must have been in some measure used to their language, well acquainted with their manners, and conversant in their poetry. We have reason also to believe, that many of the Scaldic imaginations might have been blended with the Arabian: so that the Gothic Scalds enriched their vein of fable from this new and fruitful source of fiction opened by the Arabians in Spain, and afterwards propagated by the crusades. The earliest Scald now on record is not before the year 750; from which time the Scalds flourished in the northern countries till below the year 1157. We shall close this article with observing, as a circumstance somewhat remarkable, that in the earlier Scaldic odes, we find but few dragons, giants, and fairies; these were introduced at a later period, and are the progeny of Arabian fancy: the absence of giants and dragons has been alleged as a striking proof of the antiquity of the poems of Offian, by the advocates of their authenticity: nor are these fancies found in the Welsh odes of Taliesin or Aneuric, who flourished about the year 570. There is also the strongest reason to suspect, that even the Gothic "Edda," (which see,) or system of poetic mythology of the northern nations, is enriched with those higher strokes of Oriental imagination, which the Arabians had communicated to the Europeans. Mallet's North. Ant. vol. i. Warton's Eng. Poet. Diff. I.

SCALE, in the Music of the Ancients. See GREEK Music.

SCALE of the Chinese. All the specimens which we have been able to procure of genuine Chinese music are without semitones, and seem to confirm the idea of Père Amiot, and the abbé Roussier, that it has been formed by a series of perfect 15ths, produced by the triple progression of Pythagoras, beginning at F, the Chinese fundamental or lowest sound. And as the ancient Chinese proceeded in this progression no further than five 5ths, it furnishes a cogent reason for the want of semitones in their melody. After the following series of five 5ths, F, C, G, D, A, if we arrange these sounds diatonically, we shall have the following scale: C, D, F, G, A, c. And this will account for the construction of their musical instruments with fixed tones. One of these we met with at Paris in the year 1770; it was in the possession of the learned abbé Arnaud of the French Academy, and was a kind of sticcado, consisting of bars of wood of different lengths, as sonorous as if they had been of metal: these were placed across a hollow vessel resembling the hulk of a ship. The compass was two octaves, and the intervals were arranged in the following order:

Now no music can be composed from such a scale that will not remind us of the melody of Scotland, which we have long thought of much higher antiquity than has generally been imagined.

We had long been trying to ascertain the fact concerning the want of semitones in the Chinese music, and had sent inquiries into different parts of the empire, among which one was, whether the Chinese had any semitones in their music? or whether their octave only consisted of five tones instead of seven, with which the scale of Guido is furnished; which question was answered by an Italian who had been thirty years at Pekin, and was a good musician, whose answer was: "La Cinesi nella loro musica non hanno semitoni;" the Chinese have no semitones on their music. This confirmed the conjecture to which the melodies which we had seen gave birth; but did not assign a reason for the deficiency. But
after perusing the 6th vol. of “Memoires concernant l’Histoire les Sciences, les Arts, les Moeurs, les Usages, &c. des Chinois,” by the missionaries of Pekin, published in 1780, the Memoir concerning Chinese music ancient and modern, by Père Amiot one of the Pekin missionaries, of which the abbé Roussier was the editor, we saw no difficulty in assigning a reason for the deficiency in the Chinese scale according to European ideas. For if, instead of stopping at A, the 5th of D, they had proceeded two 5ths further, they would have had an E and a B, which would have furnished materials for completing the diatonic octave of five tones and two semitones: F, C, G, D, A, E, B; which arranged diagonally, would furnish every sound in the natural septenary of C and A.

C, D, E, F, G, A, B, c, c, B, A, B, E, A, G, F, E, D, C, B, A.

Ascending

Descending

See CHINESE Music.

Whoever hears Chinese airs discovers a similarity between them and Scots tunes, from the omission of the 4th and 7th of major keys, and, in descending, of minor keys; which renders them like melodies played in the short keys of a harpsichord or piano forte.

SCENA, Ital.; a scene in Music, is a detached portion of an opera, sung at concerts public and private, as a cantata. It generally consists of a recitative and an air, and sometimes of two recitatives and two airs. It is, however, very inferior in plan to a cantata for concerts, which has a beginning, a middle, and an end. Whereas these unconnected scenes begin, and often end so abruptly, that they convey no more meaning to an audience than a solfeggio, or a poem would do, if sung backwards.

SCENE, Scena, in its primary sense, denoted a theatre; or place where dramatic pieces, and other public shows, were represented. The word is originally Greek, σκηνη, signifying a tent, hut, booth, or the like, where dramatic pieces were anciently performed.

The original scene for acting of plays was as simple as the representations themselves; it consisted only of a plain plat of ground, proper for the occasion, which was in some degree shaded by the neighbouring trees, whose branches were made to meet together, and their vacancies supplied with boards, sticks, and the like, to complete the shelter; and these were sometimes covered with skins, sometimes only with the branches of other trees, newly cut down and full of leaves,

Thus Virgil, in his Æ neid:

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Upon which Servius remarks, “Scena apud antiquos parietem non habuit.”

So Ovid:

“Primus sollicitos fecisti, Romule, ludos
Cum juvit viduus rapta Sibina viros.
Tunc neque marmoreo pendebant vela theatro
Nec fuerant liquido pulpita rubra croco.
Illic quas tulerant nemorosa palatia frondes
Simpliciter positæ scena sine arte fuit.”

Thus also Cassidorus derives the word scene from the close shade of the grove where, in the spring-time, the ancient shepherds used to sing and play.

It does not appear that the ancient poets were at all acquainted with the modern way of changing the scenes, in respect of the different parts of the play, but all was performed in the same place.

The first things represented in these new theatres, were what they called mimi. These were a very coarse sort of poems, representing, obscene and indecent language, the vices and indecent actions of the principal people of the time. Sophrones and Xenarchus seem to have been the first writers of this sort of comedy, and they used sometimes prose, sometimes verse, in these compositions. After the licentious things, thus represented, had given great offence to the magistracy, the poet’s hands were tied up from writing at all, and the actors in these scenes were forbidden to speak. Hence arose a new way of entertaining the spectators, which we still continue, under the name pantomime, the same by which they expressed it. In this all was represented in dumb show, and the gestures and motions of the limbs were all they had to represent the actions of others by.

This sort of public diversion seems to have been in fashion in the days of Aristotle, and to have been continued long afterwards. Salmasius is of opinion, that Pylades was the first who separated the panto-
mime and dancing from the plays where the actors spoke. But this seems an error in that great critic; for they seem, by the histories we have left of them, to have been represented singly long before that time, Pylades living in the time of Augustus Caesar.

Poetry and dancing were early supposed to have some relation to one another: the first was called a speaking dance, and the latter a dumb poem; a name afterwards, and not till long afterwards, given to a picture. Thus they were introduced on the same scenes, as things naturally connected together.

Scene was afterwards more particularly used for the decorations of a stage or theatre.

The ancients, we are informed by Vitruvius, had three sorts of scenes, or scenical decorations, in their theatres. That in common use was a spacious front, or range of building, adorned with columns and statues; in which were three large openings, through which other buildings appeared in perspective; viz. a palace for tragedies; houses and streets for comedies; and forests for pastorals.

These decorations were either versatile, i. e. they turned on pivots, as described by Vitruvius; or ductile, i. e. sliding along grooves, as those in our theatres. And as this or that side, or representation, was turned towards the spectators, the scene was called a tragic, comic, or a pastoral scene. See several curious remarks on the ancient scene, in Mr. Perrault’s notes on Vitruvius, lib. v. cap. 6. See PLAY-HOUSE.

SCENE is also used for the place represented, or that where the action is conceived to have passed.

One of the grand laws of the drama is, to observe the unity of the scene; which we more usually call the unity of place.

In effect, to keep close to nature and probability, the scene should never be shifted from place to place, in the course of the play. The ancients were pretty severe in this respect, particularly in Terence; in some of his plays, the scene never shifts at all, but the whole is transacted before the door of an old man’s house, whither, with inimitable art, he brings all his actors occasionally.

The French, too, are very strict in this respect; but the English plead for a dispensation from the rule; which they think confines them to too narrow bounds, and precludes them from that variety of adventures and intrigues, without which an English audience will never be satisfied.

However, the more judicious and accurate of our ow writers are very moderate in the use of this license, and take care not to deviate too far from probability, by shifting the scene, between the acts, much farther than the persons concerned may be supposed to have gone in the interval. Hence they seldom carry the scene out of the same town; though others, who owe no subjection to the ancient rules, take larger liberties: with some of these it is nothing when a fancied scene is in view, to skip from Covent Garden to Peru. The great Shakspere is exceedingly faulty in this respect, in almost all his plays.

SCENE is also a part, or division, of a dramatic poem, determined by a new actor’s entering.

Plays are divided into acts, and acts are subdivided into scenes.

In most of our printed plays a new scene is never expressed to begin, but when the place is supposed to be changed, by shifting or drawing the moveable scene; but this must be esteemed an oversight, since, on our stage, the scene is, properly, the persons present at, or concerned in, the action on the stage at such time. Whenever, therefore, a new actor appears, or an old one disappears, the action is changed into other hands; and, therefore, a new scene then commences.

It is one of the laws of the stage, that the scenes be well connected; that is, that one succeed another, in such manner, as that the stage is never quite empty, till the end of the act.

The ancients did not allow of above three persons on the stage at the same time, excepting in the chorusses, where the number was not limited; but the moderns have but little regard to this restriction.

SCENIC GAMES, Ludi Scenici, among the Ancients, were entertainments exhibited on the scena, or theatre; including including what we now call plays, of all kinds, with dancing, and other theatrical performances. The Romans were almost four hundred years without any scenic games at all. Livy observes, that they were first instituted in the year of Rome 392, under the consulate of C. Sulpius Peticus, and C. Licinius Stolo. But the critics have observed a mistake here in Livy; the consulate of those persons fall-
ing in the year 389, which, therefore, is held the era
of the introduction of the scenic games.

At first, some actors for these diversions were
sent for out of Etruria; who, without reciting any
thing, danced about to the sound of instruments; so
that thus far was no more than a ball, or rather what
the French call a ballet. At length they began to re-
hearse verse: and satire was introduced, adorned
with compositions of music, and accompanied with
dances. At length, Livius Andronicus, about the year
of Rome 514, introduced the entertainments of
tragedy and comedy.

Thus, by degrees, growing more and more per-
fected, their scenical shows were at last represented
with a justness and magnificence beyond any thing
the world elsewhere ever saw. The fathers, in their
writings, cry out loudly against the scenical games.

SCHISMA, in Music, is a minute interval, equal
only to half a comma, and of which the ratio is a
surd quantity: since, in order to express it by num-
bbers, a mean proportional must be found between 80
and 81.

SCHOOL, or College of Singers, established at
Rome by St. Gregory. See COLLEGE, and St.
GREGORY.

SCHOOLS of Singing, established in England. See
BEDE.

SCHOOLS of Ecclesiastical Singing, after the Ro-
man manner, were established by Charlemagne at
Metz and Soissons; having obtained of pope Adrian,
Theodore and Benedict, two chanters of great learn-
ing and abilities, who had been instructed by
Gregory himself, to superintend these schools. He
likewise granted to them Antiphonaria, or choral
books of that saint, which he had written himself in
Roman notes.

At Canterbury, the successors of St. Gregory, and
of Austin his missionary, having established a school
for ecclesiastical music after the Roman manner, the
rest of the island was furnished with masters from
that seminary. Indeed, Roman music and singing
were as much in favour here, during the middle
ages, when there were no operas, or artificial voices
to captivate our countrymen, as Italian composition
and performance are at present.

SCOLIA, or Songs of the Ancient Greeks. Vocal mu-
sic is of such high antiquity, that its origin seems to
have been coeval with mankind; at least, the
lengthened tones of pleasure and pain, of joy and
affliction, must long have preceded every other lan-
guage, and music. The voice of passion wants but
fewarticulations, and must have been nearly the
same in all human creatures; differing only in gra-
avity or acuteness, according to age, sex, and organiza-
tion, till the invention of words, by particular con-
ventions, in different societies, weakened, and, by
degrees, rendered it unintelligible. This primitive
and instinctive language, or cry of nature, is still re-
tained by animals, and universally understood,
while our artificial tongues are known only to the
small part of the globe, where, after being learned
with great pains, they are spoken. “We talk of love
and of hatred,” says M. de Voltaire, “it, general
terms, without being able to express the different de-
grees of those passions. It is the same with respect to
pain and pleasure, of which there are such innumer-
able species. The shades and gradations of volition,
repugnance, or compulsion, are equally indistinct
for want of colours.” This censure should however,
be confined to written language; for though a word
can be accurately expressed in writing, and pro-
nounced but one way, yet the different tones of
voice that can be given to it, in the utterance, are in-
finit. A mere negative or affirmative may even be
uttered in such a manner, as to convey ideas diamet-
rically opposite to the original import of the word.

Music, considered then as the language of the
passions, is most expressive, when its movements
are least impeded by difficult articulations; and this
accounts for the preference of one language to an-
other, for musical purposes; for the pleasure we re-
ceive from instrumental music, of the most exquisite
kind; and from divisions in airs that are well ex-
ecuted by the voice.

It has already been observed, that songs pre-
ceded the use of letters, and served not only for
amusement, but supplied the place of history in
after-ages. Laws were originally sung, to be the bet-
ter retained in memory; and prayers offered up to
the gods were chanted, in order to add to their
solemnity and energy. The first public use, therefore,
of music was the service of religion: and the first
private use, to alleviate labour and care, or to ex-
press hilarity during social happiness.

Theurgic hymns, or songs of incantation, such as
those ascribed to Orpheus, which were performed in
the mysteries upon the most solemn occasions, were the first and most ancient of which we have any account in Greece; and these are supposed to have originated in Egypt.

The second species consisted of poetical and popular hymns, that were sung at the head of an army, or in praise of some divinity, during the public worship of the gods in temples; and these were distinguished by particular appellations, according to the deities to whom they were addressed; as Pæans to Apollo and Mars, and Dithyrambs to Bacchus. Hymns, however, of this kind, in process of time, were lavished upon heroes, kings, and generals.

There was still a third class, distinct from these, which may be denominated philosophic, or allegorical hymns, in which the attributes of the Supreme Being, as the apologies for Paganism pretended, were celebrated under some fable or virtue personified.

Of all the different kinds of scolia, or festive songs, that were in use among the inhabitants of Greece, and that were distinct from religious hymns, those of which we have any remains are chiefly such as were sung at table, during the time of banquets, or repasts. We are told, however, by Plutarch, Athenæus, Lucian, and other Greek writers, that in the first use of these, they were real pæans, sacred canticles, or hymns, sung by the whole company to some divinity. It afterwards was the custom for each of the guests to sing one of these songs alone, holding a branch of myrtle in his hand, which he passed about to his next neighbour, as we do the bottle; and this may be called the second manner of performing these songs. The third was to the accompaniment of the lyre, and required the presence of musicians, singers, and citharædists: for music was now arrived at a greater degree of perfection among artists, who made it their chief employment, than gentlemen who employed themselves in it, among other exercises in the general course of education, only as an amusement.

As there were three several ways of performing these scolia, the subjects upon which they were composed may be likewise arranged under three classes. The first class consisted of moral songs, of which several are preserved by Athenæus.

In the following scolium, Timocreon gives his opinion of riches.

“In vile riches should no favour find,
By land or sea among mankind;
But should be sent with fiends to dwell,
Down in the deepest, blackest hell:
For ’tis from them, ere since the world began,
The greatest ills have sprung, which torture man.”

And Plato, Athenæus, and Lucian, have all quoted a song upon the pre-eminence of worldly blessings, that is ascribed to Simonides:

“The first of human gifts is health,
The next on beauty’s power attends;
The third, possessing well-earn’d wealth;
The fourth is youth, enjoy’d with friends.”

Phocylides has given the same sentiment, in different words. And Aristotle, having brought it from Delphos, has done it the honour to place it at the head of his Moral Writings. Anaxandrides, however, according to Athenæus, was not so partial to it; but, on the contrary, disputed the sentiments it contained.

“That health is the first of all blessings below,
Is a truth which no logic can fairly confute;
But the second on personal charms to bestow;
And on riches the third, I beg leave to dispute:
Next to health, give me riches; for beauty, though bright,
In hunger and rags is a villainous sight.”

The second class of scolia comprehends mythological hymns, and historical songs. Of these we shall give the following, from Athenæus, as specimens merely of the sentiments which these kinds of compositions contained; for as to the measure and music, they are now equally irrecoverable.

“To the Divinities that preside over
Riches and Abundance.

“At the genial board I sing
Pleasures which from plenty spring:
While the wreath adorns our brows,
Ceres well deserves our vows.
Plutus too, thy name I’ll join,
And thy sister Proserpine.
Ye our social joys augment,
From your bounty flows content.
Bless our city with increase,
And our song shall never cease.”
On Latona and her Offspring.

“Latona once, on Delos’ isle,
Gave to the world a matchless pair;
Apollo, who makes nature smile,
Whose shoulders glow with golden hair:
And Dian’, goddess of the chase,
Whose shafts unerring ever fly,
Sole sov’reign of the female race,
Nocturnal empress of the sky.”

On Pan.

“O Pan, delight of nymphs and swains,
Protector of Arcadian plains,
Who lead’st the frolic dance;
The laughing fair, who play the prude,
But fly from thee to be pursu’d,
Their favours to enhance.

They love thy rustic oaken reed;
They know thy vigour, force, and speed,
And feign a modest fear.
Our jocund strains shall swell for thee,
And render, by their mirth and glee,
Thy name for ever dear.”

Among the historic or patriotic songs, there are none more frequently mentioned by ancient authors than those upon Harmodius and Aristogiton. See HARMODIUS. See also HYMN.

The third and last class of scolia, concerning which we shall speak, was upon common and miscellaneous subjects, peculiar to no age nor country. The greatest number, and the best of these, were upon love and wine. “Love inspires music and poetry:” this was a memorable maxim among the Greeks, and the subject of one of Plutarch’s Symposiacs.

Scolia, written by the greatest poets of antiquity, are mentioned by ancient authors; and Athenæus has preserved specimens and fragments of a great number. It must, It must, however, be owned, that most of them appear now to be unmeaning and insipid. And Athenæus either has not selected them with taste and judgment, or it would encourage a belief that the genius of the Greeks could not stoop to elegance in trifles. Indeed, with respect to songs upon the subjects of love and drinking, those of Anacreon have been long regarded as standards of excellence. They are distinguished, by their native elegance and grace, from every other kind of poetical composition; and the voluptuous gaiety of all his songs is so characteristic, that his style and manner have had more imitators than Pindar. Anacreontics are expected to be as joyous and sportive, as Pindarics daring and sublime. “His smiling and flowery images,” says M. de la Nauze, “are the more certain to please, as they are all selected with taste and discernment, and faithfully copied from nature.” Much less can be said, however, in behalf of the moral purity of his sentiments; for it must be owned, that their licentiousness is the more dangerous, in proportion to the art and insinuating delicacy with which they are clothed. See ANAREON.

Unfortunately, the miscellaneous and moral scolia have the least merit of all those that are preserved in Athenæus. Indeed, the simplicity of many of them will not bear an English dress, unless it be very much laced and embroidered by the translator; for so little of the ancient genius of Greece appears in them, that nothing but a mixture of modern poetical images is likely to procure them a perusal. The following scolium, for instance, when literally and fairly translated, can afford no pleasure to a modern reader: “Son of Telamon, warlike Ajax they say you are the bravest of the Grecians who came to Troy, next to Achilles” — And this is called a song’

Nor is either the poetry or morality very exalted of this: “He who does not betray his friend, has great honour both with gods and men—in my opinion.” But we must not further pursue the subject in this place.

SCOLION, among the Ancients, a kind of bacchanal song used at entertainments.

SCORE, in music, the parts of a composition placed over each other, and a perpendicular line or bar drawn through the whole, whence the term score; in which with a glance may be seen the movement and agreement of the several parts in the melody, and combination in the harmony. See PARTITION and BARS.

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SCOTS TUNES. In February 1722, the newspapers of the times inform us, that there was a concert for the benefit of Mr. Thomson, the first collector and publisher of Scots tunes in England. To this collection, for which there was a very large subscrip-
tion, may be ascribed the subsequent favour of these national melodies south of the Tweed.

After this "consort, at the desire of several persons of quality, was performed a Scottish song."

In 1744, in the opera of "Roselinda," set by Veracini, at that time the leader of the opera band, the first air that presents itself, in the printed copy of the favourite songs, is "The Lass of Patie's Mill," which Monticelli condescended to sing, and to which Veracini added parts and ritornelli, in order, as they imagined, to flatter the British nation. But as few of the North Britons, or admirers of this national and natural music, frequent the opera, or mean to give half a guinea to hear a Scots tune, which perhaps their cook-maid, Peggy; can sing better than any foreigner, this expedient failed of its intended effect. See PALMA.

SECOND, IN Music, denotes one of the musical intervals; being only the distance between any sound, and the next sound, whether higher or lower.

As in the compass of a tone there are reckoned nine sensibly different sounds, which form those little intervals called commas, one might in strictness say there are eight kinds of sounds.

There are three kinds of seconds occurring in practice, the lesser, the greater, and the superfluous second; to which, if the enharmonic genus were restored, we might add the diminished second. The lesser second is the semitone major, and is nearly equal to 5½ commas. The greater second is the tone, which being either major or minor, there must also be two great seconds; one nearly equal to 84 commas, and the other to 9½ commas: but practitioners usually confound these two. The superfluous second is a tone major, and semitone major; the other superfluous second, arising from the tone minor, and semitone minor, is not in use. Lastly, the diminished second is a semitone minor less than the lesser second; that is, equal to the diesis enharmonica. Thus, between E and F, or between A and B, would be a diminished second, as also between G sharp and A. This last has been practised by Mr. Handel, in the oratorio of Sampson, in the second part of the song. "Return, return, O God of Hosts." See INTERVAL.

Some authors, as Ozanam, call the semitone minor by the name of diminished second; but this is contrary to the analogy in like cases, where diminished is usually applied to intervals a semitone minor less than a true diatonic interval. Thus the diminished seventh is a semitone minor less than the flat seventh, or seventh minor.

SEGNO, Ital, in Music, a sign or mark of reference, for the repetition of any strain, or portion of a strain. It is usually an S, the initial of signum or segno, dotted on each side, thus $'$ of more use in rondaux than in any other movements. The sharp $\sharp$, natural $\natural$, and flat $\flat$, are accidental signs, as is the diesis $\chi$, or double sharp. The pause, or corona $\zeta$, is a segno di silenzio, as well as a final terminating sign. (See all these terms under their several heads.) The $'$ is likewise used in canons and catches written on one line, to mark the places where the several parts come in.

SEGUE, in Italian Music, is often found before aria, coro, allelujah, amen, &c. to acquaint performers that such movements immediately follow the last bar of the preceding piece, over or after which such notice is written. But if the words si piace, or ad libitum, are added, they imply that such movements may be performed or not, at pleasure.

SEGUENZA, Ital. in Ecclesiastical Music, is a kind of hymn sung in the Roman church, generally in prose. The seguenzé are generally sung after the Gradual, immediately before the Gospels, and sometimes in the vespers before the Magnificat. They were formerly more used than at present." The Roman church has retained three sequenze, called by the Italians, li tre sequenze dell' anno: which are, "Lauda Sion salvatorem," &c.; "Vittima paschali laudes," &c. "Veni Sancte Spiritus." These are sung, in many places, to figurative music. There is also one beginning "Dies iræ, dies ille," in the funeral service, which has been admirably set by all the great composers à cappella of Italy, and among the Catholics of Germany.

SEMI, a word borrowed from the Latin, signifying half, but only used in composition with other words, as in the following articles.

The French, instead of semi, frequently use demi, the Greeks hemi.

In music, semi has three several usages; first, when prefixed to the name of a note, it expresses a diminution of half its value, as in semi-breve, &c.

Secondly, when added to the name of an interval, it expresses a diminution, not of half, but of a lesser
semi-tone, or four commas, in the whole compass, as in semi-diapente, &c.

Thirdly, in old music to the end of the 16th century, it implies imperfection in the value of notes, as a semi-circle, or circolo mezzo; the whole circle then implying perfection, or triple-time. O three breves, or three times three semi-breves, without a point. C common time, or, as it was then called, imperfect, or dual measure. See Musical CHARACTERS, and the first TIME-Table.

**SEMibreve**, ○ Φ half a breve □ in Music. See the TIME-Tables.

**Semi-Diapason**, in Music, a defective octave; or an octave diminished by a lesser semitone, or four commas. See DIAPASON.

**Semi-Diapente**, a defective fifth, called usually by the Italians falsa quinta, and by us a false fifth.

**Semi-Diatessaron**, a defective fourth, called, properly, a false fourth.

**Semi-Ditone, Diapason.** See DIAPASON.

**Semi Ditone.** Dis-diapason. See DISDISPASON.

**Semi-Ditonus.** semi-ditison, is used by some writers, as Salinas, for the third minor.

**Semi-Double**, in the Romish Breviary, a term applied to such offices and festivals as are celebrated with less solemnity than the double ones; but yet with more than the single ones.

The semi-double office has double vespers, and nine lessons at matins; but the anthems are not redoubled. It is performed on Sundays, on the octaves, and on the feasts marked for semi-double in the calendar.

**Semi-Quaver**, in Music. See QUaver.

**Semisospiro**, in the Italian Music, a little pause, or the eight part of a bar in common time.

**Semitone**, in Music, is one of the degrees, or concinuous intervals, of concords.

There are three degrees, or less intervals, by which a sound can move upwards and downwards successively from one extreme of any concord to the other, and yet produce true melody; and by means of which, several voices and instruments are capable of the necessary variety in passing from concord to concord. These degrees are the greater and less tone, and the semitone. The ratio of the first is 8: 9; that of the second 9: 10.

The ratio of the semitone is 15: 16; its compass is five commas; which interval is called a semitone, not that it is geometrically the half of either of the tones, for it is more; but because it comes somewhat near it. It is also called the natural semitone, and the greater semitone, because greater than the part it leaves behind, or its complement to a tone, which is four commas. The Italians also call it seconda minore, or a lesser second.

*Editorial note: The following paragraphs seem to be an interpolation of material by John Farey Sr*

There are several species of semitones; but those that usually occur in practice are of two kinds, distinguished by the addition of greater and less. The first is expressed by the ratio of 16 to 15, or $\frac{16}{15}$; and the second by 25 to 24, or 33. The octave contains ten semitones major, and two dieses, nearly; for the measure of the octave being expressed by the logarithm 1.000000, the semitone major will be measured by 0.093109; and the octave contains seventeen semitones minor, nearly. If the measure of the octave be the logarithm 1.000000, the measure of the semitone minor will be 0.058894. These two differ by a whole enharmonic diesis; which is an interval practicable by the voice, and was much in use among the ancients, and not unknown even among the modern practitioners. Euler, Tent. Nov. Theor. Mus. p. 107. See INTERVAL.

These semitones are called fictitious notes; and with respect to the natural tones, are expressed by characters called flats and sharps.

Their use is to remedy the defects of instruments, which, having their sounds fixed, cannot always be made to answer to the diatonic scale.

By means of these we have a new kind of scale, called the SEMITONIC Scale; which see.

In practical music, on keyed and fretted instruments, it is a nominal half-tone; though mathematicians, in theory, find it impossible to divide a tone into halves. Rousseau, after explaining the scientific and nominal difference between the major and minor semitone; the major changing its place, as e to f and b to c; and the minor remaining on the same line, or on the same space of the staff; as F♯ F♯, B♭ B♭; observes, that though the imaginary change of tone is expressed by the accent of a sharp or a flat, yet there is no difference in the sound of E♯ and F♯, or in A♯ and B♭, on the organ or harpsichord, the
same tones being sometimes major and sometimes minor, sometimes diatonic and sometimes chromatic, according to the key we are in.

For the importance of the semitone in music, see Mattheson’s *Organisten = probe*, or Treatise on Thorough-base, where he has bestowed many pages on this interval. Zarlino calls it *il sale*, the salt, or seasoning of music.

The use of semitones has been much abused of late, by the now too common trick of running up and down the piano forte in half-notes. Our slow chromatic is fundamental, and productive of modulation; but the quick chiefly consists of appoggiaturas, and mere notes of taste, unnoticed in the base and the accompaniments. See MODERN CHROMATIC.

For the sober use of successive semitones with good taste and effect, see Mozart’s Theme, No. 5. Var. 4. second strain.

SEMITONIC SCALE, or the Scale of Semitones;

*Editorial note: A scientific article by John Farey Sr.*

A scale or system of music, consisting of 12 degrees, or 13 notes, in the octave, being an improvement on the natural diatonic scale, by inserting between each two notes of it another note, which divides the interval or tone into two unequal parts, called semitone.

The use of this scale is for instruments that have fixed sounds, as the organ, harpsichord, &c. which are exceedingly defective on the foot of the natural or diatonic scale. For the degrees of the scale being unequal, from every note to its octave, there is a different order of degrees; so that from any note we cannot find any interval in a series of fixed sounds; which yet is necessary, that all the notes of a piece of music, carried through several keys, may be found in their just tune, or that the same song may be begun indifferently at any note, as may be necessary for accommodating some instrument to others, or to the human voice, when they are to accompany each other in unison.

The diatonic scale, beginning at the lowest note, being first settled on an instrument, and the notes thereof distinguished by their names, a, b, c, d, e, f, g; the inserted notes, or semitones, are called fictitious notes, and take the name or letter below with ♯, as c♯, called c sharp; signifying that it is a semitone higher than the sound of c in the natural series; or this mark ♭, called a flat, with the name of the note above, signifying it to be a semitone lower.

Now $\frac{15}{16}$ and $\frac{128}{135}$ being the two semitones the greater tone is divided into; and $\frac{15}{16}$ and $\frac{24}{25}$, the semitones the less tone is divided into; the whole octave will stand as in the following scheme, where the ratios of each term to the next are written fraction-wise between them below.

**Scale of Semitones.**

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<th>c</th>
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<th>d</th>
<th>d♯</th>
<th>e</th>
<th>f</th>
<th>f♯</th>
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For the names of the intervals in this scale, it may be considered, that as the notes added to the natural scale are not designed to alter the species of melody, but leave it still diatonic, and only correct some defects arising from something foreign to the office of the scale of music, viz. the fixing and limiting the sounds; we see the reason why the names of the natural scale are continued, only making a distinction of each into a greater and less.” Thus an interval of one semitone is called a *less second*; of two semitones, a *greater second*; of three semitones, a *less third*; of four, a *greater third*, &c.

A second kind of semitonic scale we have from another division of the octave into semitones; which is performed by taking an arithmetical mean between the extremes of the greater and less tone of the natural scale, which divides it into two semitones nearly equal. Thus, the greater tone 8:9 is divided into two semitones, which are 16:17, and 17:18; where 16:17:18, is an arithmetical division, the numbers representing the lengths of the chords; but if they represent the vibrations, the lengths of the chords are reciprocal; viz. as $\frac{16}{17} : \frac{8}{9} : \frac{17}{18}$, which puts the greater semitones $\frac{16}{17}$ next the lower part of the tone, and the lesser $\frac{17}{18}$ next the upper, which is the property of the harmonic division. And after the same manner the less tone 9:10 is divided into the two semitones 18:19, and 19:20; and the whole octave stands thus:

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This scale, Mr. Salmon tells us, in the Philosophical Transactions, he made an experiment of, before the Royal Society, on chords, exactly in these proportions, which yielded a perfect concert with other instruments, touched by the best hands. Mr. Malcolm adds, that, having calculated the ratios thereof, for his own satisfaction, he found more of them false than in the preceding scale; but then their errors were considerably less, which made amends. Malcolm’s Music, chap. x. § 2.

SENATUS-CONSULTUM, a vote, or resolution, of the Roman senate, pronounced on some question, or point of law, proposed to it. See SENATE.

The senatus-consulta made a part of the Roman law: when passed, they were deposited in the temple of Ceres, under the custody of the aediles; and at last they were carried, by the censor, to the temple of Liberty, and put up in an armory called tabularia.

Julius Capitolinus speaks of a sort of senatus-consulta tacita, which, he says, were made in reference to affairs of great moment and secrecy by the senators themselves, without the privity of the public officers, under an oath of secrecy, till their designs should be effected.

The narrative of the famous senatus-consultum, or rather decree, against the musician Timotheus, at Sparta, for augmenting the number of strings on his lyre, is confirmed by Pausanias and Suidas.

This curious piece of antiquity is preserved at full length by Boëthius (De Musica, cap. 1.) Mr. Stillings-fleet (Prin. and Power of Harm. § 185.) has given an extract from it, in proof of the simplicity of the ancient Spartan music. The fact is mentioned in Athenæus; and Casaubon, in his notes oil that author (Ammad, in Athen, p. 386.), has inserted tire whole original text from Boëthius, with corrections, to which we refer the learned reader. We shall here, however, give a faithful translation of this extraordinary Spartan Act of Parliament.

“Whereas Timotheus the Milesian, coming to our city, has dishonoured our ancient music, and, despising the lyre of seven strings, has, by the introduction of a greater variety of notes, corrupted the ears of our youth; and by the number of his strings, and the novelty of his melody, has given to our music an effeminate and artificial dress, instead of the plain and orderly one in which it has hitherto appeared; rendering melody infamous, by composing in the chromatic, instead of the enharmonic; — — The kings and the ephori have, therefore, resolved to pass censure upon Timotheus for these things: and, farther, to oblige him to cut all the superfluous strings of his eleven, leaving only the seven tones; and to banish him from our city, that men may be warned for the future, not to introduce into Sparta any unbecoming customs.”

The same story, as related in Athenæus, has this additional circumstance, that when the public executioner was on the point of fulfilling the sentence, by cutting off the new strings, Timotheus, perceiving a little statue in the same place, with a lyre in his hand, of as many strings as that which had given the offence, and showing it to the judges, was acquitted.

Indeed the decree only informs us, that the use of a lyre, with more than seven strings, was not allowed at this time by the Lacedæmonians; but does not prove that the rest of Greece had confined their music within the compass of seven notes: nor, consequently, ascertain how many of the eleven strings were additions peculiar to Timotheus. That the outcry against the novelties of this musician was, however, not confined to Sparta, appears from a passage in Plutarch’s Dialogue, where he gives a list of the innovators who had corrupted and enervated the good old melody, by additional notes both upon the flute and lyre.

“Lasus of Hermione,” says he, “by changing musical rhythms to the dithyrambic irregularity of movement, and, at the same time, emulating the compass and variety of the flute, occasioned a great revolution in the ancient music. Melanippides, who succeeded him, in like manner, would not confine himself to the old music; any more than his scholar Philoxenus, or Timotheus.”

The same thing also appears from the bitter invectives to which the comic poets at Athens, especially Pherecrates and Aristophanes, gave a loose; not, perhaps, from wunderstanding music, or being at all sensible of its effects, but from that envy which the great reputation of the musician had excited. An exalted character is a shooting butt, at which satirists, and wicked wits, constantly point their arrows; and the stage at all times wages war against whatever calls off the public attention from itself.
The abuse, therefore, of this musician, which abounds in ancient authors, is, perhaps, a great proof of his superiority as the praise. A Greek epigram, preserved in Macrobius, informs us, that the Ephesians gave him a thousand pieces of gold for composing a poem in honour of Diana, at the dedication of the temple of that goddess; and was not that a sufficient reason for hungry authors to rail?

Plutarch tells us, that the comic poet Pherecrites introduced Music on the stage, under the figure of a woman, whose body was terribly torn and mangled. She is asked by Justice, under the figure of another woman, the cause of her ill-treatment? when she relates her story in the following words: “The first source of all my misfortunes was Melanippides, who began to enervate and debilitate me by his twelve strings. However, this would not have reduced me to the deplorable condition in which I now appear, if Cinesias, that cursed Athenian, had not contributed to ruin and disfigure me in his dithyrambic strophes, by his false and untuneable inflexions of voice. In short, his cruelty to me was beyond all description; and next to him, Phrynis took it into his head to abuse me by such divisions and flourishes, as no one ever thought of before, making me subservient to all his whims, twisting and twirling me a thousand ways, in order to produce from five strings, the twelve different modes. But still, the freaks of such a man would not have been sufficient to complete my ruin, for he was able to make me some amends. Nothing now was wanting but the cruelty of one Timotheus to send me to the grave, after maiming and mangling me in the most inhuman manner.” “Who is this Timotheus?” says Justice.

Music.

“O ‘tis that vile Milesian blade,
Who treats me like an arrant jade:
Robs me of all my former fame;
And loads me with contempt and shame:
Contriving still, where’er he goes,
New ways to multiply my woes:
Nay more, the wretch I never meet,
Be it in palace, house, or street,
But straight he tries to clip my wings,
And ties me with a dozen strings.”

SEPTIEME, Fr. Septima, Lat. Settima, Ital, the seventh. Brossard has been the guide of all subsequent musical lexicographers. He has been very awk-wardly translated by Grassineau; Grassineau has been followed in the last folio edition of Chambers; and Rousseu, who, writes clearly and elegantly, has retained the mixture of theory, ratios, and the useless jargon of major and minor tones and semi-tones, with practice, so much, as to render the useful knowledge of this important interval totally unintelligible to young students in harmony; to whom we shall address all we have to offer on the subject of the present article, referring scientific enquirers to Harmonics, Ratios, and the definitions of major and minor tones and semi-tones.

The 7th in music, is one of the principal discords; some say the only original discord, as all the rest are derived from it. The 2d and the 9th are only inversions of the 7th. The 4th in itself is a concord, and only made a discord by another discord being struck upon it; but the 2d and the 9th, however derived from inversion, are discords to the ear at all times and in all places.

There are three kinds of 7ths used in practical harmony; the minor, or flat 7th, ten semitonic intervals above the base; the major, or sharp 7th, eleven semitonic intervals above the base; and the extreme flat 7th, only nine half notes above the base, or lowest note, $B^\flat C$, $B^\natural C$, and $F^\flat F^\sharp$.

In counterpoint and thorough-base, the 7th is accompanied by the $C^\flat C$ or common chord, from which its harmony only differs by the addition of that single sound from the triad. And as a base, in practice, is called fundamental, by being accompanied only with the common chord, the addition of the 7th to this common chord does not rob the base figured with a 7th of its title of fundamental.

The 7th in binding notes is prepared in the 3d, 5th, 6th, and 8th, and resolved on the 6th, 3d, and 5th.

Dr. Pepusch has given an excellent chapter on 7ths prepared and resolved in the treble; but to his instructions for 7ths prepared and resolved in the base, p. 77 of the text, we cannot subscribe. See PE-PUSCH, and Analysis of his Treatise on Harmony.

The 7th is the only discord which need not be always prepared.

The sharp 7th, which the French call la note sensible, till about the middle of the last century, was only used in recitative; but since that time it has
been rapidly increasing in favour; first in German symphonies, and afterwards in songs, and every species of elegant music. Its chord is frequently indicated by a 7, a sharp 7th; but different masters frequently use the following numerical expressions of this chord: $\frac{7}{2} \cdot \frac{7}{4}$, and $\frac{5}{2}$. Its origin is an appoggiatura organized.

The extreme flat 7th gives what has been termed by Rousseau the enharmonic chord, consisting entirely of flat 3ds, whence twelve modulations may be acquired, by making each note of the chord the sharp 7th, or leading note to a new key; by which means these three chords $\frac{7}{2} \cdot \frac{7}{4} \cdot \frac{7}{2}$ $G'\ A'\ B'$.

36 modulations. See Music Plates, and INTERVALS, CHORDS, MODULATION, COUNTERPOINT.

SERENADE, an evening concert, given by a lover under the window of his mistress. It generally consists of instrumental music; sometimes, however, vocal is added. These pieces in Italy are also called serenate. The mode of serenades, says Rousseau, has been long discontinued, unless by the common people; and its discontinuance is to be lamented. The silence of the night, which banishes all distraction, gives music additional charms, and renders it more delicious. In the summer of 1770, this was not the case at Venice, six years after Roussieu's the month of August of that year, the following memoranda.

"The people here (at Venice) during summer, seem to begin to live only at midnight. Then the canal are crowded with gondolas, and St. Mark's square with company; the banks too of the canals are all peopled, and harmony prevails in every part. If two of the common people walk together arm in arm, they seem to converse in song; if there is company on the water, in a gondola, it is the same; a mere melody, unaccompanied with a second part, is not to be heard in the city: all the ballads in the streets are sung in duo. Luckily for us, this night, August 7th, a barge, in which there was an excel lent band of music, consisting of violins, flutes, horns, bases, and a kettle-drum, with a pretty good tenor voice, was on the great canal, and stoped very near the house where we lodged; it was a piece of gallantry, at the expense of an inamorato in order to serenade his mistress. Shakspeare says of nocturnal music,

"Methinks it sounds much sweeter than by day.

Silence bestows the virtue on it—I think
The nightingale, if she should sing by day,
When every goose is cackling, would be thought
No better a musician than the wren."

Whether the time, place, and manner of performing this music, gave it adventitious and collateral charms, we will not pretend to say; but all we know is, that the symphonies seemed to us to be admirable, full of fancy, full of fire; the passages well contrasted; sometimes the graceful, sometimes the pathetic prevailed; and sometimes, however strange it may be thought, even noise and fury had their effect.

SERINETTE, a bird organ, said in the Encyclopédie to be an invention of Barbary. The pitch is very high, being in unison with the larigot stop in French organs, and with our 15th. It is used to teach birds little tunes, by those unable to play on the flageolet. Its compass is only an octave, or 13 pipes, as no base is ever wanted.

SERVICE, Choral, in Church History, denotes that part of religious worship which consists in chanting and singing. The advocates for the high antiquity of singing, as a part of church music, urge the authority of St. Paul in its favour: Ephes. chap. v. ver, 9, and Coloss. chap. iii ver, 16. On the authority of which passages it is asserted, that songs and hymns were, from the establishment of the church, sung in the assemblies of the faithful; and it appears, from undoubted testimony, that singing, which was practised as a sacred rite among the Egyptians and Hebrews, at a very early period, and which likewise constituted a considerable part of the religious ceremonies of the Greeks and Romans, made a part of the religious worship of Christians, not only before churches were built, and their religion established by law, but from the first profession of Christianity. However, the era from whence others have dated the introduction of music into the service of the church, is that period, during which Leontius governed the church of Antioch, i.e. between the year of Christ 347 and 356. See ANTIPHONY.

From Antioch the practice soon spread through the other churches of the East; and in a few ages after its first introduction into the divine service, it not only received the sanction of public authority, but those were forbid to join in it who were ignorant of music. A canon to this purpose was made by the council of Laodicea, which was held about the year
clesiastical tones were taken from the reformed city.

was called and dissolute; and it is added, that his own chant
ished from the church the western church. Gregory is also said to have ban
ning that pope Gregory, who began his pontificate in
590, collected the musical fragments of such ancient
psalms and hymns as the first fathers of the church
have approved and recommended to the first Christi
ans; and that he selected, methodized, and arranged
them in the order which was long continued at
Antioch, during the reign of Constantine; and that
St. Ambrose, who had long resided there, had his melodies thence. This was, about two hundred and thirty years afterwards, amended by pope Gregory the Great, who established the Gregorian chant; a plain, unisonous kind of melody, which he thought consistent with the gravity and dignity of the service to which it was to be applied. This prevails in the Roman church even at this day: it is known in Italy by the name of canto fermo; in France, by that of
plain chant; and in Germany, and most other coun-
tries, by that of the cantus Gregorianus. Although no satisfactory account has been given of the specific difference between the Ambrosian and Gregorian chants, yet all writers on this subject agree in saying,
that St. Ambrose only used the four authentic
modes, and that the four plagal were afterwards ad-
ded by St. Gregory. Each of these had the same final,
or key-note as its relative authentic; from which
there is no other difference than that the melodies in
the four authentic, or principal modes, are generally
confined within the compass of the eight notes
above the key-note, and those in the four plagal, or
relative modes, within the compass of the eight notes below the fifth of the key. See MODE.

Ecclesiastical writers seem unanimous in allow-
ing that pope Gregory, who began his pontificate in
590, collected the musical fragments of such ancient
psalms and hymns as the first fathers of the church
had approved and recommended to the first Chris-
tians; and that he selected, methodized, and arranged
them in the order which was long continued at
Rome, and soon adopted by the chief part of the
western church. Gregory is also said to have ban-
ished from the church the canto figurato, as too light
and dissolve; and it is added, that his own chant
was called canto fermo, from its gravity and simplic-
ity.

It has been long a received opinion, that the ec-
clesiastical tones were taken from the reformed
modes of Ptolemy; but Dr. Burney observes, that it is
difficult to discover any connection between them,
except in their names; for their number, upon exami-
ation, is not the same; those of Ptolemy being
seven, the ecclesiastical eight; and, indeed, the Greek
names given to the ecclesiastical modes do not agree
with those of Ptolemy in the single instance of key,
but with those of higher antiquity. From the time of
Gregory to that of Guido, there was no other distinc-
tion of keys than that of authentic and plagal; nor
were any semitones used but those from E to F, B to
C, and occasionally A to B.

With respect to the music of the primitive church,
it may be observed, that though it consisted in the
singing of psalms and hymns, yet it was performed in
many different ways; sometimes the psalms were sung by one person alone, whilst the rest attended in
silence; sometimes they were sung by the whole as-
sembly; sometimes alternately, the congregation be-
ing divided into separate choirs; and sometimes by
one person, who repeated the first part of the verse,
the rest joining in the close of it.

Of the four different methods of singing now re-
cited, the second and third were properly distin-
guished by the names of symphony and antiphony;
and the latter was sometimes called responsaria, in
which women were allowed to join. St. Ignatius,
who, according to Socrates (lib. vi. cap. 8.), con-
versed with the apostles, is generally supposed to
have been the first who suggested to the primitive
Christians in the East the method of singing hymns
and psalms alternately, or in dialogue; and the cus-

tom soon prevailed in every place where Christian-
ity was established; though Theodoret, in his His-
tory (lib. ii. c. 24.) tells us, that this manner of
singing was first practised at Antioch. It likewise ap-
pears, that almost from the time when music was
first introduced into the service of the church, it was
of two kinds, and consisted in a gentle inflection of
the voice, which they termed plain song, and a more
elaborate and artificial kind of music, adapted to the
hymns and solemn offices contained in its ritual; and
this distinction has been maintained even to the
present day.

Although we find a very early distinction made
between the manner of singing the hymns and
chanting the psalms, it is, however, the opinion of
the learned Martini, that the music of the first five or
six ages of the church consisted chiefly in a plain and simple chant of unisons and octaves, of which many fragments are still remaining in the canto fermo of the Romish missals. For with respect to music in parts, as it does not appear in these early ages, that either the Greeks or Romans were in possession of harmony or counterpoint, which has been generally ascribed to Guido, a monk of Arrezao, in Tuscany, about the year 1022; though others have traced the origin of it to the eighth century, it is in vain to seek it in the church. The choral music, which had its rise in the church of Antioch, and from thence spread through Greece, Italy, France, Spain, and Germany, was brought into Britain by the singers who accompanied Austin the monk, when he came over, in the year 596; charged with a commission to convert the inhabitants of this country to Christianity. Bede tells us, that when Austin and the companions of his mission, had their first audience of king Ethelbert, in the isle of Thanet, they approached him in procession, singing litanies; and that afterwards, when they entered the city of Canterbury, they sung a litany, and at the end of it, Alleluiah. But though this was the first time the Anglo-Saxons had heard the Gregorian chant, yet Bede likewise tells us, that our British ancestors had been instructed in the rites and ceremonies of the Gallican church by St. Germanus, and heard him sing Alleluiah many years before the arrival of St. Austin. In 680 John, praecentor of St. Peter’s in Rome, was sent over by pope . Agatho to instruct the monks of Wearmouth in the art of singing; and he was prevailed upon to open schools for teaching music in other places of Northumberland. Benedict Biscop, the preceptor of Bede, Adrian the monk, and many others, contributed to disseminate the knowledge of the Roman chant. At length the successors of St. Gregory, and of St. Austin his missionary, having established a school for ecclesiastical music at Canterbury the rest of the island was furnished with masters from that seminary. The choral service was first introduced into the cathedral church of Canterbury, and, till the arrival of Theodore, and his settlement in that see, the practice of it seems to have been confined to the churches of Kent; but after that, it spread over the whole kingdom, and we meet with records of very ample endowments for the support of this part of public worship. This mode of religious worship prevailed in all the European churches till the time of the Reformation: the first deviation from it is that which followed the reformation by Luther, who being himself a lover of music, formed a liturgy, which was a musical service, contained in a work, entitled, “Psalmodia, h. e. Cantica sacra Veteris Ecclesiæ selecta,” printed at Norimberg in 1553, and at Wittensberg in 1561. But Calvin, in his establishment of a church at Geneva, reduced the whole of divine service to prayer, preaching and singing; the latter of which he restrained. He excluded the offices of the antiphon, hymn, and motet, of the Romish services, with that artificial and elaborate music to which they were sung; and adopted only that plain metrical psalmody, which is now in general use among the reformed churches, and in the parochial churches of our own country. For this purpose he made use of Marot’s version of the Psalms, and employed a musician to set them to easy tunes only of one part. In 1553, he divided the Psalms into pauses or small portions, and appointed them to be sung in churches. Soon after they were bound up with the Geneva catechism, from which time the Catholics, who had been accustomed to sing them, were forbid the use of them, under a severe penalty. Soon after the reformation commenced in England, complaints were made by many of the dignified clergy, and others, of the intricacy and difficulty of the church music of those times: in consequence of which it was once proposed, that organs and curious singing should be removed from our churches. Latimer, in his diocese of Worcester, went still further, and issued injunctions to the prior and convent of St. Mary, forbidding in their service all manner of singing. In the reign of Edward VI. a commission was granted to eight bishops, eight divines, eight civilians, and eight common lawyers, to compile, a body of such ecclesiastical laws as should in future be observed throughout the realm. The result of this compilation was a work, first published by Fox the Martyrologist, in 1571, and afterwards in 1640, under the title of “Reformatio Legum Ecclesiasticarum.” These thirty-two commissioners, instead of reprobating church music, merely condemned figurative and operose music, or that kind of singing which abounded with fugues, responsive passages, and a commixture of various and intricate proportions; which, whether extemporary or written, is by
musicians termed descant. However, notwithstanding the objections against choral music, and the practice of some of the reformed churches, the compilers of the English liturgy; in 1548, and the king himself determined to retain musical service. Accordingly the statute 2 & 3 Edw. VI. cap. 1. though it contains no for. mal obligation on the clergy, or others, to use or join in either vocal or instrumental music in the common prayer, does clearly recognize the practice of singing; and in less than two years after the compiling of king Edward’s liturgy, a formula was composed, which continues, with scarcely any variation, to be the rule for choral service even at this day. The author of this work was John Marbecke, or Marbieke; and it was printed by Richard Grafton, in 1550, under the title of the Book of Common Prayer, noted. Queen Mary laboured to re-establish the Romish choral service; but the accession of Elizabeth was followed by the act of uniformity; in consequence of which, and of the queen’s injunctions, the Book of Common Prayer, noted by Marbecke, was considered as the general formula of choral service. In 1560, another musical service, with some additions and improvements, was printed by John Day; and in 1565, another collection of Offices, with musical notes. Many objections were urged by Cartwright, and other Puritans, against the form and manner of cathedral service, to which Hooker replied, in his Ecclesiastical Polity. In 1664, the statutes of Edward VI, and Elizabeth, for uniformity in the common prayer, were repealed; and the directory for public worship, which allows only of the singing of psalms, established. But upon the restoration of Charles II. Choral service was again revived, and has since uniformly continued. The Quakers object to singing as a part of public worship, and accordingly it is never practised in their meetings. To this respectable body we here make an apology for a jeu d’esprit of our learned coadjutor, Dr. B, who compiled part of the article Liturgy, which escaped him, notwithstanding his well-known liberality and candour, and which was undoubtedly unseasonably introduced, in an account of their public worship. Religious scruples, though in some respects, unfounded and unwarrantable, when seriously avowed, are not fit subjects of ridicule. See on this subject Hawkins’s Hist. of Music, vol. i. p. 404. vol. ii. p. 264 vol. iii. p. 58–468, &c. vol. iv. p. 44–347. Burney’s Hist. Mus. vol. ii. ch. i. passim.

SERVICE, Cathedral. See CATHEDRAL Service.

SERVICES of the Church. (See CATHEDRAL Services.) These have been collected, and splendidly and accurately published in score, by doctors Green, Boyce, and Arnold. These valuable productions appeared in the following order, and are reputable monuments of the abilities of our old masters in the ecclesiastical style of composition, equal, at least, to contemporary productions by the greatest contrapuntists on the continent.

CATHEDRAL MUSIC; being a collection in score of the most valuable and useful compositions for the service by the several English masters of the last 200 years, the whole selected and carefully revised by Dr. William Boyce, organist and composer to the royal chapels, and master of his majesty’s band of musicians. Vol. 1. 1760. The second volume was published in 1768, and the third in 1773. These were both dedicated to his majesty. In 1780, Dr. Samuel Arnold, organist and composer to his majesty’s royal chapels, published, in the same splendid manner, a first volume, in continuation of this collection of services and full and verse anthems of old masters; and in 1790 a second and third volume, all dedicated to the king. There is likewise, in the British Museum, Bibl. Harl. 7337, Plut. VI. B. a collection of English church music, in six vols. 4to, all transcribed for and dedicated to the right hon. Edward lord Harley, by Dr. Thomas Tudway, music professor of Cambridge. In these volumes, among some compositions of no great merit, there are many valuable productions by Tye, Tallis, Bird, Morley, Gibbons, Child, Blow, Purcell and Crofts, that have never yet been published.

SEQUI, a particle often used by old masters and theorists, in Music, in the composition of words to express different kinds of measure. They called sesqui alter measures those which contain notes equal to one third more than their usual value; that is, when equal to three notes of less value, instead of two. This happened in what was called perfect time, before the use of points or dots, when the breve was equal to three semibreves, the semibreve to three minim; &c.

In Italian treatises by old theorists, sesqui is much used to express a kind of ratio, particularly in different species of triples; that is, when the greater
term contains the less once, and some small quantity more; as 3 : 2, when the first term contains the second, and unity over, which is the half of 2. So that if the part remaining be just half the less term, as 4 : 3, the ratio is called sesqui terza, or tertia; if a fourth, or 5 : 4, the ratio is sesqui quarta, and so on to infinity; still adding to sesqui the ordinal number of the less term.

SEQUIALTER is a stop in the organ, employing a whole and a half. In large organs this stop has usually five ranks of pipes, each note having one sound in unison with the diapason, one with the principal, one with the twelfth, and one with the fifteenth.

SEQUIALTERATE, the greater perfect, which is a triple where the breve is three measures, or semibreves, and that without having any point or dot annexed to it.

SEQUIALTERATE, greater imperfect, which is where the breve, when pointed, contains three measures, and without any point, two.

SEQUIALTERATE, lesser perfect, which is where the semibreve contains three measures, and that without any point.

SEQUIALTERATE, lesser imperfect, a triple, where the semibreve, with a point, contains three measures, and two without.

According to Buontempi, one may likewise call the triples 4/3 and 12/8, sesqui-alterates.

SESQUIDITONE, in Music, a concord, resulting from the sounds of two strings, whose vibrations, in equal times, are to each other in the ratio of 5 to 6. See DITONE and INTERVAL.

SESQUI-OCTAVE, is a kind of triple marked C9/8, called by the Italians nonpula di crome, where there are 9 quavers in every measure or bar, in lieu of 8.

SESQUI-QUARTA, DUPLA, is a kind of triple, marked C9/4, called by the Italians nonpula di fememinine, where there are 9 crotchets in each measure instead of 4; that is, three crotchets to each time.

SEVILLE, the organ of:

Editorial note: This section appears in the middle of the SEVILLE article, during an account of the Cathedral which would have been written by some-one else, and not Burney.

The construction of the organ is peculiar; it contains 5300 pipes, with 110 stops, being, as it is said, 50 more that those of the famous one at Haerlem, yet, so ample are the bellows, that when stretched they supply the full organ fifteen minutes. The mode of filling them with air is singular; for instead of working with his hands, a man walks backwards and forwards along an inclined plane of about fifteen feet in length, which is balanced in the middle on its axis; under each end is a pair of bellows of about six feet by three and a half. These communicate with five other pair united by a bar; and the latter are so contrived, that when they are in danger of being overstrained, a valve is lifted up, and gives them relief. Passing ten times along the inclined plane fills all these vessels.

SEXTA PARS Lat. a sixth vocal part in the motetti and madrigals of old masters.

SEXTUPLE, Ital. Sextuple, Fr. and Eng, in Music, implies a compound time of triplets mixed with binary time. Sextuple time is never properly used but in the saraband, consisting of six even crotchets, or quavers, expressed by 3/4 or 3/2, where triplets are out of the question. All other indications of compound measure, or, as formerly called, jig time, are at present the following 8/6 9/8 12/4; all which measures consist of triplets.

Old authors mention five different species of sextuple time: as,

SEXTUPLE of the Semibreve, by the French called triple of 6 for 1, as being denoted by those two numbers 1/1; or, because here are required six semibreves to a measure, in lieu of one, viz. three rising, and three falling.

SEXTUPLE of the Minim, called by the French triple of 6 for 2, as being denoted by 6/2; which show, that six minims are here required to a measure, instead of two.

SEXTUPLE of the Crotchet, called by the French triple of 6 for 4, because denoted by 6/4 or 4/6, which show, that there must be six crotchets to a measure, in lieu of four.

SEXTUPLE of the Chroma, by the French called triple of 6 for 8, as being denoted by 8/6; which show, that six quavers here make the measure, or semibreve, instead of eight.
SEXTUPLE of the Semichroma, or triple of 6 for 16, so called, because denoted by $\frac{6}{16}$; which show, that six quavers are here required to a measure, instead of sixteen.

SHAKE, in Music, is a grace, an embellishment of melody, of which the indication is a $\text{tr}$, or sometimes only $t$, the initial of the Italian term trillo, which implies the same thing. There are two kinds of shakes, the continued, and the transient. The continued shake, upon a long note, must be practiced at first by incipients, slow, and accelerated by degrees. The effect of a shake is a rapid motion of two adjoining notes: as $de$, $be$, &c.

In our didactic and elementary articles, we should not with to confine ourselves to mere dry definitions of terms of art; but, having had some little experience, we would gladly assist students, by pointing out the means of acquiring the practical use of what we describe.

With regard to a vocal shake, we can do young singers no greater kindness, than in referring them to the 3d Chap. of Tosti’s “Observations on florid Song,” as admirably translated by Galliard, and illustrated with the notes of that able and experienced master.

Tosti, after informing the student of the importance of the shake to singers, says, “Let the master strive to enable his scholar to attain a shake that is equal, distinctly marked, easy, and moderately quick, which are its most beautiful requisites.” This excellent author describes the different kinds of shakes, and their preparation, that are worth cultivating, as, well as those that are to be avoided. The free and open shake on the whole tone and the semitone, are certainly the principal.

The two tones or semitones that constitute the shake major or minor, should be equally loud and distinct; but above all, perfectly in tune with the notes of the general scale and particular key in which the performer is singing. The Italians call a bad shake, or no shake at all, but a quivering upon the same note, tosse do capra, a goat’s cough. If the singer is not possessed of a true and good shake, he or she had best refrain from ever attempting it; and if accustomed to elegant melody, and possessed of good taste and ornamental embellishments, the shake in songs of expression and pathos may be avoided with advantage.

As the acquiring of a good shake in singing is a work of time, difficulty, and uncertainty several ingenious and elegant cadences have been invented, in order, to evade the shake. A good shake well applied is certainly a great ornament; but it is a matter of brilliancy more than expression; non dice niente, it says nothing – according to modern Italian critics, and is seldom wanted except at the end of a formal close. Those who have a good shake, like persons with a fine set of teeth, are too ambitious of letting you know it. The different kinds of shakes are expressed in notes on the music plates. The plain note and trill are at present thought more elegant, and are more frequently used than the sudden and long continued rapid motion of the common shake.

Shakes upon keyed instruments are be practised at first with the second and third fingers; holding down at the same time the fifth below with the thumb, to keep the hand and the wrist quiet. And we recommend, contrary to the usual practice and precepts, beginning the shake with the lowest note; otherwise, in rapid transient shakes on semiquavers, there is not time for returning to the upper note; so that the shake is reduced to a mere appoggiatura. See GRUPPO and TRILL.

SHARP, in Music, is a chromatic sign, marked thus, $\#$; and elevates the note before which it is placed half a tone, without changing its name or place on the staff.

A sharp on a line or space, at the beginning of a movement, affects all the notes of the same name throughout the piece, contradicted by a natural, $\natural$. See NATURAL.

An accidental sharp affects no note beyond the single bar in which it occurs; but it always, when accompanied by a base or lower part, implies a new modulation, except in minor keys, the sharp to the seventh of the key, which is a thing of course.

In the key of C $\sharp$ with a sharp third, there are seven sharps at the clef, which implies that every
note in the scale is elevated a semitone above its usual pitch.

In this key, an accidental sharp is marked by a double sharp $\#$, usually called a diesis, or enharmonic sharp; which see.

**SHIFT**, a term in **Music**.

*Editorial note: Written in 1809*

Used for conducting the hand on the finger-board of the violin, and instruments with a neck. By moving the left hand a little towards the bridge, and placing the first finger where the second was, on the second string of the violin, in the natural position of the hand, it will produce C instead of B, and the little finger will then produce C on the first string, its octave: and this is called the half shift. The first, or whole shift, is placing the first finger where the third was, in the natural position of the hand, which will produce D on the second string, and the little finger its octave on the first. The next movement of the hand towards the bridge is placing the first finger on E of the second string, when the little finger will give its octave on the first string, and this is termed the double shift; each shift commanding all the intermediate notes of an octave to the first finger. By this means a half, a whole note, or any number of notes, may be gained upwards upon each string, to the end of the finger-board. A readiness at these shifts, on short notice, in all keys, and in true intonation, it is said to be knowing the finger-board well. At present (1809) high solo parts for the violoncello are written in the treble clef.

SI, in **Music**, a name in singing, given by the French to the sharp 7th of the key of C, to preclude the embarrassment of the mutations in solmisation. (See HEXACHORD, and MUTATIONS.) A similar expedient had been often attempted by various authors; but none had been so generally adopted as this, which however was long solely confined to France; nor is it yet general all over Europe. And we think that the manner in which the French syllabize not only vocal but instrumental music, is subject to very material objections; it only provides for one key. If the new syllable *si* had been used for the sharp 7th of every key, as well as that of *ut* or C natural, and *la* for every key-note or *tonique* in minor keys, it would have exempted the *principlianti* in singing from much perplexity. There is no certain name for any note, except in the key of C, *ut*, *re*, *mi*, *fa*, *sol*, *la*, *si*, *ut*; and whether B is flat, natural, or sharp, it is equally denominated *si*; as C, whether natural, flat, or sharp, is always called *ut*. When D is the key-note, it is named *re*; when it is the 3d of the key of B♭, or 4th of A, it still retains the name of *re*.

Malcolm, in the year 1721, was the first who openly censured the hexachords, which Dr. Pepusch, in 1731, defended with some warmth, by giving the best and clearest explanation of their use and importance, not only in singing but composition, in regulating the answers to fugues. Fouchs, Padre Martini, Sala, and the most respectable Italian and German theorists, still adhere to the solmisation which has produced so many great composers and singers during the two last centuries. We have given our opinion fully on the subject in the article SERRA, a Roman master, who proposed a new method of naming the intervals in cultivating the voice. See SERRA.

The original introduction of this syllable is attributed by Mersennus and other writers to one La Maire, a French musician, who laboured for thirty years to bring it into practice; but he was no sooner dead than all the musicians of his country made use of it. However, it has been the more general opinion, that the syllable *si* was introduced into the scale by Eracus Puteanus of Dort, who lived about the year 1580. M. Bourdelot ascribes the introduction of this syllable into the scale to a Cordelier, about the year 1675; and he adds, on the testimony the abbé de la Louette, that it was invented, or a second time brought into practice, by one Metru, a famous singing-master at Paris, about the year 1675; and Bonet inclines to think, that the honour of the invention might be due to the Cordelier, but that the merit of reviving it is to be ascribed to Metru. Bourdelot insinuates, that though the use of the syllable *si* is much approved of by the French musicians, yet in Italy they disdain to make use of it, as being the invention of a Frenchman. Hawkins's Hist. of Music, vol. i. p. 435.
The French are not yet agreed to whom they are obliged for the syllable si; some say it was Nevers, some La Maire, and others claimants are mentioned by Rousseau; but not being quite satisfied with its utility, we shall bestow no pains in verifying the claims of an imperfect invention.

SIFFLET, Fr. a cat-call. According to M. Laborde, it was during the reign of Augustus that clapping of hands and cat-calls were introduced in the Roman theatres. Essai sur la Musique.

SILENCE, Fr. in Music, equivalent to rest; which see.

SIMPACITY, in Music. There is much cant about simplicity in music, among the exclusive admirers of old things, and lamentation for the loss of our old melodies to the songs of Chaucer, Gower, Lydgate, and others, of which the words are still extant. But if we may judge by what has escaped the ravages of time, of a later date, the loss of our musical compositions of this period may be supported without much affliction. We may perhaps heighen that affliction considerably by censuring modern refinements, and extolling the charms of ancient simplicity; but simplicity in melody, beyond a certain limit, is unworthy of the name that is bestowed upon it, and encroaches so much upon the rude and savage boundaries of uncouthness and rusticity, as to be wholly separated from proportion and grace, which should alone characterise what is truly simple in all the arts: for though they may be ennobled by the concealment of labour and pedantry, they are always degraded by an alliance with coarse and barbarous nature.

Old melodies, when we find them, and can ascertain their dates, are curious historical facts in the annals of the musical art; and afford us more satisfactory information concerning our ancient national taste, than all the verbal descriptions in prose and verse can do. And it must be owned, that though the natives of Scotland, Ireland, and Wales, can boast of national tunes, both plaintive and spirited, that are characteristic, pleasing, and distinct from each other, the English have not a melody which they can call their own, except the hornpipe and Cheshire-round. The hornpipe, indeed, was in all probability British, or Welsh; as the pip-corn, or pipe of Cornwall, was an armoric instrument and tune, brought thither by the Britons, driven to that part of the island, and into Brittany and Wales, by the Saxons. The Cheshire-round is a melody of the same kind. See HORN-PIPE, and plate of National Tunes.

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SINGING, the act of making divers inflexions of the voice, agreeable to the ear, and corresponding to the notes of a song, or piece of melody.

The Greek musicians, says Dr. Smith in his Harmonics, p. 3. note c, rightly describe the difference between the manner of singing and that of talking.

They considered two motions in the voice: the one continued, and used in talking; the other discrete, and used in singing. In the continued motion, the voice never rests at any certain pitch, but waves up and down by insensible degrees; and in the discrete motion it does the contrary, frequently resting or staying at certain places, and leaping from one to another by sensible intervals. Euclid’s Introductio Harmonica, p. 2. In the former case, the vibrations of the air are continually accelerated and retarded by turns, and by very small degrees, and in the latter by large ones.

The first thing done, in learning to sing, is to raise a scale of notes, by tones and semitones, to an octave; and descend again by the same notes; and then to rise and fall by greater intervals, as a 3d, 4th, and 5th, and to do all this by notes of different pitch.

Then these notes are represented by lines and spaces, to which the syllables fa, sol, la, mi, are applied, and the pupil is taught to name each line and space by them; whence this practice is usually called sol-fa-ing. The nature, reason, defects, &c. of which, see under the article SOL-FA-ING.

For the history of singing, as a part of religious worship, see Choral SERVICE.

SINGING, Processional. It was about the year 386, during the persecution of the orthodox Christians by the empress Justina, mother to the then young emperor Valentinian II. that ecclesiastical music was introduced in favour of the Arians. “At this time,” says St. Augustine, “it was first ordered that hymns and psalms should be sung after the manner of eastern nations, that the people might not languish and pine away with a tedious sorrow, and from that time to the present it is retained at Milan, and imitated by almost all the other congregations of the world.”
Music is said by some of the fathers to have drawn the Gentiles frequently into the church through mere curiosity; who liked its ceremonies so well, that they were baptised before their departure. The generality of our parochial music is not likely to produce similar effects; being such as would sooner drive Christians with good ears out of the church, than draw Pagans into it.

About this time, during the contention between the orthodox Christians and the Arians, we find by Socrates the historian, (l. vi. c. 8) that the heretics used to sing hymns, marching through the streets of Constantinople in procession, with which the vulgar were so much captivated, that the orthodox, under the direction of St. Chrysostom, thought it necessary to follow the example which had been set them by their greatest enemies. Processional singing had been long practised by the Pagans, but no mention is made of it among Christians before this period.

SINGING in the Church by the primitive Christians. With respect to the music that was first used by the Christians, or established in the church by the first emperors that were converted, as no specimens remain, it is difficult to determine of what kind it was. That some part of the sacred music of the apostles and their immediate successors, in Palestine and the adjacent countries, may have been such as was used by the Hebrews, particularly in chanting the psalms, is probable; but it is no less probable that the music of the hymns which were first received in the church, wherever Paganism had prevailed, resembled that which had been many ages used in the temple-worship of the Greeks and Romans. Of this, the versification of those hymns affords an indisputable proof, as it by no means resembles that of the psalms, or of any other Hebrew poetry. And examples may be found in all the breviaries, missals, and antiphonaries, ancient and modern, of every species of versification which has been practised by the Greek and Roman poets, particularly the lyric; such as the Alemanian, Alcaic, Sapphic, &c.

St. Hilary, bishop of Poictiers, and St. Ambrose, are said to have been the first that composed hymns to be sung in the western churches. Both these fathers flourished about the middle of the fourth century; but Prudentius, a Christian poet, contemporary with Theodosius, who died in 395, was author of most of the hymns in the Roman breviary.
ing forfeited, five hundred had been offered to the individual who could perform such a feat, fewer candidates would have entered the lists than if the like premium had been offered for flying from Salisbury steeple over Old Sarum, without a balloon.

SINGING, Parochial. See PSALMODY. See also STERNHOLD and HOPKINS.

SINGING in Italy, during the 16th century, Zacconi, one of the best Italian writers on music of that period, in his “Prattica di Musica,” published 1596, chiefly dwells, in the first book, on the superiority of the singing and singers of his own time, over all that preceded them; and has a long chapter upon the manner of graceing and embellishing a melody, where he tells us, “Che stile sitenghi nel far di gorgia; dell’ uso de i moderni passagi, come siorischino le cantilene;” and speaks of acconciture, as the modern Italians do of rissioramenti, or graces. The divisions, however, into which he breaks passages, in order to embellish them, if adopted by an opera-singer of the present times, would be like a modern fine lady appearing at court in the furbelows and flounces of queen Elizabeth, or a fine gentleman in the peruke of sir Cloudesley Shovel.

SINGING in France, during the 17th century See MERSENNUSS, and ST. EVREMOND.

SINGING in England, previous to the reign of queen Anne.

Music at all times has been called in to the assistance of weak plays and unattractive actors in our national theatres; and incidental songs, and singing between the acts, have been found so alluring, that when there was no plan formed for exhibiting musical dramas, singers have been engaged at considerable salaries, expressly for that purpose.

Before the last century, the art of singing, indeed, seems to have been little cultivated among us, by either sex, beyond what concerned time and tune. The honourable Roger North, in his manuscript “Memoirs of Music,” speaks of the younger Banister as an excellent singing-master; but the players, who sung Purcell’s songs on the stage, seem to have had nothing but voice and action to recommend them; such as Bowen, Harris, Freeman, and Pate, among the men; and among the women, Mrs. Davis, Miss Shore, afterwards wife to Colley Cibber, ‘Mrs. Cross, Miss Champion, and Mrs. Bracegirdle. It was, however, a powerful recommendation to a song, during the 17th century, to say that it had been performed at the playhouse. How different from modern times: Church music, by the gay and fastidious frequenters of the opera, before, as well as after it had been heard, is pronounced to be old fashioned, and play-house music vulgar. Till the reign of queen Anne, indeed, the gentlemen of the chapel royal were occasionally allowed to sing on the stage; but that princess thinking the practice indecent, prohibited its continuance. There are few instances of vocal performers, especially female, being brought on our stage, but by accident. The fear of seduction, proligacy, and the world’s opinion, deters parents from educating their children with a view to a profession, which nothing but uncommon success and prudence can render honourable in the eyes of the most serious part of the nation. The generality of female singers, therefore, having every thing to learn after leisure for study is no longer in their power, usually remain ignorant of the principles of their art, and so totally dependent on a master, as to be obliged to perpetuate that apprenticeship, which ought to have been served before they set up for themselves.

In 1763, the pasticcio burletta of “Love in a Village,” and in 1765 “The Summer’s Tale,” and “The Maid of the Mill,” betrayed us into a taste for Italian melody, which has been the model of most of our vocal composers in and out of the theatre ever since. The “Duenna,” another favourite English pasticcio, in 1775, helped us on, and Dr. Arnold, Mr. Dibdin, and Mr. Shield, have very judiciously complied with the reigning taste, and imitated or adopted the opera style in all its vicissitudes. Linley of Bath, and Jackson of Exeter, in their elegies at least, have steadfastly adhered to a style of their own, which seems to have been formed upon the melodies of our best old English masters, and those of the last age, that were most worthy of being preserved.

Till the Italian opera was established in this country, little was expected of a singer besides voice and an ear. Indeed, long after that period, good taste in singing was so little diffused throughout the island, that the great and exquisite performers who came hither from the continent seem to have made but a small impression on their astonished hearers. Nicolini, Senesino, Bernacchi, Faustina, Cuzzoni, Farinelli, Cassarelli, Carestini, Conti, Monticelli, Mingotti, Elizi, Manzoli, Guarducci, and Guadagni,
had no effect upon our national taste; and though a few individuals among the people of fashion, by private instructions from them, and by the best of all lessons, hearing them frequently perform in public, diminished the original sin of our native brogue and vulgar expression; yet as these pupils could be heard but by few, their power was local, and no more likely to have any general effect upon our national cantilena, than their learning French and Italian upon our general language. It is not difficult, however, to fix the era of a change in our vocal music, which seems to have remained stationary for near half a century. It was begun by the compositions and instructions of Dr. Arne, who endeavoured to refine our melody and singing, more from Italian than English models; and was greatly accelerated by the pasticcio English operas above mentioned, as well as by the instructions of Tedeschini, Cocchi, Vento, and Giardini, who were employed about this time to teach several of our playhouse singers. Tenducci's performance in Artaxerxes had a rapid effect upon the public taste, and stimulated to imitation all that were possessed of good ears and flexible voices. In later times, the scholars of Sacchini, Piozzi, Parsons, and others, with the public concerts, where the best compositions and most exquisite performances of all kinds were constantly heard, completed the revolution; and it may be with truth and certainty affirmed, that our taste and judgment in both, even at the playhouses, differ as much from those of twenty or thirty years ago, as the manners of a civilized people from those of savages.

SISTRUM, a sacred musical instrument with the ancient Egyptians; and one that is still used by the Abyssinians in religious ceremonies.

Spon describes it of an oval form, made in manner of a racket, with three sticks traversing it breadthwise, which, playing freely by the agitation or beating of the instrument, yielded a kind of sound, which, to the ancients, seemed melodious. The upper part was adorned with three figures; that of a cat with a human face in the middle, the head of Isis on the right side, and the head of Nephthys on the left.

The representation which we have given in the Plate of Music was drawn from an ancient sistrum preserved in the library of St. Genevieve at Paris. It has been disputed by the abbé Winckelman, whether the sistrum was of very high antiquity in Egypt, because it did not appear in the hands of such Egyptian statues as he had seen at Rome; but as there is one in the hand of a very ancient statue of Isis, which doctor Pococke brought into England from Egypt, it puts that point of musical history out of all dispute. The sistrum appears in the Isiac Table; and Apuleius makes an old Greek invoke an Egyptian priest “by the stars in the firmament; by the infernal divinities; by the elements which compose the universe; by the silence of the night; by the sanctuary in the temple of Coptos; by the increase of the Nile; by the mysteries of Memphis; and by the sistrum of Pharos.” By Pharos, an Egyptian island, was here figuratively meant, all Egypt.

Mr. Malcolm takes the sistrum to have been no better than a kind of rattle. Jer. Bosius has an express treatise on the sistrum, entitled, “Isiacus de Sistro.”

Oiselius observes, that the sistrum is found represented on several medals; and also on talismans. Osiris, on some medals, is painted with the head of a dog, and with a sistrum in his hand.
SIXTH, SESTA, Ital., Sixte, Fr., in Music, the second of the two imperfect concords, called by the Greeks Hexachordon, because its interval is formed of six sounds, or five diatonic degrees. The sixth is only a natural consonance by combination; for in the order of concords there is no simple and direct sixth.

To consider sixths by their intervals, there are four different sorts; two consonant, and two dissonant. The consonant are, first, the minor sixth, composed of three tones, and two major semitones; as E C: its ratio is 5 to 8. Secondly, the major sixth, composed of four tones, and a semitone major; as G E: its ratio is 3 to 5.

The dissonant sixths are the extreme flat, and the extreme sharp sixths; as B ♭ and G ♯, called by the French the superfluous sixth; and C ♯ and A ♭. Neither of these intervals can be used in melody, and only the first in harmony.

Dr. Pepusch has given eight examples of the allowable use of the sixth in two parts; and Rousseau has given a list of seven chords, in which sixths are employed. These are, first, the simple chord of the sixth to the third of a key, when that third is the supposed base, instead of its fundamental. This kind of chord, which is the common chord to the third below the base, may be given likewise to the second and the sharp seventh of a key. The second use of the sixth is with the fourth, which is still a perfect concord to the fifth below the base. The third use of the sixth is in the chord of the $\frac{6}{4}$, which is the chord of the seventh to the fifth. The fourth use of the sixth is in the chord of the $\frac{3}{5}$, which is the chord of the seventh to the minor third below the base. This harmony is usually given to the fourth of a key.

The fifth use of the sixth is in what Rameau calls le double emploi, or double use of the $\frac{5}{2}$; when either of these intervals may be regarded as the discord. If the fifth is made a discord by the sixth, it must be resolved by descending on a concord; but if, as before a close, the sixth is regarded as the discord, it must be resolved by ascending to another sixth, while the fifth remains for a fourth to the next base. See DOUBLE Emploi, and RESOLUTION.

The sixth use of the sixth is that of the major sixth and false fifth, which is the chord of the extreme flat seventh to the second of a minor key, in which the false fifth is taken, instead of the fourth.

Lastly, the seventh use of the sixth is in the chord of the extreme sharp sixth, used only to the sixth of a minor key; as D ♯ to F♯, when the base descends to E, the fifth of the key, with a sharp third. This is an original chord, which cannot be inverted. All these chords will be given in notation on the music plates, in the rules for accompaniment, or thorough-base. The major sixth is nine semitones or half notes above the base; the minor sixth, eight.

The sixths, major and minor, being inversions of the thirds in composition and accompaniment, may, in two parts, move in succession upwards and downwards at pleasure. It has, in a regular descent a solemn and melancholy effect, more pleasing than in a regular ascent. In composition and accompaniment, this concord is accompanied by the $\frac{5}{3}$, or by its octave and a third, or by two thirds. In thorough-base, doubling the sixth or third, when the movement is not very rapid, enriches the chord and the harmony more than the eighth.

SLUR, in Music, a mark like the arc of a circle, drawn from one note to another, comprehending two or more notes in the same or different degrees. If the notes are in different degrees, it signifies that they are all to be sung to one syllable; for wind instruments, that they are to be made in one continued breath; and for stringed instruments, that are struck with a bow, as a violin, &c. that they are made with one stroke. If the notes are in the same degree, it signifies that it is all one note, to be made as long as the whole notes so connected; and this happens most frequently betwixt the last note of one line, and the first of the next; which is particularly called syncopation.

SMORZATO, in Italian Music, for the violin family, implies that the bow should be drawn or pressed to its full length, not with the same force throughout, but lighter by degrees, till scarcely any sound is heard. This term seems now superseded by diminuendo and perdendosi.

SOCIETY or Fund for the Support of decayed Musicians and their Families, was established in 1738, and incorporated in 1790.

This institution had always been patronized by many of the first families in the kingdom, as honorary subscribers; and the public in general eagerly
attended the annual benefits, which, with the subscriptions of the professional members, and gratuitous performance, produced a considerable sum. But the benevolent spirit of the establishment was narrowed, and insufficient to furnish means of comfort to the claimants already on their list, and consequently precluded the augmentation of their number, till after that memorable event, the Commemoration of Handel in 1784, by which 6000l. were added to their fund, enabled the governors to enlarge and extend their bounty, by a more considerable allowance to the decayed claimants and their families already on their list, and to be less scrupulous in the admission of new members.

Their majesties and the royal family having been graciously pleased to countenance this establishment, and honour it with their presence, not only at all the commemoration performances, but at every subsequent annual benefit for its support, increased its importance, and excited an ambition in the members to be under the immediate protection of his majesty; which wish was most graciously complied with in 1790, by a permission to incorporate themselves under the title of the “Royal Society of Musicians,” till which period the institution went under the title of “The Fund for the Support of decayed Musicians and their Families.”

SOGGETTO, Ital., subject, an initial theme or text, in Music, for a composer to work into a movement for voices or instruments, without any limitation of parts in its accompaniment.

A subject is frequently given by a master to a student in counterpoint, in the base, the tenor, or the treble, for him to write upon, or find accompaniments to in every station, alternately; which, when happily achieved, becomes double counterpoint.

Writing upon canto fermo, as is constantly done by the students in the conservatories at Naples, for several years, before they are allowed to set words or exercise their fancy in instrumental compositions, is of this kind. Candidates for organists’ places, and other professional appointments and honours, have subjects of fugue frequently given them at elections, to play upon extempore; which, if the judges are profound and severe, is a trial of abilities and courage, in which few are able to acquit themselves to their satisfaction. See FUGUE, CANTO FERMO, DOUBLE COUNTERPOINT, and ROSEINGRAVE.

SOL, a syllable in the first elements of vocal music, which in major keys, always implies the 5th above the Key-note: as, do, re, mi, fa, sol; or do--sol

SOL-FA-ING, in Music, the naming and pronouncing of the several notes of a song, by the syllables sol, fa, la, &c. in learning to sing it.

For a view of the origin of these syllables, see Harmonical HAND.

Though this system of solmisation does not appear to have been wholly developed in the writings of Guido, to whom the invention of the gammut and harmonical hand has been commonly ascribed; yet Dr. Burney observes, that writers very near the period in which he lived give him the honour of its discovery; and particularly Sigeberth, a monk of Gemblours, in the diocese of Namur, in Brabant, in his Chronicle under the year 1028. John Cotton also, who lived about a century after Guido, says that solmisation by the six syllables, ut, re, mi, fa, &c. was practised by the English, French, and Germans; but the Italians, he adds, made use of other syllables; and by a passage from the Chronicle of Tours, under the year 1033, cited by Carpentier, in his Supplement to the Latin Glossary of DuCange, art. Gamma, Guido is put in full possession of the scale, and solmisation. About the end of the 17th century, the additional syllable si was universally received in France for the seventh of the key of C. The earliest English writer, mentioned by Dr. Burney, who takes notice of the omission of ut and re in solmisation, is Mr. Charles Butler, in his Principles of Music, published in 1636, and after his time the ut and re were rejected by all the English singing-masters; Dr. Holder, Dr. Wallis, and every writer on music in this kingdom, were unanimous in excommunicating these two syllables, till Dr. Pepusch endeavoured, and not unsuccessfully, to have them again restored.

An ingenious member of the Academy of Arcadia, in Rome, published a pamphlet in 1746, recommending a new method of solmisation by twelve syllables, formed into twelve ideal words, viz. utharè, bomisa, tusoldè, lanosì, and comprehending the whole scale of semitones, from C to c exclusive. This method is approved by the celeb-rated composer Hasse, and by signor Giambatista Mancini, singing-master to the imperial family at Vienna. Signor Serra, in a treatise published at Rome in 1775, proposes to name the notes in singing by the seven
first letters of the alphabet, distinguishing the flat, natural, and sharp notes by the addition of the three first vowels to the seven letters, as ca, c, flat, ce, c natural, and ci, for c, sharp, by which means the student is disembarrassed from all the mutations, and every sound in the scale has a specific and invariable name appropriated to it. This method has been approved by several of the best masters in Rome.

Of the seven notes in the scale, ut, re, mi, fa, sol, la, si, only four are in use among us, viz. fa, sol, la, mi. Their office is principally in singing, that by applying them to every note in the scale, it may not only be pronounced more easily, but chiefly that, by them, the tones and semitones of the natural scale may be better marked out and distinguished.

The design is obtained by the four syllables, fa, sol, la, mi: thus, from fa to sol is a tone; as also from sol to la, and from la to mi, without distinguishing the greater or less tone; but from la to fa, also from mi to fa, is a semitone.

If then these be applied in this order, fa, sol, la, fa, sol, la, mi, fa, &c. they express the natural series from c, and if that be to be repeated to a second or third octave, we see by them how to express all the different orders of tones and semitones in the diatonic scale; and still above mi will stand fu, sol, la; and below it, the same reversed, la, sol, fa; and one mi is always distant from another by an octave; which cannot be said of any of the rest, because after mi ascending, comes always, fa, sol, la, fa, sol, la, which are repeated invertedly, descending.

To conceive the use of this: it is to be remembered, that the first thing in teaching to sing, is to make one raise a scale of notes by tones and semitones to an octave, and descend again by the same notes, and then to rise and fall by greater intervals, at a leap, as a third, fourth, fifth, &c. and to do all this by beginning at notes of different pitch. Then these notes are represented by lines and spaces, to which those syllables are applied, and the learner is taught to name each line and space by its respective syllable, which makes what we call sol-fa-ing; the use of which is, that while they are learning to tune the degrees and intervals of sound, expressed by notes set on lines and spaces, or learning a song to which no words are applied, they may do it the better by means of an articulate sound; but chiefly, that by knowing the degrees and intervals expressed by these syllables, they may more readily know the true distance of notes.

Mr. Malcolm observes, that the practice of sol-fa-ing, common as it is, is very useless and insignificant; either as to the understanding or practising of music, yet exceedingly perplexing; the various applications of the several names, according to the various signatures of the clef, are enough to perplex any learner; there being no less than seventy-two different ways of applying the names, sol, fa, &c. to the lines and spaces of a particular system.

SOLFEGGIAMENTO, in the Italian Music, compositions of which the syllables ut, or do, re, mi, fa, &c. are the subject. See the next article.

SOLFEGGIARE, Ital. Sofer, Fr. is what the vulgar in England call sol-fa-ing. All these expressions in ply the same thing, naming the intervals in the first lessons of singing; for which, among regular musicals, the proper term in English is solmisation; which see.

The solfeggios, or exercises for the voice, composed by Leo for the vocal students in the conservatories of Naples, were used, during the chief part of the last century, by all singing-masters unable to write to the wants and abilities of their scholars. But the passages in these, though excellent in their day, being now worn out and common, are generally superseded by the solfeggi of Aprile.

SOLLECITO, in Italian Music. This word has two acceptations: the one implies that a movement is to be performed with a mournful and sorrowing expression; the other means carefully, and with accuracy.

SOLMISATION, or naming the notes in the scale according to the hexachord of Guido. See MUTATIONS and SERRA.

SOLMISATION of the Greeks. The ancient Greeks had their solmisation in vocal music, as well as the moderns; having for that purpose used four monosyllables, ending with different vowels, for the exercise of the voice in singing; like our mi, fa, sol, la. These were, for the first note of each tetrachord, τᾶ; for the second, τῆς; for the third, τῶς; and for the fourth, if it did not serve as the first of the adjoining and relative tetrachord, τῆς; but if it began a new tetrachord, it was called by the first name, τᾶ.
almost incessant use of the tromboni, and perpetual aliy, a fine effect; but in a more confined space, the powerful a chorus of voices and instruments as were building as Westminster Abbey, and softened by so these truly savage instruments; which, in so wide a proportion to the din and stenterophonic screams of tromboni, &c. augmented his lordship's pleasure, in unless he beat it himself. And at the Commemoration of the Earl of Sandwich, without a kettle-drum, nor with, composition was never thought complete by the late instituted at the concert of ancient music, where a subject was subjected to a penalty instead of a reward; a law in the ancient music, served as a proof that the fourth, in the ancient music, served as a boundary to a system of four sounds, in the same manner as a hexachord did in the Guido scale, and as an octave does for eight sounds in the more modern practice.

SOLMIZARE, in the Italian Music. See SOLFEGGIO.

SOLO, in Italian Music, used substantively, implies a composition for a single instrument, with a quiet and subdued accompaniment, to display the talents of a great performer; as a solo for a violin, German flute, or violoncello. In full pieces, concerto, each part is informed when it becomes principal, by the word solo; and when subordinate, by i, which implies the chorus, or full band.

In the concertos of Corelli, Geminiani, and Handel, chiefly composed è due cori, or two orchestras, the principal parts are said to belong to the concerto, or solo parts; as violino primo concerto, violino secondo del concerto, &c.; and the inferior parts, that only play in the full chorus, are called ripieni; as violino primo ripieno, violino secondo ripieno, or del concerto grosso, or the great and full concert.

Solos, which used to afford the most exquisite delight to persons of refined taste, when composed and performed by great masters, are now wholly laid aside; and whoever attempts to perform one, is subjected to a penalty instead of a reward; a law instituted at the concert of ancient music, where a composition was never thought complete by the late earl of Sandwich, without a kettle-drum, nor with, unless he beat it himself. And at the Commemoration of Handel, the double drums, double cartels, tromboni, &c. augmented his lordship's pleasure, in proportion to the din and stenterophonic screams of these truly savage instruments; which, in so wide a building as Westminster Abbey, and softened by so powerful a chorus of voices and instruments as were assembled at the Commemoration, had, occasionally, a fine effect; but in a more confined space, the almost incessant use of the tromboni, and perpetual roll of the double drums, annihilate all the pleasing effects of mellifluous tones.

SON, Fr., a musical sound.

SON fundamental. See FUNDAMENTAL.

SON Fix, Fr., a fixed and unalterable sound. To acquire such a sound, we must be certain that it will be the same at all times, and in all places. To be sure of this, it is not sufficient to have a pipe of a certain length or diameter in the fixed place; for though the pipe may always remain in the same state, the weight of the air will not always remain the same: the sound will become more grave or acute, as the air becomes more dense or rarefied. For the same reason, the sound of the same pipe will change with the column of the atmosphere, in proportion as this pipe shall be carried high or low, in the mountains or in the valleys.

Secondly, this same pipe, of whatever materials it is made, will be subject to the variations which heat and cold occasion in all bodies. A pipe or string, if of metal, will lengthen or shorten; and its tone will be higher or lower, in proportion. If the pipe be of wood, it will swell or shrink, expand or contract; and from these causes combined, arises the difficulty of acquiring a fixed tone, and almost the impossibility of being sure of the same sound in two places at the same time, or twice in the same place.

SONATA, Ital. from suonare, to sound, or play on an instrument. Its use at present, in Music, is confined to solos for a single instrument: as Corelli's solos for the violin, Martini's solos for the German flute; and trios, or compositions in three parts, for two violins and a base, &c. But which, in the body of these works, are all called sonatas.

In the last and 17th century, the Italians had distinct sonatas of two kinds: as sonata da chiesa, Sonatas for the church; and sonata da camera, sonatas for the chamber, or private concerts, of a lighter kind. The first and third set of Corelli's sonatas are of the former kind, and the second and fourth of the latter. To the first and third set of Corelli's sonatas for the church, there are two bases, one for the base viol, or viol da gamba, and the other for the organ, arch lute or harp, figured for thorough-base.

In vocal music, si suona is written over the symphony or ritornelli, interstitial passages played by an instrument, either as an echo to the voice part, or to give the singer time to breathe. Si canta, "it is sung,"
to distinguish the vocal from the instrumental passages of songs written on one staff.

SONG, in Poetry, a little composition, consisting of simple, easy, natural verses, set to a tune, in order to be sung.

Each stanza of a song is called a couplet.

The song bears a great deal of resemblance to the madrigal, and more to the ode; which is, indeed, nothing but a song, according to the ancient rules.

Its object is usually either wine or love, whence M. le Brun defines a modern song, to be either a soft and amorous, or a brisk and Bacchic thought expressed in few words.

Indeed, this is to restrain it to too narrow bounds; for we have devout songs, satyrical songs, and panegyrical songs. But, be the song what it will, the verses are to be easy, natural, and flowing; and are to contain a certain harmony, which neither shocks the reason nor the ear; and which unites poetry and music agreeably together.

Anciently, the only way of preserving the memory of great and noble actions, was by recording them in songs; and, in America, there are still people who keep their whole history in songs.

Songs have at all times, and in all places, afforded amusement and consolation to mankind: every passion of the human breast has been vented in song; and the most savage as well as civilized inhabitants of the earth have encouraged these effusions. The natives of New Zealand, who seem to live as nearly in a state of nature as any animals that are merely gregarious, have their songs, and their improvisatori; and the ancient Greeks, during every period of their history and refinement, had their scolia for almost every circumstance and occasion incident to society.

Singing was so common among the ancient Romans as to become proverbial. Phaedria, in the Phormio of Terence, begs Dorio to hear him, he has but one word to offer; when Dorio tells him he is always singing the same song. Horace speaks of the same affectation among the singers of his time as prevails with the present; never to sing when they areentreated, or to desist if no one wishes to hear them. And some idea of the cultivated state of music in Gaul, so early as the fifth century, may be acquired from a passage in one of the epistles of Sidonius Apollinarius, who, in his character of king Theodoric the Goth, says, that “this prince was more delighted with the sweet and soothing sounds of a single instrument, which calmed his mind, and flattered his ear by its softness, than with hydraulic organs, or the noise and clangor of many voices and instruments in concert.”

Clothaire II. in the seventh century, having gained a great victory over the Saxons, it was celebrated by a Latin song in rhyme, which the annalists tell us was sung with great vociferation all over the kingdom.

As the origin of songs and the formation of the language of every country are so nearly coeval, we hope the reader will allow us to bestow a few columns on a subject which, though it may not be thought absolutely necessary for a musical lexicographer, or even historian to trace, yet it lies so near his path, that he can hardly proceed on his way without its being impressed on his mind fortuitously. For the songs of the ancient Greeks, see SCOLIA.

But in enquiring after the most ancient songs in modern languages, we shall not enter upon the metrical of a question which has been much agitated in France during the middle of the last century, “Whether the present language of that country was first cultivated in the northern or southern provinces?” The origin of all inventions, after having been suffered by ignorance and idleness to sleep for many ages, is so difficult to ascertain, that if the inhabitants of the kingdoms which gave them birth, where information is most likely to be furnished, are unable to bring them to light, it would be arrogance in a foreigner to attempt it. The French critics and antiquaries all agree that the capital was the last place to cultivate the vulgar tongue, and to receive the first essays of those who made it the vehicle of their thoughts. Fontenelle says the first sparks of poetry appeared chiefly at the two extremities of the kingdom, in Provence and Picardy. “The Provençaux,” says he, “warmed by a more genial sun, ought to have had the superiority; but the inhabitants of Picardy are their inferiors in nothing.” M. de la Ravaliere gives the honour of priority to the writers of Normandy; and Fauchet and Pasquier, separating the French poetry from the Provençal, challenge the admirers of the Troubadours to produce verses of their writing of equal antiquity with
the specimens of French poetry which they have exhibited. However, the Provençal bards have lately had many able champions, among whom M. de La Curne de Sainte Palaye, and his faithful squire, M. Millot, have distinguished themselves. And though it cannot be denied but that fragments of songs subsist in the French language of higher antiquity than in the dialect of Provence, yet, as we have been able to find no melodies that have been set to a modern language more ancient than those that have been preserved in the Vatican library to the songs of the Troubadours, we shall begin our inquiries concerning the origin of vulgar dialects in Europe, endeavouring to trace the first formation of the language of Provence.

Every refined and polished nation has a vulgar language in its remote provinces, and even in its capital, among the common people, in which there are innumerable words and phrases that have never been admitted into books. This must doubtless have been the case with the Romans; and it is the opinion of some persons of great eminence in literature, among whom may be numbered the learned cardinal Bembo, and the marquis Maffei, that the ancient Romans had at all times an oral vulgar language which was different from that of books; and that this colloquial language, less grammatical and elegant than that of the learned, was carried by the Romans into all the provinces under their dominion. It is therefore probable that this, and not the written language of Italy, was the mother of the Provençal, Sicilian, Italian, and Spanish dialects.

But supposing such a language as Cicero’s was ever spoken, it could not be laid aside for another all at once; and when we are told of a particular period or century, during which the Latin tongue ceased to be spoken in France or Italy, and the Provençal, French, or Italian began; credulity itself is staggered, and unable to reconcile it to probability. Every language is long spoken before it is written, and though the first poet of Italy or Provence, who committed his verses to writing in the vulgar tongue, could be named, no one would venture to tell us by whom it was first spoken.

The learned Maffei is of opinion that there was a vulgar language in Italy long before the irruptions of the Lombards, Goths, or Franks; and has traced its use as early as the time of Quintilian, who tells us, that he had often heard the crowd in the Circus applaud, or demand something of the champions, in a barbarous language; that is, in a vulgar and plebeian dialect, different from pure Latin. Sammonicus, who lived in the time of Septimius Severus, names the vulgar language. And both Pliny and St. Jerome speak of the military language as of that kind; the latter even tells us that Fortunatianus, bishop of Aquileia, wrote a commentary on the Evangelists in this vulgar language, rustico sermone, during the time of Constantine. But this was a singular instance, which was not imitated.

It appears, however, from the Dialogues of St. Gregory the Great, written in 593, that there was then a language merely colloquial at Rome. For he tells us that a new convert, of whom he is speaking, was sent to a convent with two vessels of wine, which the vulgar call flasks.

And Gregory of Tours, so early as 572, complains of this vulgar or rustic tongue gaining ground in France, and being more in favour than Latin, the language of the learned.

It was therefore by degrees that Latin ceased to be understood by the common people, and the Romance language had admission into books. And in 813 it was ordered by a canon at the council of Tours, that the bishops should be employed in translating homilies into the Roman rustic tongue, that they might be the more easily understood by the common people. The same canon, we are told, was renewed in a council at Arles in 851.

In the ninth century historians tell us, that Charlemagne and his sons and successors spoke the Romance language, specimens of which may be seen in Fauchet, Pasquier, and several other writers on the French language. And in the twelfth century it began to be the general language of poets and polite writers. Some of the sermons written and preached by St. Bernard, about 1137, in this language, are still preserved among the MSS. of the convent of Feuillans, in the rue St. Honoré at Paris.

The colloquial language used only in familiar conversation was called by the Romans sermo usualis, quotidiante, deestris, vulgaris, militaris, rusticus. &c. It is supposed by M. Bonamy, as well as by others, that from this vulgar Latin not only the French language and its different dialects, but the Spanish and Italian are derived. Indeed, it is most
probable that the Latin tongue, in its periods of
greatest purity, was only the language of the
learned, in the Roman provinces remote from the
capital; and that it was never so generally cultivated
in other times as to exclude the vulgar dialect.

In the frequent revolutions and struggles for em-

erie during these ages, the Roman language must
have been debased and corrupted, while new
tongues were forming, which, though not suffi-
ciently fixed and grammatical to be used in books,
were doubtless long the vulgar and colloquial dia-
lects before the Latin ceased to be the common lan-
guage of the learned.

It was about this time that the art of rhyming, or
unisonous terminations of verses, stole into poetical
composition, in a manner which the learned and ju-
dicious author of an Essay on the Language and Ver-
sification of Chaucer, seems to have traced to its
source. Leonine verses, supposed to have been so
called from a pope or monk Leo, their author, in the
seventh century, are by some thought the first at-
tempt at rhyme; while others imagine the hymn to
St. John the Baptist, by Paul Diaconus, written about
the latter end of the eighth century, to be not only
rendered memorable by Guido’s scale, but by hav-
ing been the model of all other monkish rhymes in
Latin, as well as in modern languages. Ut queant
laxis, &c.

But neither of these genealogies satisfies all in-
quirers. Gravina thinks it as absurd to ascribe the in-
vention of rhyme to any one writer; as to attribute to
an individual the propagation of the plague, which
is caused by the universal contagion of the air.

The Arabs had rhyme, according to Don Calmet,
before the time of Mahomet, who died 632, and in
the second century used a kind of poetry in meas-
ures similar to the Greek, and set to music. See
RHYME.

While the new languages were unsettled, and but
partially known, even in the single kingdom or
province where they were forming, it was not un-
common to write half a poem in Latin and half in a
vulgar tongue. Indeed Dante has left a poem in three
languages, Latin, Provençal, and Italian; and Ram-
baud de Vachiera, a Provençal poet, in five.

Petrarca and Muratori think that the Sicilians first
composed and wrote songs in a vulgar language;
that from them the custom went into Provence, and
from Provence into Italy. Indeed Sicily and Provence
were long under the dominion of the same princes,
and the same language may have been cultivated at
the courts of both countries; but as no vestiges re-
main of Sicilian poetry resembling the Provençal, the
opinions of these authors, however eminent, and, on
other accounts, respectable, while unsupported by
reasons and facts, can have but little weight.

Cardinal Bembo, however, was of opinion that
the first rhymers and poets who wrote in a modern
language were of Provence; after them the Tuscans,
who had more assistance from them in their poetry
than from any other people. And both Crescemberi
and Gravina make the same concession.

Nostradamus, in his lives of the Provençal poets,
says that Provence was called the mother of
Troubadours and Minstrels; and that Dante,
Petrarca, Boccaccio, and other Tuscan poets, en-
riched both their language and fancy from the pro-
ductions of his country men. However, as no versi
sciolti, or poetical lines without rhymes, are to be
found in the Provençal poets, though they abound
among the Italians, it is natural to suppose that in
these measures of blank verse the Italians imitated
their ancestors the Romans, and that in rhyming, the
Provençals were their models.

It was the opinion of Voltaire that this language
began to be formed in the ninth century, out of Latin
and Teutonic; that it was the mother of French,
Spanish, and Italian; “continued in favour till the
reign of the emperor Frederic II, and is still spoken
in some villages of the Grisons, and near Switzer-
land.”

Carpentier derives the word Troubadour from
Troba, Provençal, figmentum. Hinc Troubadours affi-
ellati fœta Provinciales.

It was in the eleventh century, during the first
crusade, according to the abbe Millot, that Europe
began to emerge from the barbarous stupidity and
ignorance into which it had long been plunged. And
while its inhabitants were exercising every species of
rapine, plunder, and pious cruelty in Asia, art, in-
genuity, and reason, insensibly civilized and
softened their minds.

It was then that the poets and songsters known
by the name of Troubadours were multiplied, and
their profession honoured by the patronage and en-
couragement of the count of Poitou, and many other
powerful princes and barons, who had themselves successfully cultivated poetry and music. At the courts of these munificent patrons they were treated with the greatest consideration and respect. The ladies, whose charms they celebrated, gave them the most graceful and flattering reception; and sometimes disdained not even to listen with compassion to tales of tenderness, and descriptions of the havoc which the irresistible charms of these sublunary divinities of chivalry had made in their hearts. The success of a few inspired the rest with hope, and excited exertions in the exercise of their art, which impelled them towards perfection with a rapidity that nothing but the united force of emulation and emulation could occasion.

As these founders of modern versification, these new poetical architects, constructed their poems upon plans of their own invention; and as all classical authority was laid aside, either through ignorance or design, each individual gave unlimited indulgence to fancy in the subject, form, and species of his composition. And it does not appear, during the cultivation and favour of Provençal literature, that any one Troubadour so far outstript his brethren in the approaches he made towards perfection, as to be considered as a model for his successors. We find, though military prowess, hospitality, Gothic gallantry, and a rage for feasts and revelry prevailed, that taste, refinement, and elegance, were never attained during this period, either in public or private amusements. The want of originality of composition is frequently lamented when licence is repressed by the ignorance and incapacity of those blandishments of style or manner which fascinate, and render whatever subject they treat interesting to the generality of readers. Fauchet, Pasquier, and Nostradamus have written in a language that is now become so uncouth and difficult, that few have the courage to attempt acquiring information or amusement from it; and Muratori and Crescemberi, who are respected for their diligence and exactitude, are certainly dry and dull narrators of facts which promise delight to every lover of literature; nor do we remember, in consulting their voluminous writings, ever to have found them guilty of hazarding a single reflection or conjecture that has embellished the subject, or rendered it amusing. But this censure must not be applied to Sainte-Palaye, Bonamy, la Ravaliere, and Barbazan, who, in the Memoires de Litterature and elsewhere, have not only embellished, but nearly exhausted the subject. Indeed, the period of Provençal poetry is interesting to literature, and the melody to which it was sung is a subject of curious inquiry to a musical historian; for it is generally allowed that the Troubadours, by singing and writing in a new tongue, occasioned a revolution not only in literature but the human mind. And as almost every species of Italian poetry is derived from the Provençals, so air, the most captivating part of secular vocal melody, seems to have had the same origin. At least the most ancient strains that have been spared by time, are such as were set to the songs of the Troubadours. See TROUBADOURS

Songs seem in a particular manner to belong to the language of Italy. The ancient Romans were no great songsters; and by what degrees the Latin language became Italian, would be a tedious and difficult inquiry. We know when the musical drama or opera was established, and consequently when opera airs, with instrumental accompaniments, began first to be cultivated; but these are not the subjects of our present research: but when national melodies, for such every country has, were first applied to songs in the Italian language, a dialect which has long been universally allowed to be more favourable
to singing than any one which the numerous combinations of letters in all alphabets of modern times has produced, we are ignorant. And if the French, Provençal, and Spanish dialects can be deduced from the Latin, how much more easy is it to trace the Italian from that source? which is itself frequently so near pure and classical Latin, that no other change or arrangement of words seems to have been made, than what contributed to its sweetness and facility of utterance.

That the Italian tongue is derived from the vulgar language of the ancient Romans, seems the opinion of the best critics; but to discover and point out by what degrees it was smoothed and polished to the state in which Dante, Petrarca, and Boccaccio found it in the fourteenth century, would require more time, and occupy more space in this article, than the subject seems necessarily to require. However, as the Italian language has been truly allowed to be more musical in itself when merely spoken with purity, than any other in Europe, an inquiry into the causes of its natural melody and mellifluence does not seem foreign to the subject of the present article.

Muratori (Dissert. 32.) has given innumerable passages from authors of the eighth and ninth centuries, to prove, that after the Franks and Germans were settled in Italy, articles were used in the Latin language instead of pronouns and changes of termination, in order to save the trouble of inflecting the cases in nouns; but pretends not to say what this vulgar language was, or whether the clergy preached to the common people, or merchants carried on their correspondence in Latin or Italian.

The learned Maffei allows the Provençal, French, Spanish, and Italian languages, to be descendants from the Latin, but denies that the ancient inhabitants of Italy adopted any words from the Goths or Huns who invaded them. The genius of the German, Francic, or Teutonic language, which was spoken by the Lombards, was so diometrically opposite to that of the Italians, that it seems incredible there should have been any exchange or union of dialects between them: the one being as remarkable for its numerous consonants and harsh terminations, as the other for its open vowels and mellifluous endings. As it is the opinion of this profound critic that the Romans had always a vulgar dialect, less grammatical and elegant than that of the senate and of books, he supposes the French, Spanish, and Italian languages to have been different modifications of this rustic, plebeian dialect. But it is as difficult to assign a reason for all these daughters of one common mother being so dissimilar, as it is to account for the little resemblance that is frequently found between other children of the same parents. And why the French language should have so many nasal endings, the Spanish so many sibillating, and the Italian alone have none but vocal terminations, can only have been occasioned by some particular and radical tendency in the vulgar and plebeian language of each country from very high antiquity.

While this language was forming, no music seems to have been cultivated in Italy, except the canto fermo of the church; and, unluckily, no written melody can be found to the Canzoni of Dante, the sonnets of Petrarca, or the songs of Boccaccio, the three great founders of the Italian tongue. Yet these, we are told, were all set to some kind of music or other, and sung even in the streets. See the biographical articles of these lyric poets, particularly that of Boccaccio; whose “Decamerone” has always been regarded as a natural and faithful delineation of the manners and customs of Italy, at the time when it was written.

With respect to music, whether the personages which he assembles together after the plague at Florence 1348, and the stories they tell, are real or imaginary, the amusements he assigns them in his ritual must have been such as were usual to the Florentines, among whom he lived at that time; and indeed the poems that are pretended to have been sung, and the instruments with which they were accompanied, subsisted before this period, and still subsist.

Boccaccio tells us, at the end of his prima giornata, or first day, that “after supper the instruments were called in, when the queen, for the day, ordained that there should be a dance; and after one had been led off by Lauretta, Emilia sung a song, in which she was accompanied by Dion, a gentleman of the party, on the lute.” There is nothing new or extraordinary in this quotation. But in Italy, whence all the liberal arts have travelled to the rest of Europe, it is curious to know in what rank music was held at this early period, and what use was made of it in polite assemblies, by the inhabitants. And here a writer, justly
celebrated for the exactness with which he has described the customs of his contemporaries in all situations, tells us, that in an assembly of persons of birth and education, who passed ten days together during summer in a constant succession of innocent amusements, each evening was closed by dance and song; in which the whole company, consisting of seven ladies and three gentlemen, of different characters and acquirements, were able to perform their parts.

When we are told, that the lady who sang was accompanied by the lute, we know not of what this accompaniment consisted, whether it only fortified the voice-part by playing the same melody, or more elaborately furnished a base and a different treble, arising out of its harmony.

On the second day we find, that one of the company leading off a carol, a song was sung by another, which was answered in a kind of chorus by the rest.

At the close of the second day Boccaccio tells us, that after the song, of which he gives the words, had been performed, many others were sung, and many dances danced to different tunes, by which we may gather, that besides carols and ballads, the singing of which marked the steps of a dance, there were at this time songs without dances, and tunes without songs.

Whoever reads the history of the most ancient inhabitants of this island, the Cambro-Britons, will find innumerable instances of the reverence which they paid to their poet-musicians, the bards both of Pagan and Christian times; and songs of very high antiquity have been preserved in the Welsh language, though not all the tunes to which they were sung.

We are told (Miscel. Antiq., vol. ii. p. 8.) that sir Thomas Wyatt was the first who introduced Italian numbers into English versification. This may have contributed to improve our lyric poetry; but to confess the truth, from the few parts of the first class throughout Europe, who, at the beginning of the sixteenth century, condescended to write madrigals and songs for music, it seems that the rage for canon, fugue, multiplied parts, and dissimilar melodies, moving at the same time, had so much employed the composers, and weaned the attention of the hearers of these learned, or, as some call them, Gothic contrivances, from poetry, that the words of a song seem to have been only a pretence for singing; and as the poets of the two or three last centuries were in little want of music, musicians, in their turn, manifested as little respect for poetry; for in these elaborate compositions, the words are rendered utterly unintelligible by repetitions of particular members of a verse; by each part singing different words at the same time; and by an utter inattention to accent.

In the “Essays on Song-writing,” published with a collection of English songs (we need not name the author, whom he has not named himself, nor given the date of the publication) there are many judicious and excellent reflections; and the songs are admirably selected, and form the best collection in our language, under the three following heads: “On Song-writing in general;” “On Ballads and pastoral Songs;” “On passionate and descriptive Songs.”

We can perceive, however, that the author of these ingenious essays loves poetry better than music; a personage whom he does not treat with common civility, when he says, “the heroine poetry must give place to the harlot Music,” notwithstanding her claim to the title of a lady of fashion. But we think the two ladies should ride and tie. There are songs where the poetry should be respected, and the music subordinate; and others, where music is entitled to pre-eminence.

We wish not fine poetry to have fine music, nor fine music to be manacled by laboured poetry. Lyric poetry cannot be too simple.

The author allows the primitive meaning of a song to signify something to be sung; and when he says, “a song, as a poetical composition, may be defined a short piece, divided into returning portions of measures, and formed upon a single incident, thought, or sentiment,” we readily subscribe to the definition. Indeed it was our opinion, (see Italian Tour,) long before we had the pleasure to peruse these well written essays; and it is an opinion to which Metastasio has constantly adhered, in all his admirable musical dramas.

With regard to pastoral songs, though the Sicilian pastoral is not natural to our climate, yet we produce better fruit for the table in our hot-houses, than the southern continent of Europe can boast. An opera song is a hot-house plant. Pastoral songs may
have pastoral music, as the Siciliana movement has been happily treated more frequently by Handel, and many of our best national composers, such as Arne and Boyce, than any other. And as for simple ballad tunes for historical and narrative songs, and common ditties, there can be no scarcity; as a collector of our acquaintance, many years ago, had amassed a sufficient number of songs set to music, and printed on a single folio half-sheet, from the latter end of the 17th century, to fill twelve volumes.

For descriptive and passionate songs, we have picturesque and passionate music; and we hope this intelligent and elegant writer will allow the lady Music to be tricked out a little in passionate and descriptive songs. Haydn, in his “Seasons,” has described very happily, we think, rural sports and occupations, and admirably displayed her imitative and picturesque powers, in awakening ideas of the several seasons, and the rustic employments of each.

SPRING.

The overture paints the departure of winter, and approach of spring; ploughing, sowing; a prayer to heaven for prosperity; the youths and virgins going a Maying; chorus of thanks to the Supreme Being, in which is an admirable fugue, equal to the best vocal fugues of Handel.

SUMMER.

The overture paints the dawn of day; the rising sun; choral hymn to that luminary; mowing, reaping; a shady retreat; rural employments, and evening sports.

AUTUMN.

The symphony indicates the husbandman’s satisfaction at his plentiful harvest; chorus in praise of industry and labour; fruits gathered; duet between an innocent fond pair; field sports; hunting; vintage; dancing; romping; singing; revelling, and jubilation.

WINTER.

The overture paints thick fogs at the approach of winter; horrors of winter; distress of travellers; evening domestic amusements; purring of the wheel; a narrative rustic song; moral reflections on winter, set to a fine air, cantabile; future rewards of a life well spent, in the coro finale.

Milton’s Allegro and Penseroso, as set by Handel, which are all description, have not been injured by too elaborate music; but these are not the songs nor the music of which we meant to trace the history, when we began the present article. See AIR.

SONG of Birds.

Editorial Note: This is probably not by Burney, but it is interesting.

[This] is defined by the Hon. Daines Barrington to be a succession of three or more different notes, which are continued without interruption, during the same interval, with a musical bar of four crotchets in an adagio movement, or whilst a pendulum swings four seconds.

It is observed that notes in birds are no more innate than language in man, and that they depend entirely upon the master under which they are bred, as far as their organs will enable them to imitate the sounds which they have frequent opportunities of hearing; and their adhering so steadily, even in a wild state, to the same song, is owing entirely to the nestlings attending only to the instruction of the parent-bird, whilst it disregards the notes of all others that may perhaps be singing round him.

Birds in a wild state do not commonly sing above ten weeks in the year, whereas birds, that have plenty of food in a cage, sing the greatest part of the year: and we may add, that the female of no species of birds ever sings; and this is a wise provision of nature, because her song would discover her nest; and, in the same manner, we may rationally account for her inferiority in respect to plumage. The faculty of singing is confined to the cock birds; and accordingly Mr. Hunter, in dissecting birds of several species, found the muscles of the larynx to be stronger in the nightingale than in any other bird of the same size; and in all those instances, where he dissected both cock and hen, the same muscles were stronger in the cock. To the same purpose, it is an observation as ancient as the time of Pliny, that a capon does not crow.

Some have ascribed the singing of the cock-bird in the spring to the motive only of pleasing his mate, during incubation; nature, indeed, partly for this end, has given to the male the power of singing; but the singing of a bird in the spring is more probably owing to the greater plenty of plants and insects, which, as well as seeds, are the proper food of singing birds, at that time of the year.
Mr. Barrington remarks, that there is no instance of any bird’s singing, which exceeds our black-bird in size; and this, he supposes, may arise from the difficulty of its concealing itself, if it called the attention of its enemies, not only by bulk, but by the proportionable loudness of its notes. This writer farther observes, that some passages of the song, in a few kinds of birds, correspond with the intervals of our musical scale, of which the cuckoo is a striking and known instance; but much the greater part of such song is not capable of musical notations: partly, because the rapidity is often so great, and it is also so uncertain when they may stop, that we cannot reduce the passages to form a musical bar in any time whatsoever; partly also, because the pitch of most birds is considerably higher than the most shrill notes of those instruments which comprehend even the greatest compass; and principally, because the intervals used by birds are commonly so minute, that we cannot judge at all of them from the more gross intervals into which we divide our musical octave. This writer apprehends, that all birds sing in the same key; and in order to discover this key he informs us, that the following notes have been observed in different birds, A, B flat, C, D, F, and G; and, therefore, E only is wanting to complete the scale: now these intervals, he says, can only be found in the key of F with a sharp third, or that of G with a flat third; and he supposes it to be the latter, because, admitting that the first musical notes were learned form birds, those of the cuckoo, which have been most attended to, form a flat third; and most of our compositions are in a flat third, where music is simple, and consists merely of melody. As a farther evidence, that birds sing always in the same key, it has been found by attending to a nightingale, as well as a robin, which was educated under him, that the notes reducible to our intervals of the octave were always precisely the same.

Most people, who have not attended to the notes of birds, suppose, that those of every species sing exactly the same notes and passages, which is by no means true, though it is admitted that there is a general resemblance. Thus the London bird-catchers prefer the song of the Kentish gold-finchens, and Essex chaffinches; but some of the nightingale-fanciers prefer a Surrey bird to those of Middlesex.

The nightingale has been almost universally reckoned the most capital of singing birds; and its superiority, deduced from a caged bird, consists in the following particulars; its tone is much more mellow than that of any other bird, though at the same time, by a proper exertion of its musical powers, it can be excessively brilliant. Another point of superiority is its continuance of song, without a pause, which is sometimes no less than twenty seconds; and when the respiration became necessary, it has been taken with as much judgment as by an opera singer. The sky-lark in this particular, as well as in compass and variety, is only second to the nightingale. The nightingale also sings, if the expressions may be allowed, with superior judgment and taste. Mr. Barrington has observed, that his nightingale, which was a very capital bird, began softly like the ancient orators; reserving its breadth to swell certain notes, which by this means had a most astonishing effect. This writer adds, that the notes of birds, which are annually imported from Asia, Africa, and America, both singly and in concert, are not to be compared to those of Europe.

The following table formed by Mr. Barrington, agreeably to the idea of M. de Piles in estimating the merits of painters, is designed to exhibit the comparative merit of the British singing birds: in which twenty is supposed to be the point of absolute perfection.

<table>
<thead>
<tr>
<th></th>
<th>Mellowness of notes</th>
<th>Songstress notes</th>
<th>Plaintive notes</th>
<th>Compass</th>
<th>Execution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nightingale</td>
<td>19</td>
<td>14</td>
<td>19</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Sky-lark</td>
<td>4</td>
<td>19</td>
<td>4</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Wood-lark</td>
<td>18</td>
<td>4</td>
<td>17</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Tit-lark</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
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<tr>
<td>Linnet</td>
<td>12</td>
<td>16</td>
<td>12</td>
<td>16</td>
<td>18</td>
</tr>
<tr>
<td>Goldfinch</td>
<td>4</td>
<td>19</td>
<td>4</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Chaffinch</td>
<td>4</td>
<td>12</td>
<td>4</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Greenfinch</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Hedge-sparrow</td>
<td>6</td>
<td>0</td>
<td>6</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>
The first line, or staff, monic sounds, which will facilitate the practice of touched slightly by the finger, seems to produce the vibration, the long division of the string, when that next the bridge, of which the bow prevents the bow, to that part of the string next the nut, instead of depends on transferring the tone, produced by the bow. These sounds are very different in quality of tone from those which would be produced, if the finger were pressed down. As to the pitch of tone, the harmonics will give the fifth, when the third would be produced by the usual means; the third, when the sixth is expected, &c. The quality of tone acquired by this means is so much more sweet than the common tones of the instrument, that the French have entitled them notes flutées, fluted notes. Rousseau says, that to form an accurate idea of these sounds, it was necessary to hear Mondoville produce them on his violin, and Bernard on his violoncello, who could form a regular scale of these sweet tones, which very much astonished those who did not know the theory. But we have heard Salomon perform this feat, this trick of youth, with a dexterity and taste unknown to Mondonville.

As the principle on which this theory is founded depends on transferring the tone, produced by the bow, to that part of the string next the nut, instead of that next the bridge, of which the bow prevents the vibration, the long division of the string, when touched slightly by the finger, seems to produce the highest note; and é contra.

We shall give, in the Music Plates, a table of harmonic sounds, which will facilitate the practice of this seemingly eccentric scale. The first line, or staff, will indicate the sounds which would be produced in the common way; and the second line, the correspondent fluted note, when the string is touched harmonically. All the sounds of the trumpet marine are harmonics, which renders it difficult to produce certain sounds upon that instrument. See NOISE.

SORDINO, Ital, SOURDINE, Fr., a mute, or little machine placed on the bridge of a violin or violoncello to enfeeble or deaden the tone, by impeding the vibration of the whole instrument. The French never use this machine, and the Italians but seldom, at present.

SOUFFLEUR, Fr., the bellows-blower of an organ.

SOUND, in Music,

Editorial note: A scientific article by John Farey Sr.

[This] denotes a quality in the several agitations of the air, considered as their disposition, measure, &c. may make music or harmony.

Musical sounds are most frequently produced by the alternate motions of substances naturally capable of isochronous vibrations; which substances may be either solids or fluids, or instruments composed of a combination of fluids with solids. The resonance of a room or passage is one of the simplest sources of a musical sound; the walls being parallel, the impulse is reflected backwards and forwards continually, at equal intervals of time, so as to produce the effect of a musical sound. When we blow obliquely and uniformly into a cylindrical pipe closed at one end, the impulse or condensation must probably travel to the bottom and back, before the resistance is increased; the current of our breath will then be diverted from the mouth of the pipe, for an equal time, which will be required for the diminution of the resistance by the discharge of the condensed air, so that the whole time of a vibration will be equal to the time occupied by an impulse of any kind in passing through four times the length of the pipe. An open pipe may be considered nearly as if it consisted of two such pipes, united at their closed ends; the portions of air contained by them being agitated by contrary motions, so as always to afford each other a resistance similar to that which the bottom of the stopped pipe would have furnished. It is probable, says Dr. Young, that when an open pipe is once filled with air a little condensed, the oblique
current is diverted, until the effect of the discharge, beginning at the remoter end, has returned to the inflated orifice, and allowed the current to re-enter the pipe. Where the diameter of the pipe is different at different parts of its length, the investigation of the sound becomes much more intricate; but it has been pursued by M. Daniel Bernouilli with considerable success, although upon suppositions, says Young, not strictly consistent with the actual state of the motions concerned.

In the same manner as an open pipe is divided by an imaginary basis, so as to produce the same sound with a stopped pipe of half the length, a pipe of any kind is capable of being subdivided into any number of such pipes, supposed to meet each other’s corresponding ends only; and in general the more violently the pipe is inflated, the greater is the number of parts into which it subdivides itself, the frequency of the vibrations being always proportional to that number. Thus, an open pipe may be divided not only into two, but also into four, six, eight, or more portions, producing the same sounds as a pipe of one-half, one-third, one-fourth, or any other aliquot part of the length; but a stopped pipe cannot be divided into any even number of similar parts; its secondary sounds being only those of a pipe of which the proportion is determined by the odd numbers, its length being, for example, one-third, one-fifth, or one-seventh of the original length. These secondary notes are sometimes called harmonics; they are not only produced in succession from the same pipe, but they are also often faintly heard together, while the fundamental note of the pipe continues to sound. When the pipe has a large cavity connected with it, or consists principally of such a cavity, with a small opening, its vibrations are usually much less frequent, and it is generally incapable of producing a regular series of harmonics.

It is obvious, from this statement of the analogy between the velocity of sound and the vibrations of the air in pipes, that they must be affected in a similar manner by all alterations of temperature. Thus, the frequency of the vibrations of a pipe must be increased nearly in the ratio of 33 to 34 by an elevation of 30 degrees of Fahrenheit’s thermometer; and if this change be accompanied by a transition from dampness to simple moisture the sound will be still more altered.

Dr. Chladai has discovered that solids of all kinds, when of a proper form, are capable of longitudinal vibrations, exactly resembling in their nature those of the air in an organ-pipe, having also their secondary or harmonic notes related to them in a similar manner. These vibrations are always far more frequent than those of a column of air of equal length, the velocity with which an impulse is transmitted by a solid of any kind, being usually from 5 to 16 times as great as the velocity of sound in air; so that the longitudinal sounds are always extremely acute, when they are produced by substances of moderate length. These sounds afford perhaps the most accurate mode of determining the velocity of the transmission of an impulse through any elastic substance, and of obtaining from that velocity the exact measure of its elasticity: they may be easily exhibited by holding a long bar or wire of iron or brass in the middle, and striking it at one end with a small hammer in the direction of its length.

The vibrations by which solid bodies most usually produce sound, are, however, not longitudinal, but lateral, and they are governed either by a tension, derived from the operation of a weight, or of some other external force, or by the natural elasticity of the substance. The vibrations of extended substances resemble most in their properties those of elastic fluids, and they occur the most frequently in practice, although the vibrations produced by the elasticity of the substance may be considered as the most natural. See STRING and VIBRATION.

Sound is the object of music; which is nothing but the art of applying sounds, under such circumstances of tone and time, as to raise agreeable sensations.

The principal affection of sound, by which it becomes fitted to have this end, is that by which it is distinguished into acute and grave.

This difference depends on the nature of the sonorous body; the particular figure and quantity of it; and even, in some cases, on the part of the body where it is struck; and this is that which constitutes what we call different tones.

The cause of this difference appears to be no other than the different velocities of the vibrations of the sounding body. In effect, the tone of a sound is found, by abundance of experiments, to depend on the nature of those vibrations, whose difference we
can conceive no otherwise than as having different velocities: and since it is proved, that the small vibrations of the same chord or string are all performed in equal time, and that the tone of a sound, which continues for some time after the stroke, is the same from first to last, it follows, that the tone is necessarily connected with a certain quantity of time in making each vibration or each wave; or that a certain number of vibrations or waves, accomplished in a given time, constitute a certain and determinate tone. From this principle are all the phenomena of tune deduced.

If the vibrations be isochronous, the sound is called musical, and is said to continue at the same pitch; and is said to be acuter, sharper, or higher, than any other sound, whose vibrations are slower and graver, and flatter of lower, than any other whose vibrations are quicker. See UNISON.

From the same principle arise what we call concords, &c. which are nothing but the results of frequent unions and coincidences of the vibrations of two sonorous bodies, and consequently of the waves and undulating motions of the air occasioned by them.

On the contrary, the result of less frequent coincidences of those vibrations is what we call a discord.

Another considerable distinction of sound, with regard to music, is that by which they are denominated long and short; not with regard to the sonorous body's retaining a motion, once received, a longer or a less time, though gradually growing weaker, but to the continuation of the impulse of the efficient cause on the sonorous body, for a longer or shorter time, as in the notes of a violin, &c. which are made longer or shorter by strokes of different length or quickness.

This continuity is properly a succession of several sounds, or the effect of several distinct strokes, or repeated impulses, on the sonorous body, so quick that we judge it one continued sound, especially if it be continued in the same degree of strength; and hence arises the doctrine of measure and time.

Sounds, again, are distinguished, with regard to music, into simple and compound, and that two ways. In the first, a sound is said to be compound, when a number of successive vibrations of the sonorous body, and the air, come so fast upon the ear, that we judge them the same continued sound; as in the phenomenon of the circle of fire, caused by putting the fire-end of a stick in a quick circular motion; where, supposing the end of the stick in any point of the circle, the idea we receive of it there continues till the impression is renewed by a sudden return.

A simple sound, then, with regard to this composition, should be the effect of a single vibration, or of so many vibrations as are necessary to raise in us the idea of sound. In the second sense of composition, a simple sound is the product of one voice, or one instrument, &c.

A compound sound consists of the sounds of several distinct voices or instruments, all united in the same individual time and measure of duration, that is, all striking the ear together, whatever their other differences may be. But in this sense, again, there is a two-fold composition; a natural and an artificial one.

The natural composition is that proceeding from the manifold reflections of the first sound from adjacent bodies, where the reflections are not so sudden as to occasion echoes, but are all in the same tune with the first note.

The artificial composition, which alone comes under the musician's province, is that mixture of several sounds, which being made by art, the ingredient sounds are separable and distinguishable from one another. In this sense the distinct sounds of several voices or instruments, or several notes of the same instrument, are called simple sounds, in contradistinction to the compound ones, in which, to answer the end of music, the simples must have such an agreement in all relations, chiefly as to acuteness and gravity, as that the ear may receive the mixture with pleasure.

Another distinction of sounds with regard to music is that, by which they are said to be smooth and even, or rough and harsh, also clear and hoarse; the cause of which differences depends on the disposition and state of the sonorous body, or the circumstances of the place: but the ideas of the differences must be sought from observation.

Smooth and rough sounds depend principally on the sounding body; of these we have a notable instance in strings that are uneven, and not of the same dimension or constitution throughout.

M. Perrault, to account for roughness and smoothness, maintains, there is no such thing as a simple sound; but that the sound of the same chord
or bell is a compound of the sounds of the several parts of it; so that where the parts are homogeneous, and the dimensions or figure uniform, there is always such a perfect mixture and union of all the sounds, as makes one uniform and smooth sound: contrary conditions produce harshness. In effect, a likeness of parts and figure make a uniformity of vibrations, by which a great number of similar and coincident motions conspire to fortify and improve each other, and unite, for the more effectual producing of the same effect.

This account he confirms from the phenomenon of a bell, which differs in tone according to the part it is struck in; and yet strike it any where, there is a motion over all the parts. Hence he considers the bells as composed of an infinite number of rings, which, according to their different dimensions, have different tones, as chords or strings of different lengths have: and when struck, the vibrations of the parts immediately struck specify the tone, being supported by a sufficient number of consonant tones in other parts. This must be allowed, that every note of a stringed instrument is the effect of several simple sounds; for here is not only the sound resulting from the motion of the string, but that from the motion of the parts of the instrument, which has a considerable effect in the total sound, as is evident from hence, that the same string on different violins sounds very differently.

But Perrault affirms the same of every string itself, and without considering the instrument. Every part of the string, he says, has its particular vibrations, different from the gross and sensible vibrations of the hole; and these are the causes of different motions and sounds in the particles, which uniting compose the whole sound of the string, and make a uniform composition, in which the tone of the particular part struck prevails, and all the others mix under a due subordination with it, so as to make the composition smooth and agreeable. If the parts be unevenly or irregularly constituted, the sound is harsh; which is the case in what we call false strings, and various. other bodies, which, for this reason, have no certain and distinct tone, but a composition of several tones, which do not unite and mix, so as to have one predominant to specify the total one.

As to clear and hoarse sounds, they depend on circumstances that are accidental to the sonorous body; thus, a voice and instrument will be hollow and hoarse, if raised within an empty hoghead, that yet is clear and bright out of it: the effect is owing to the mixture of other and different sounds, raised by reflections, which corrupt and change the species of the primitive sounds.

For sounds to be fit to obtain the end of music, they ought to be smooth and clear, possessing especially the first quality: since, without this, they cannot have one certain and discernible tone, capable of being compared to others, in a certain relation of acuteness, of which the ear may judge, and of consequence they can be no part of the object of music. Upon the whole then, with Mr. Malcolm, we call a harmonic or musical sound, which, being clear and even, is agreeable to the ear, and gives a certain and discernible tone (hence called tunable sound,) which is the subject of the whole theory of harmony.

Dr. Burney, in the discussion of the subject of this article, observes, that inquiries concerning the absolute production and modification of sound belong to physics; whereas a musician only examines sounds comparatively one with the other, and considers their proportions and relation as divided into concords and discords. (See CONCORD, DISCORD, and RELATION.) And it is only in this light, he says, that we shall consider sound in the residue of this article. We shall examine sound under three different heads; the tone, the force, and the quality of tone. Under these heads, sound admits of modification: first, from grave to acute; secondly, loud and soft; thirdly, harsh and sweet, or dull and brilliant.

Editorial note: The underlined passage above might mean that Burney had discussions with Farey and Rees about the scientific articles. Burney had finished writing his articles around 1808. Farey Sr’s first article, on Canals, was published in 1806, and the first of the music articles, on Chords, in 1807. Burney said nothing about Sound in his General History.

We shall first establish it as a principle, that whatever is the cause of sound, its vehicle is the circumambient air; because the air is the only medium of which we are certain, between the sounding body and the organ of hearing; that we must not multiply bodies unnecessarily, as the air is sufficient to explain the formation of sound; and it is found by an
exhausted receiver, that sound cannot be produced without air.

The continuance or permanence of sound can only be occasioned by the agitation of the air. As long as this agitation continues, the tremulous motion of the air is communicated to the ear, and likewise prolongs the sensation of sound. And there is no way more simple of accounting for the duration of sound, than in supposing that the succession of vibrations continues to renew the impression. Further, this agitation of the air, of whatever kind it may be, can only be produced by a similar agitation in the several parts of the sounding body; and it is a certain fact, that these several parts of a sounding body are in a constant vibration as long as it continues to sound. If we touch the body of a violin-cello, or any instrument, while it is sounding, we feel it tremble under the hand, and we may even see the string tremble as long as it sounds. It is the same with a bell caused to sound by a blow of the clapper, we may feel and see it tremble; and grains of sand, if sprinkled on its surface, will be seen to jump and skip. If a string is relaxed, or a bell cracked, there is no longer either sound or vibration. If, therefore, neither the bell nor the string can communicate to the air no motion but such as they have themselves, there can be no doubt but that sound is produced by the vibrations of the sounding body, and is propagated by similar vibrations, which this tremulous body communicates to the air.

This being supposed, let us first examine what constitutes the ratio of sound, with respect to grave and acute.

Rousseau, in his article Son, sound, repeats all the experiments for measuring and comparing sound with sound, which we have given, and shall give, under the different heads of tuning glasses by water, see ARMONICA : strings by weight; by moveable bridges, see MONOCHORD ; by the number of vibrations, see RATIO ; by the relative length, thickness, and tension of a string, which see ; by the beats of organ-pipes, see BEAT; by the holes in flutes and hautbois, which serve to shorten the tube: by the different columns of air, which form the different tones of horns and trumpets: these are all upon the same principle as the sons harmoniques of the violin and violoncello. See HARMONICS.

The second point to be considered in analysing sound, is its force, which depends on the vibrations of the sounding body: the more powerful and strong these vibrations are made, the more vigorous and audible is the sound. A certain limited degree of force can only be given to a pipe or string, beyond which all its proportions are broken, and its tones rendered false and disagreeable to the ear. The velocity of sound has been considered by the most eminent philosophers and mathematicians; but the result of their inquiries and experiments have materially varied. Halley and Flamsteed make sound move, in England, 1070 Fr. feet in a second; and La Condamine 174 toises in Peru; while Marsennus and Gassendi assure us that the wind being favourable or contrary, “neither accelerates nor retards the motion of sound. But since the experiments of Derham (Phil. Trans.), and the Academy of Sciences at Paris, former calculations are regarded as erroneous.

Without slackening its pace, sound becomes weaker by extent from the place of its production; but if not checked by any obstacle, nor repressed by the wind, it generally moves in the ratio of the squares of the distance. Thirdly, as to the difference of sound in the quality of tone, it certainly does not arise from its elevation in the scale, nor from its force. The tone of a flute and a hautbols, though perfectly in tune together, can never resemble each other. There will always be a softness and smoothness in the flute, and a spirit and agreeable vibration of the reed in the hautbois, which must ever prevent similarity; without mentioning the different tones of voices, by which individuals are as well recognized as by their features. See VOICE.

Rousseau says, a composer does not consider merely whether the sounds he uses are high or row, but whether they should be loud or soft, rough or smooth, dull or brilliant; and he distributes them to different instruments and voices accordingly; sometimes in solo parts, and sometimes in tutti, or full chorus; at the extremities or medium of instruments or voices in piano or forte, as the composition shall require.

For the appreciable extent of the musical scale or compass, it depends on our power of perception, though in nature it is infinite. Lengthen or shorten a musical string to a certain degree, and it produces no sound. We can neither augment nor diminish the
The harmonical sounds, viz. the twelfth and seventeenth above the principal (as well as some others), have been long known to accompany every fundamental sound; and may naturally, and in general, be supposed to be produced by the partial or separate vibrations of the string or sonorous body, spontaneously dividing itself, according to a determinate law, into three, five, or other aliquot parts of the whole, considered as unity. The theory of M. Rameau, which has been so excellent, is illustrated by M. d’Alembert, in his Elemens de Musique, is founded on these harmonical sounds. See FUNDAMENTAL Base, HARMONY, and SYSTEM.

SOUNDS, Harmonical, denote also a singular kind of sounds, which are produced in certain instruments, such as the violin and violoncello, by a particular motion of the bow, and by placing the finger lightly in certain divisions of the chord or string. On account of their sweetness, they are called fluted sounds. By sliding the finger lightly from sharp to flat, from the middle of a chord which is touched at the same time with the bow, we hear distinctly a succession of harmonic sounds from flat to sharp, which are very astonishing to those who are not acquainted with the theory. See SONS Harmoniques.

The principle on which this theory is founded is, that if a chord be divided into two parts which are commensurable with each other, and consequently with the whole chord, and the obstacle placed at the point of division obstructs, in an imperfect manner, the communication of the vibrations from one part to another; when it is sounded, it will not yield the sound of the entire chord, nor that of its greater part, but that of the smaller part, if it exactly measures the other; or if it does not measure it, the sound of the greatest aliquot common to these two parts. Let a chord, as 6, be divided into two parts, as 4 and 2, the harmonic sound will be produced by the small part, 2, which is the aliquot of the other, 4; but if a chord, as 5, be divided into two parts, as 2 and 3, then, as the small part does not measure the greater, the sound of the entire chord, nor that of its greater part, but that of the smaller part, if it exactly measures the other; when it is sounded, it will not yield the sound of the whole chord, and the obstacle placed at the point of division obstructs, in an imperfect manner, the communication of the vibrations from one part to another; when it is sounded, it will not yield the sound of the entire chord, nor that of its greater part, but that of the smaller part, if it exactly measures the other; or if it does not measure it, the sound of the greatest aliquot common to these two parts. Let a chord, as 6, be divided into two parts, as 4 and 2, the harmonic sound will be produced by the small part, 2, which is the aliquot of the other, 4; but if a chord, as 5, be divided into two parts, as 2 and 3, then, as the small part does not measure the greater, the harmonic sound will proceed from the half I, of the small part; unit being the greatest common measure of the two parts 3 and 2, and of the whole chord 5. By means of this law, which is conformable to the experiments of M. Sauveur and of Dr. Wallis, it is easy, by a very simple calculation, to assign to each tone the harmonic sound which answers to it. Whilst the finger slides the length of the chord, we obtain a series of harmonic sounds, which succeed each other rapidly according to the order of the divisions of the chord, to which the finger is successively applied.

The first column of the following table exhibits the sounds which the divisions of the instrument would yield when touched full, and the second column shows the fluted sounds corresponding to them when the chord is touched harmonically.

TABLE of Harmonic Sounds.

<table>
<thead>
<tr>
<th>The whole chord</th>
<th>gives</th>
<th>the unison.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The minor third</td>
<td>gives</td>
<td>the 19th, or double octave of</td>
</tr>
<tr>
<td>The major third</td>
<td>gives</td>
<td>The 17th, or double octave of the major third.</td>
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<tr>
<td>----------------</td>
<td>-------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>The fourth</td>
<td>gives</td>
<td>the double octave.</td>
</tr>
<tr>
<td>The fifth</td>
<td>gives</td>
<td>the 12th, or octave of the same 5th</td>
</tr>
<tr>
<td>The minor sixth</td>
<td>gives</td>
<td>the triple octave.</td>
</tr>
<tr>
<td>The major sixth</td>
<td>gives</td>
<td>the 17th major, or double octave of the 3d.</td>
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<td>The octave</td>
<td>gives</td>
<td>the octave.</td>
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After the first octave, i.e., advancing from the middle of the chord towards the bridge, we shall have again the same harmonic sounds in the same order on the same divisions, i.e., the 19th on the minor 10th, the 17th on the major 10th, &c. Encyclopédie, art. Harmoniques SONS. See HARMONICS, and HARMONY.

SOUNDS, Third, denote those which are produced by sounding two notes at the same time, either on the same or on two different instruments; and which are almost always graver than the lowest of the two tones that generated them, and are their proper fundamental base.

The discovery of these sounds has been generally ascribed to Tartini, who published an account of them in his “Tratto di Musica, secondo la vera Scienza dell’Armonia,” printed at Padua, 1754; but the Encyclopédie, art. Harmonic, attributes the first discovery, though probably unknown to Tartini, to M. Romieu, of the Royal Society of Sciences of Montpellier, who published an account of it in a memoir in 1752.

The experiment may be made by sounding the perfect interval of a 3d, 4th, or 5th, &c. either on two strings of the same violin, or on two violins played upon at the distance of about thirty feet, with a strong bow, and holding out the notes; or with two trumpets, hautbois, or German flutes; the hearer, in the last mentioned cases, playing himself in the middle of the interval between the two instruments. Thus, e.g., the interval C e, or a major 3d, produces C, the octave below the lower note; C sharp e, a minor 3d, produces A, a tenth below the graver tone; B e, a 4th, gives E, the octave of the upper note; B flat sharp, a 5th, produces a unison to B; B g, a 6th, generates the double octave below the upper note; and B flat g, or the major 6th, produces E flat, the 5th of the lower note, &c.

M. Tartini observes, that the third sound resulting from the 4th, from two 3ds, from two 6ths, whether major or minor, is the most easily distinguished, because this sound is always more grave than either of the two which produce it; that the third sound produced by the 5th is distinguished with greater difficulty, because it is a unison of a graver sound; and that it is more difficult to distinguish it in tones major and minor, because these tones, differing little from one another, are easily confounded in the intonation; and for the same reason, with greater difficulty, in the semitones major and minor.

The author, in a song composed of two parts, discovers, by means of two corresponding sounds, the third sound resulting from them; and this, he says, is the true base of the song; and every other base will be a paralogism. From his experiments and reasoning he concludes, that if any adjoining two simple intervals in the harmonic series 1, ⅓, ⅔, ⅗, ⅘, &c. be founded, the third sound will always be that of half the string; that the smaller the interval is, the farther distant is the third sound: so that, e.g., the third sound to the interval of the semitone minor G G sharp, is the 26th below G natural.

M. Serre, of Geneva, in his “Essai sur les Principes de l’Harmonie,” printed at Paris in 1753, mentions this discovery of Tartini as a fact sufficiently ascertained; and adds, that he has produced the same effect by means of two fine female voices, as Tartini had done by instruments; but he mentions only the third sound produced by the third major, and that produced by the third minor: and there is this difference between the results of these two gentlemen. According to M. Tartini, the two sounds of a third major, as ut mi, produced the octave ut below ut; and according to Mr. Serre, a double octave: according to the former, the two sounds of a third minor, la ut, produced the tenth major, fa below la; but according to the latter, the seventeenth major below la, or the octave under the tenth fa. M. Serre takes no notice of a third sound produced by any other two sounds, and it does not appear that he made any trials of this kind.

As to the physical cause of these third sounds, it is much more difficult to offer any plausible conjec-
tutes concerning it, than concerning the harmonical notes mentioned in the preceding article; because all those of the latter kind being more acute than the principal, or generating tone, are, for that reason, capable of being actually and immediately produced by the vibrations of certain portions of the string or other sounding body; whereas, in the third sounds, a tone is heard always (except in the case of the fifth), and often considerably below the pitch of either of the bodies whose vibrations it accompanies, and which consequently cannot immediately proceed from either of these bodies. To take the first of the above-mentioned intervals, that of the greater third, for an example: a third sound is here heard, such as would be produced by the actual vibration of a string of the same diameter and tension with, but of double the length of, that which produced the lowest note of the interval. As no such string, however, is employed in the experiment, we are obliged to seek for the cause of this new sound in the air, or other medium of sound, or in the organ of hearing, or in some internal modification of the sensitive faculty.

As the immense variety of our sensations of colour is justly supposed to be produced by an equal diversity of coloured particles of light, each highly qualified to excite one particular sensation and no other, so some, with M. Mairan, have supposed, that our numerous and diversified sensations of musical tones are not produced by the undulations of the air, considered in its whole mass, but by aerial particles, specifically different in elasticity, magnitude, figure, &c. each capable of exciting, by its motions or other modifications, the idea of only one determinate tone. Therefore we might say, that the two orders of particles which give the tones C and e, either by a harmonical congruity in their spring with that set of particles which give the third sound C below, or by some other peculiar affinity to them, are qualified, by their joint action on these last-mentioned particles, to give them that particular modification, by which they excite in us the sensation of that specific tone to which they are adapted. Or, may we not conceive in general, that a mixture of two given tones may excite the idea of a third and different sound, in some such manner as two given colours, e. g. blue and yellow; nay, the past impressions of these colours excite the idea of green, different from both of them.

But if the effect is produced merely by the organ of hearing, we may observe that, from a consideration of the spiral and conical structure of the cochlea, some physiologists have been tempted to imagine, that the branches or filaments of the auditory nerve, after passing out from the nucleus or axis of the cochlea, are strained upon the spiral plates, like the radii of a circle, and become gradually shorter and shorter toward its apex. It may be supposed likewise, that of these nervous strings, the longest, which are in the basis, of the cochlea, are adapted to receive the tremors or other impressions, and convey to the mind the ideas, of grave, tones; and the shorter nervous chords, fixed more towards the apex of the cone, those of the acute sounds. This being allowed, and taking the former interval C e for an example, it may be said that the tone C, besides. acting on the nervous chord appropriated to excite the idea of that tone, must act likewise on another nervous chord of double its length, situated towards the basis of the cochlea, &c. and which is naturally adapted to receive and transmit to the mind C, the octave below; but which the upper tone C now divides into two equal parts, each giving tones unison to the said note C. The tone e, in like manner, will excite five equal vibrations in each of the halves of this nervous chord; all which, likewise, produce sensations unison with itself. These phenomena at least are invariably observed to be produced in musical strings. Thus we obtain the unisons to C and e: and farther, the last mentioned chord thus vibrating in two and in ten parts, and from one extremity of it to the other, may fairly be supposed to vibrate in its whole length; in which case it must excite in the mind the idea of its own fundamental tone, the third sound C, an octave below the first of these notes, and a tenth below the latter. See, on the subject of this article, Encyclopedie, art. Basse FONDA-MENTALE. Principles and Power of ...Harmony, 4to. 1771, and Monthly Rev. vol. xlv. p. 371, &c.

SOUND-BOARD, or Wind-chest, of an organ, is the principal part of that most noble and comprehensive instrument, and that which feeds all the pipes with wind. See ORGAN.

The sound-board, or sommier, as it is called in France, is a reservoir, into which the wind drawn in
by the bellows is conducted by a port-vent, and thence distributed into pipes placed over the holes of its upper part. The wind enters the pipes by valves, which are opened by pressing the keys, after drawing the registers by the stops, which prevent the air from going into any of the pipes, except those required. Organs, whose longest pipe in the diapason is four feet, have their sound-board from five to six feet. Organs of sixteen feet have two sound-boards, which communicate the wind from one to the other, by means of a pewter port-vent.

**SPAIN**

Editorial note: The following account concludes the main article about Spain, which would have been written by another writer.

History of the Music of Spain. — It seems as if a late musical historian had placed the Spaniards lower among European musicians, in the 15th and 16th centuries, than in equity they ought to have been, by imagining Morales the first practical musician of eminence in that country, and Salinas the only theorist that was produced there during the 16th century. (See Morales.) Indeed we know but little of the state of music in the interior parts of that kingdom, during this period; but, if we may judge by the musicians it furnished to the Papal chapel, both composers and singers, we may conclude, that the richest and most powerful nation in Europe, as Spain then was, would not breed musicians as the Africans do slaves, or the Circassians women, merely to transport them for the use or pleasure of others; they could doubtless then have afforded to keep a few for their own amusement.

The Spaniards, so far from neglecting music, seem to have taken it very early into the circle of the sciences, in their universities; for Salinas tells us, that the musical professorship, which was conferred upon him at Salamanca, had been founded and endowed by Alphonso, king of Castile, surnamed the Wise. And Bartolomeo Ramis, the opponent of Franchinus, in 1482, was public professor of Music at Toledo, and afterwards at Bologna. Of Guillerm de Podio, a priest, we have likewise a work, intitled "Ars Musicorum, sive Commentarium Musicæ Facultatis," published 1495; and another written in the Spanish language, by Francesco Trovar, "Libro di Musica Pratica," Barcelona, 1519; “Arte di Canto Llano,” del Alfonso de Castilio, Salamanca, 1504; “El Maestro o Musica de Viguela de Mano,” by Don Ludovicus Milan, a nobleman of Valienta, 1534; “Silva di Sirenas,” or a treatise on the vitruela or viol, by Henrico de Valderrabano, Valladolid, 1547; “Arte de la Musica,” by Melchior de Torres, alcalde de Herreraes, in New Castile, 1554. At the same place likewise was published, in 1557, “Tratado de Cifra nueva para Tecla, Harpa y Vieguela Canto Llano, de Organo, y Contrapunto,” by Lud. Venegas de Hines troia. There was likewise published at Alcala, by Cyprian de la Huerga, a Cistercian monk, who died 1560, a treatise “De Ratione Musicæ et Instrumentorum Usu apud veteres Hebræos;” and at Granada, 1555, “Libro de la Declaration de Instrumentos,” by Joan Bermudo.

All these writers on the subject of music, and many more, appeared in Spain, before Salinas; of whom an account is given under his biographical article.

Many more names of Spanish theorists and practical musicians might be enumerated here; but as we have neither seen nor heard of any of their productions, we are unable to estimate their worth. In 1613, however, a work was published in Spanish, by Cer-one, in folio, which contains more information concerning every part of the art and science then known, than any other elementary book which we have seen in any language. The title of this treatise is the following: “El Melopeo y Maestro. Tractado di Musica teorica y practica,” Napoli, 1613. See CER-ONE.

Andres Lorente was author of a treatise, now become very scarce, entitled “El Porque dei la Musica,” 4to. 1672. For a farther account of this book, see LORENTE, and Dr. WORGAN.

Pablo de Zaragoça Nasarre was author also of a treatise on music, in Spanish, intitled “Fragmentos Musicos,” in four parts, a distinct treatise, 4to. Madrid, 1700. For a further account of this work, see NASSARRE.

About the middle of the last century was published at Madrid, in Spanish, “An Essay on Church Music,” by Feyjoo. We have never seen the book in the original, but an anonymous translation into English appeared in 1778. The author begins with a heavy complaint against the corruption and degeneracy of music, ancient and modern; joining with
Plutarch in asserting, that music was at first only used in the temples of Greece; but passing to the theatre, a new and lighter style was invented, which being adopted in the temple, rendered it unfit for the serious service of religion. It was not till the latter end of the 17th century, that secular music, by additional refinements in singing, and improvements in instrumental music at the opera, was thought worthy of being introduced, en great festivals, into the church, in Roman Catholic Spain. Catholic countries: on other days, canto fermo, and masses set alla Palestrina, were continued, and are still continued in the cathedrals of Italy; though, even in the 16th century, masses concertati, or accompanied with a band of instruments, according to Montaigne, (Journal d'un Voyage,) were common throughout Italy and Germany.

We know not what the state of ecclesiastical music may be in Spain at present; but we have always understood that the music, à capella, in Spain, was more solemn and learned, than elsewhere. The poet Yriarte, whose judgment and taste are correct and elegant, and who has no prejudices, except in favour of good music of every kind and country, speaks highly of the music in the church in Spain.

But Feyjoo’s Essay is constant complaint and censure. Yet from the time of Charles V., an excellent musician himself, the Spanish monarchs have patronized music in a more distinguished manner, both in the church and the theatre, than any other sovereigns in Europe, till the late Charles VI., an amorous, who succeeded Ferdinand IV., and who turned Farinelli out of the kingdom, whose good conduct merited equal praise with his talents. See FARINELLI.

The author before us asks, whether all the music of the church should not be grave? We answer, no; not invariably. and thanksgiving, as well as of penitence, sorrow, and supplication! As the Calvinist’s confine all music to syllabic psalmody, this pious Spaniard would have no other music tolerated in the church than canto fermo.

We own the impropriety, and have censured it, in the admission of secular music in our cathedrals during the reign of Charles II, and his successors; when, in the compositions of Weldon and Dr. Green, the divisions and ritornels wanted due gravity and dignity, and were manifestly introduced to display an active throat and a lively finger, for want of judgment and decorum in the composer, who forgot the place and occasion of the performance.

The Spanish writer very justly censures the admitting into the church the productions of insipid pretenders to composition, without genius or science; and finds, as is found every where else, that the number of bad composers and bad performers so far exceeds the good, that men of true genius and due cultivation are phenomena that rarely appear. Don Feyjoo has celebrated a Spanish composer, Don Antonio de Literes, whose name has never penetrated into other parts of Europe, in the highest terms of panegyric.

The Essay on Church Music was written about the middle of the last century, when the general style of Italy was frivolous, and that of Germany rude, pedantic, and inelegant; but so many great composers have appeared since in both countries, that Don Feyjoo’s strictures have lost their force. There have been bad composers in all ages, but perhaps never more good ones at any period of time than within the last 30 years.

Duron, the author, we supposed, meant Durante, was not only one of the greatest masters of harmony himself, but formed disciples of the greatest abilities that have ever issued from the Neapolitan school; but we find in Yriarte, that there had been among the masters of former times a Spanish composer of the name of Duron.

The rest of this Essay is exaggeration of invective, either to mortify Farinelli, and the great Italian composers and singers whom he engaged for the court of Spain, or to flatter the successor of Ferdinand, who hated music, and expelled all the Italian musicians from his Court.

The same anonymous gentleman has given us a translation of a letter of the learned Benedictine on the subject of music, entitled “The wonderful Effects of Music, and a Parallel between ancient and modern Music.”

Here the author relates all the old stories of the miraculous powers of ancient music. He, however, doubts of the facts; and relates, per contra, what we have been told of the power of modern music over disease and the passions.

No new materials appear in this letter, or ingenious conjectures to determine the dispute, whether the ancients or the moderns had cultivated music
most successfully; and the author leaves the subject just as he found it, without clearing up his own doubts, or those of his readers. He is always, however, inclined to give the preference to ancient music, without any thing to guide him but his prejudice, his determination to allow nothing that is new in music to be right, and the assertions by writers in favour of ancient counterpoint, that have been long since clearly confuted.

The last writer on music in Spain, that has come to our hands, is the ingenious and agreeable poet, Yriarte, of whose charming poem, “La Musica,” we but lately procured the beautiful third edition, printed at the royal press in Madrid, in 1789, with elegant designs well engraved.

As this is a work but little known in our country, and does honour to the author, and to the art of practical music in all its branches, we shall be somewhat diffuse in our account of it.

D. Tomas de Yriarte writes like a man of the world, with an enlarged taste, and extensive knowledge of the subject. He has illustrated his doctrines from the most eminent moderns. Canto 1. gives an outline of the general history of the musical art; calls on music itself to inspire and assist him, without applying to Apollo and his nine attendants, or even repeating old fabulous accounts of the miracles performed by Orpheus, Amphion, Linus, Terpander, or Olympus.

He describes the importance of tone and time. The first includes the formation of the scale, and its divisions into intervals; the second, the time-table, or musical characters for measuring the duration of sounds.

II. Musical expression; its use in the church, the theatre, the chamber, and to man alone; its powers over the passions.

III. The dignity and use of music, particularly in the temple, the theatre, in society, and in solitude; enumeration of celebrated ancient Spanish composers.

IV. Use of music in the theatre resumed; Jomelli; dancing, architecture, painting, poetry, decorations; modern composers for the lyric theatre celebrated.

V. Use of music in private society; eulogium on silence at concerts, and invective against those who attend not with due respect for the art and for talents; of opera scenes in concerts; of instrumental music proper for a concert-room; sonata, concerto, duo, trio, quartetto, symphony; necessity of variety and foreign music to keep off languor, and excite attention; praise of the German composers of instrumental music, particularly Haydn for invention; of the utility and delight which music affords in solitude, as well to those that are ignorant, as those that are learned in the art; of the study necessary for a good composer in examining the scores of celebrated authors, to detect errors and plagiarism, as well as to discover how good effects are produced; censures the pedantry of dry fugues and canons, that have no other merit than the difficulty of composing them; extraneous modulation; confusion of multiplied parts in different styles and movements, which destroy the effect of each other; recommends the avoiding of all excesses of all kinds, as harmony, literally and figuratively, implies just proportion; celebrates the good taste which is manifest in the Royal Academy at Madrid, in the public distribution of premiums to artists in painting, sculpture, architecture, and engraving; to which have been added poetry and eloquence. It is proposed, in addition to all these arts, to establish an academy, or scientific body of music.

In the course of this last canto there is an animated eloge on Haydn.

“Sólo à ta múmen, Háyden prodigioso,” &c.

“To thee alone the muses have consign’d
A genius ever fertile and refin’d;
So new thy strains, so copiously inspir’d,
That curiosity is never tir’d;
Thy works a thousand times repeated, still
With rapture new experienc’d ears can fill.
To sooth, to calm, or noble deeds inspire,
Thy fancy still is fed with heaven’s own fire.
In every trait a judge profound can find
Some grace or beauty of a higher kind;
Expression touching, modulation new,
In themes which none but gifted men pursue.

Surrounded by thy countrymen renown’d,
In thee alone the listening world has found
A power to interest, and render dear
Each sweet vibration of th’ enraptur’d ear.
To distant climes the happy means convey,
As light and heat sent forth from solar ray.
And while these inspirations wide expand,
Conferring honours on thy native land.”

SPECULATIVE Music. By this expression is usually understood scientific music, harmonics, the ratio or proportions of sound; in opposition to practical music, which implies music composed or performed.

SPECULUM Musicae, the title of a musical treatise, written in Latin by John de Muris, (see MURIS,) and only to be found among the MSS. in the late king of France’s library, at Paris. It is a treatise so ample, and so scarce, that, having procured large extracts from it, and a complete table of its contents, we shall be the more minute in our account of it, as it seems to have been the ground-work of all the musical treatises that were produced by other writers, till the time of Franchinus Gafurius, in the latter end of the 15th century.

This work, which is written on vellum, in folio, contains six hundred pages. The first sentence of the original is, “Libro tertio de Philosophica Consolatione Boëtius volens reddere Causam,” &c. It is divided into seven books: the first of which treats of the invention of music, and of its divisions, and contains 76 chapters; the second, of musical intervals, 123; the third, of harmonics, or musical proportion, 56; the fourth, of concords and discords, 51; fifth, of the ancient tetrachords, division of the monochord, and doctrines of Boëthius, 52 chapters; sixth, of the modes and notation of the ancients, of the changes made in their system by Guido, and of the ecclesiastical tones, 1 13. Book the 7th, of measured music, of discant, in treating of which he has the chapter “de ineptis Discantoribus,” part of which has been given in the preceding chapter; of the time-table, moods or divisions of time; of the folly of placing a tail to the semibreve, by which he seems to mean the minim, without naming it; of perfect and imperfect measures; and lastly, he draws a parallel between the music of the ancients and that of the moderns, in order to ascertain their several degrees of perfection.

It is in mere charity to the curious in musical antiquities that we have bestowed so much pains in examining and describing this book; which, though of difficult access, and more difficult perusal, might tempt them, from the celebrity of the author, to explore its dark regions, and impair their eyes and patience in search of scientific treasures which it does not contain.

SPINET, Spinetto, Ital. Espinette, Fr. from spina, a thorn, or quill, the tone being produced by a crow’s quill inserted in the tongue of a little machine called a jack. (See JACK, and TONGUE.) The instrument consists of a chest or belly, made of the most porous and resinous wood to be found, and a table of fir fastened on rods, called the sound-board, which bears on the sides: on the table are raised two little prominences or bridges, in which are fixed as many pins as there are strings on the instrument. See BRIDGE.

It is played with keys, like the virginal, or small pianoforte; the long keys are for the diatonic or natural notes, and the short for the flats and sharps. See KEYS, and SCALE.
The keys, when pressed down at the end by the finger, on the principle of the lever, make the other end throw up jacks, which strike the strings, and cause the sound by means of the quills with which they are armed.

The thirty thickest strings are of brass; the others, for the more delicate tones, are of steel or iron-wire, fastened at one end by hooks, and at the other on pins, by which they receive their tension over the bridges already mentioned.

The figure of the spinet is like that of the harpsichord, a horizontal harp, and the harp an inverted spinet. It is tuned in the same manner as the other keyed instruments, by 5ths, and 8ths, with or without bearings, as the tuner or the owner of the instrument shall please.

There have been spinets and harpsichords made for curious people with some or all the short keys split or cut in two for harmonics, or at least to perfect some of the extraneous keys, furnishing a different tone for F♯ and G♭, D♯ and E♭ &c. to perfect some of the most offensive keys in common tuning.

Zarlino had an instrument of this kind made at Venice, which we saw at the house of Percetti, the composer's widow, and it was afterwards sent to England; but the mechanism and tone were so bad, that no tuning could render its sounds agreeable.

There are quarter-notes, as they are called, in the staff, marking his notes by setting points ( . ) up and down them, to denote the rise and fall of the voice; and each line and space he marked at the beginning of the staff, with Gregory's seven letters, a, b, c, d, e, f, g.

But others will have the artifice of an older date; and Kircher particularly affirms, that in the Jesuits' library at Messina, he found an old Greek MS. book of hymns, above seven hundred years old; in which some hymns were written on a staff of eight lines, marked at the beginning with eight Greek letters. The notes or points were on the lines, but no use was made of the spaces.

The ingenious and learned Dr. Burney has proved that parallel lines were of higher antiquity than the time of Guido. It appears from an ancient MS. treatise on music by Odo the monk, written about the year 920, that lines began to be used in the tenth century. They were eight or nine in number; and at first, the syllables of the psalm or hymn that was to be sung, were placed in the spaces between these lines: after this an alphabetic character was placed at the beginning of each line, capitals for the grave sounds, and minuscules for the acute; to this kind of notation succeeded points, a scale formed of which Dr. Burney has given from a tract written by the great musical monk Hubaldus, who flourished about the year 880. He has also produced three examples from ancient missals, one of which was written about the year 900, cited by P. Martini, in which only one line is used to ascertain the predominant sound of the chant; a red line for the clef of F, and a yellow one for that of C; and this, he says, seems to have been the first time that a line was drawn through notes of the same elevation, and the origin of clefs, which are only Gothic letters corrupted or disfigured.

Vincenzo Gallilei says, that a little before the time of Guido, the points were placed on seven lines only, without using the spaces; perhaps in imitation of the seven strings of the lyre. The regular staff of four lines was not generally used till the thirteenth century. Kircher, indeed, speaks of Guido's using five lines and five spaces, but, as Dr. Burney says, without authority. However, though lines without spaces, and spaces without lines, had been used before the time of Guido, he seems to have first suggested the use of lines and spaces together; and thus
the lines, which by some had been made as numerous as the notes, were reduced to four: a number which, in missals and rituals, of the Romish church, has never since been exceeded. Indeed the use of a line for each note above mentioned, may never have arrived at the knowledge of Guido, who speaks the language of an inventor, with respect to lines and spaces, more than on any other occasion; and, if he be allowed the invention of lines and spaces, clefs will of course accompany them. Burney’s Hist, of Music, vol. ii. p. 34, &c. p. 87, &c.

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STILO, Ital. Style, in Music, a peculiar manner of singing, playing, or composing. In ancient ecclesiastical music, the styles of Palestrina, Tallis, and Bird, are venerable, and highly esteemed by masters, and all good judges of that species of composition. In oratorios, the styles of Handel, Leo, and Jomelli, are marked with an original stamp of excellence; the opera styles of Pergolesi, Hasse, Piccini, Sacchini, and Paisiello; in symphonies, the elder Stamitz, the Mannheim school, Haydn, Mozart, and Vanhal at the Vienna school, are original; as are the quartets of Haydn; the quintets of Boccherini and Mozart; the harpsichord pieces of Domenico Scarlatti, Alberti, Schobert; the piano forte pieces of Emanual Bach, Haydn, and Mozart; but the comic operas of this last set of twelve concertos are, with due propriety, stiled his Stravaganze, being still somewhat more extravagant, capricious, and eccentric than the rest. But this rapidity and difficulty are only comparative with the sober strains of Corelli, Albioni, Alberti, and Tessarini; it was all plain sailing, at the rate often knots an hour; there was no difficulty of sostenuto, expression, or modulation, to encounter. See VIVALDI.

STRING, in Music. See CHORD.

"That strain again;—it had a dying fall."

STRAVAGANZA, Ital. a word exalted into a musical term by Vivaldi in the early part of the last century. Vivaldi, a Venetian and a musician of the Lombard school, with much rapidity of bow and finger, was a voluminous composer, not only of solos, sonatas, and concertos, for his own instruments, but operas for the theatre and masses for the church. In our younger days, the fifth concerto of Vivaldi, composed of rattling passages in perpetual semiquavers, was the making of every player on the violin, who could mount into the clouds, and imitate not only the flight, but the whistling notes of birds. His last set of twelve concertos are, with due propriety, stiled his Stravaganze, being still somewhat more extravagant, capricious, and eccentric than the rest. But this rapidity and difficulty are only comparative with the sober strains of Corelli, Albioni, Alberti, and Tessarini; it was all plain sailing, at the rate often knots an hour; there was no difficulty of sostenuto, expression, or modulation, to encounter. See VIVALDI.

Editorial note: A scientific article by John Farey Sr.

“If two strings or chords of a musical instrument only differ in length, their tones, that is, the number of vibrations they make in the same time, are in the inverse ratio of their lengths. If they only differ in thickness, their tones are in the inverse ratio of their diameters. As to the tension of strings, to measure it regularly, they must be conceived stretched or drawn by weights; and then, cæteris paribus, the tones of two strings are in a direct ratio of the square roots of the weights which stretch them; that is, e. gr. the tone of a string stretched by a weight 4, is an octave above the tone of a string stretched by the weight 1.

It is an observation of very old standing, that if a viol or lute-string be touched with the bow, or hand, another string on the same, or another instrument, not far from it, if in unison to it, or in octave, or the like, will at the same time tremble of its own accord. See UNISON.

But it is now found, that not the whole of that other string thus trembles, but the several parts, severally, according as they are unisons to the whole, or
the parts of the string so struck. Thus, supposing A B to be an A——B upper octave to a c, and therefore an a —— c unison to each half of it stopped at b; 1——b——2 if, while a c is open, A B be struck, the two halves of this other, that is, a b and b c, will both tremble; but the middle point will be at rest; as will be easily perceived, by wrapping a bit of paper lightly about the string a c, and removing it successively from one end of the string to the other. In like manner, if A B were an upper twelfth to a c, and, consequently, a unison to its three parts, a l 2, and 2 c; if, a c being open, A B be struck, its three parts, a 1, l 2, and 2 c, will severally tremble; but the points 1 and 2 remain at rest. This, Dr. Wallis, tells us, was first discovered by Mr. William Noble, of Merton college; and after him, by Mr. T. Pigot, of Wadham college, without knowing that Mr. Noble had observed it before. To which we may add, that M. Sauveur, long afterwards, proposed it to the Royal Academy, at Paris, as his own discovery, as it is likely enough it might be; but upon his being informed, by some of the members then present, that Dr. Wallis had published it before, he immediately resigned all the honour thereof. Phil. Trans. abr. vol. i. p. 606.

This phenomenon is better explained under the articles SONS Harmoniques, VIBRATIONS, FUNDAMENTAL, and GENERATE.

We shall add to the article String, musically considered, D’Alembert’s definition of the term corde sonore in the original edition of the Encyclopédie, and copied by Rosseau in his Dict. de la Mus. Corde sonore is any string stretched tight, whence a musical tone can be produced. “If a string is screwed tight in any one of its parts, it moves to a certain distance from the right line it formed in its quiescent state, returning afterwards, and vibrating backwards and forwards, by its elasticity, like a pendulum put in motion. Farther, if this string is of a substance equally elastic in all its parts, so that the undulation is communicated to the whole string, in vibrating it will produce a sound, and its sound will always accompany its vibrations, Geometricians have discovered the laws of these vibrations, and musicians those of the sounds which they produce.

“It has been long known by experience, and, to a certain degree, by reason, that catoris paribus, strings vibrate with more or less rapidity, in proportion to their length; that is to say, the ratio of their lengths is always inverse to that of the number of the vibrations. Dr. Taylor, a celebrated English geometer was the first who demonstrated the laws of the vibrations of strings with any exactitude, in his learned work, entitled “Methodus incrementorum directa et inversa,” 1715; and these same laws have likewise been demonstrated by John Bernoulli, in the second volume of the “Memoires de l’Acad. Imperiale de Petersbourg.”

From the formula (adds Rousseau) which results from these laws, and which may be found in the Encyclopédie, art. Corde, I shall draw the corollaries following, which serve as principles to the theory of music.

1. If two strings of the same matter are equal in length and thickness, the number of the vibrations in equal times will be as the roots of the numbers which express the ratio of the tension of strings.

2. If the tensions and the lengths are equal, the number of the vibrations in equal times will be in the inverse ratio of their thickness, or diameter of the string.

3. If the tension and thickness are equal, the number of vibrations in equal times will be in the inverse ratio of their lengths.

For the intelligence of these theorems, it seems necessary to observe, that the tension of the strings is not represented by the weight or pressure of the tension, but by the roots of these same weights; thus, the vibrations being reciprocally as the square roots of the tensions, the weights of the tension are reciprocally as the cubes of the vibration, &c.

From the laws of the vibrations of strings, are deduced those of the sounds which result from them. The more vibrations a string makes in a given time, the more acute is the sound; and the fewer vibrations a string makes, the more grave it is. So that sounds reciprocally follow their vibrations; their intervals are expressed by the same ratios, which reduces all music to calculation.

It appears by the preceding theorems, that there are three ways of changing the tone of a string; namely, the length, thickness, and tension. What these alterations produce successively upon the same string, may be produced at once on different strings, in giving them different degrees of length, thickness, and tension. This method combined is that which is practised in the fabrication and tuning of all
stringed instruments, relative to the fixed length of the strings by pins and bridges, or the changeable lengths by pegs and a nut; and the pressure of the fingers, which act like moveable bridges of a monochord. See HARMONICS.

Another property, not less surprising, of a tuneable string is, that if the finger which divides it into its aliquot parts touch the string slightly, without pressing it down to the finger-board, and a part of its vibrations are suffered to be communicated to the upper portion of the string, at such time, instead of the whole string sounding, or the usual part of it next the bridge, the sound only of the greatest common aliquot will be heard. See HARMONICS.

The word corde, in French, is used frequently in compositions for the fundamental sounds of the key; and the discords which alter the modulation in the base, or prolong a phrase, are often called harmonic chords.

STROMENTO, Ital. in Music, an instrument, plu. stromenti, instruments, certain machines contrived to produce musical tones and intervals, in imitation of the scale or gamut used by the human voice. As the organ is the most noble and comprehensive of all instruments, its name from the ὀργανόν, implying only an instrument, it is now understood to be the instrument, par excellence; and all music performed on instruments is termed organical. For the three different kinds of instruments of which the tones are produced by wind, strings, and percussion, see INSTRUMENT.

STYLE, in Music. See STILO

SUBDOMINANTE, in Music, is a name given by M. Rameau to the fourth note of the tone, because the dominant is immediately above it, or rather because it has the same interval of the tonic in descending, as the dominant has in ascending.

SUBJECT, in Music, a series of notes at the beginning of a movement in the principal part, which serves as a text or theme, and which should not long be forgotten; as this first idea should give birth to all the rest. (See DESIGN.) All the other parts require only art and labour in filling them up. But the principal melody depends on genius, and it is that alone which manifests invention. The principal subjects in music produce airs of many kinds. Canons, fugues, and imitations are constructed on a few bars, and often on a few notes, which are repeated after each other in the several parts, from the beginning to the end of the movement: in canons, rigorously in the same intervals; in free fugee, rigorously only at the beginning, in the answers; and imitations may be made in any intervals of notes that remind us of the passage to be imitated.

In writing upon canto fermo, and in elaborate counterpoint, the parts are frequently changed, and the subject, or canto fermo, sometimes given to one part and sometimes to another: this is called double counterpoint (See COUNTERPOINT.) These are very artful exercises for young contrapuntists. But the time for gaining fame and admiration in music by mere labour is over. Imagination has taken wing, and her flights and meanders, if accompanied by grace, are sure to be eagerly followed by every judge of the art; as these flights, if not too wild and capricious, need not preclude ingenuity and contrivance in the subordinate parts. A cold and barren composer, after having, with difficulty, found a mean and insipid subject, only transposes and repeats it in all the warrantable keys; but a great master, full of fire and imagination, without suffering the subject to be forgotten, gives it, either by the accompaniment, or by some little change or grace, a new countenance every time he repeats it. And here we cannot in justice withhold our admiration at the ingenious and delightful manner in which Haydn and Mozart adhere to the spirit of their subjects, without dulle and monotonous iteration.

SUITE, Fr., a suit, set, or series of movements, in Music. At the beginning of the last century, there were two kinds of sonatas and concertos in Italy; the one was called sonate et concerti da chiesa, and the other, sonate et concerti da camera. The compositions da chiesa, for the church, were more grave, studied, and rich in harmony. While those da camera, or private concerts, were composed of a set of light dancing airs, as an allemanda, corrente, minuettto, sarabanda, gavotta, and giga, or jig. These the French call suite; and Handel calls his two first books of lessons, Suites des Pieces. The first and third set of Corelli's sonatas were composed for the church; the third and fourth for the chamber. And his first eight concertos are concerti da chiesa, and the three last concerti da camera. And as it was very common in Italy, on great festivals, for the principal violin to play solos between the several parts of the mass, or between
the motetto sung by great vocal performers, we believe that the first six solos of Corelli were composed for and played in the church; and the six last for the chamber.

Editorial note: All the following scientific articles on SUPERFLUOUS... are by John Farey Sr.

SUPERFLUOUS INTERVAL, in Music, is one that exceeds a true diatonic interval by a semitone minor. See INTERVAL. Thus the

SUPERFLUOUS SECOND, or Tone, contains a semitone minor more than a tone, or greater second; and will therefore be expressed by $\frac{125}{108}$, or $\frac{75}{64}$. The first of these expressions is a tone minor, and a semitone minor; since $\frac{10}{9} \times \frac{25}{24} = \frac{125}{108}$: and the other is a tone major, and semitone minor; for $\frac{9}{8} \times \frac{25}{24} = \frac{75}{64}$. This last occurs in practice, and is one of the intervals of the chromaticum tonæum. See CHROMATIC and SECOND.

In the temperate scales these two superfluous tones coincide. Thus from B♭ to C sharp, or from F to G sharp, are superfluous tones.

SUPERFLUOUS Third is greater than the third major by a semitone minor, and will therefore be expressed by $\frac{125}{90} - \frac{5}{4} \times \frac{25}{24}$. It is not in use. It seems a fourth on our harpsichords. Thus from B♭ to D sharp is, properly speaking, a superfluous third; but D sharp and E♭ being confounded, it passes for a fourth.

SUPERFLUOUS Fourth. This interval is expressed by $\frac{25}{10} = \frac{4}{3} \times \frac{25}{24}$. It is by practitioners, and in temperate scales, confounded with the tritonus. See INTERVAL.

SUPERFLUOUS Fifth is expressed by $\frac{25}{16} = \frac{3}{2} \times \frac{25}{24}$. This is equal to two thirds major, $\frac{4}{5} \times \frac{5}{4} = \frac{25}{16}$: superflous fifth occurs in practice, as from C to G sharp.

SUPERFLUOUS Sixth. This interval is of two kinds; being the respective complements of the two diminished thirds to the octave. One only, strictly speaking, answers to the general definition of a superfluous interval, which is that interval which exceeds the sixth major by a semitone minor, and is therefore expressed by $\frac{125}{79} = \frac{5}{3} \times \frac{25}{24}$. But the other interval, which is a comma more than the former, and is two semitones major less than the octave, is chiefly used in harmony, as between B♭ and a sharp, where it has a fine effect. It is expressed by $\frac{225}{128} = \frac{2}{1} - \frac{16}{15} + \frac{2}{15} - \frac{256}{125}$. See INTERVAL and DIMINISHED Third.

SUPERFLUOUS Seventh is expressed by $\frac{15}{18} \times \frac{25}{24} = \frac{125}{64}$. This is a diesis less than the octave. See INTERVAL.

SUPERFLUOUS Octave is a semitone minor more than the octave, as from C to C sharp. It sometimes occurs in the basses of instrumental pieces.

SYMPHONIALE, in the Italian Music, is sometimes prefixed to a canon, or fugue, to show that it is at unison, i.e. that the second part is to follow, or imitate the first in the same intervals, sounds, notes, &c., the third to observe the same with regard to the second, and so on.

SYMPHONY, the name of a musical instrument often mentioned in the Fabliaux and old French poetry. It is sometimes called Chiphonie, sometimes Cyphoniae, but more frequently Symphonie. Some of the quotations given by Du-Cange describe it as a wind-instrument, and others as a species of drum, pierced with holes like a sieve.

“Je sai juglere de vielle; Je sai de musc et de fastele, Et de harpe et de chiphonie, De la gigue, de l’harmonie.”

Here are seven instruments mentioned in the compass of four lines.

“All the minstrel art I know, On the vielle I will can play; I the pipe and syrinx blow, Harp and jig my hand obey, Psaltry, symphony, and rote.”

Zarlino speaks of a Tuscan instrument, which he says was very ancient, and which was called Simfonia. According to his description, it was a kind of chest, upon which the strings were tuned, 4th, 5th, and 8th. The three strings were perpetually sounding in the base, while an air was played on the most acute string.

Zarlino adds, that some authors, among whom was Ottomarus Licinius, imagine that this instru-
ment was the true ancient lyre, and probably that of which Horace speaks in the “Ars Poëtica.”

“Ut gratas inter mensas symphonia discors.”

It should seem from Zarlino’s account of this instrument, that he was persuaded the ancients had harmony, or music in parts, and such instruments as he has described.

It is not easy to conceive how this instrument was tuned: for if the 4th and 5th were diatonic close to each other, when struck together, they would produce the harsh discord of the tone major. Perhaps Zarlino means to say that the four strings were tuned in the following manner: the first, or highest string C, the second G, the fourth below, the third C, the fifth below G, and octave to the first C, and the fourth, C, double octave below the first. But to play an air upon the first string, implies a neck to the lyre, of which we are acquainted with no instance.

The instrument called symphony is mentioned in Daniel, ch. iii. 5, 7. If it was in the shape of a longish chest, or a trigon, strung at the top and played with little ivory rods, as some imagine, we think it more resembles the modern dulcimer than any instrument in present use.

SYMPHONY, συμφωνία, formed from συν, with, and φωνε, sound, properly denotes a consonance, or concert of several sounds agreeable to the ear; whether they be vocal or instrumental, or both; called also harmony; which see.

Some authors restrain symphony to the sole music of instruments: in this sense, say they, the recitatives in such an opera were intolerable, but the symphonies excellent.

The symphony of the ancients went no further than to two or more voices or instruments set to unison; for they had no such thing as music in parts; as is very well proved by M. Perrault: at least, if ever they knew such a thing, it must be allowed to have been early lost.

It is to Guido Aretine, about the year 1022, that most writers agree in ascribing the invention of composition: it was he, they say, who first joined in one harmony several distinct melodies; and brought it even to the length of four parts, viz. bass, tenor, counter-tenor, and treble. But there is nothing, says the ingenious Dr. Burney, more difficult than to fix such an invention as this upon any individual; an art utterly incapable of being brought to any degree of perfection, but by a slow and gradual improvement; and the successive efforts of ingenious men during several centuries, must have been trivial and considerable in its infancy; and the first attempt at its use necessarily circumscribed and clumsy. This excellent writer has impartially examined and recited the evidence for and against the antiquity of harmony or counterpoint; and, after an elaborate detail, expressed his own opinion against it: and he has also given a list and analysis of the writings of Guido, in order to ascertain how much modern music has been indebted to this celebrated monk of Arezzo. Hist. Music, vol. i. p. 112, &c. vol. ii. p. 72, &c.

The word symphony is now applied to instrumental music; both that of pieces designed only for instruments, as sonatas and concertos, and that in which the instruments are accompanied with the voice, as in operas, &c. A piece is said to be in grand symphony, when, beside the base and treble, it has also two other instrumental parts, viz. tenor and fifth of the violin.

Before the above was written, symphony had been highly cultivated in Germany, particularly at the Manheim school, by Stamitz, Holtzbaueur, Canabich, Toeschi, and Filtz; by Vanhal, Ditters, and Kozeluch, at Vienna; and since that period, the symphonies of the immortal Hadyn have exceeded in number and excellence all that modern times can boast, and seem to include every perfection that can render instrumental music interesting and sublime: invention, science, knowledge of instruments, majesty, fire, grace, and pathos by turns, with new modulation, and new harmonies, without crudity or affectation. All these excellencies the admirable Mozart had nearly attained; and perhaps he is only inferior to Haydn in the number of his symphonies, from the shortness of his vital course!

Beethoven (pronounced Baythoven), a disciple of Mozart, is now (1804) so rapidly advancing into fame, that there would be little risk in predicting, that, if he lives, he will be the great man among musicians of the present century, as Haydn and Mozart were of the latter end of the last. He is said to be a young man; but writes with the freedom and boldness of long experience, and a fertility of invention that promises inexhaustible resources.
SYNAPHE, in the Ancient Greek Music, the conjunction of two tetrachords, or more exactly, the union of two conjunct tetrachords, by the last sound of the one being the first of another. There are, therefore, three synaphes in the Greek system: one between the hypate tetrachord and that of the mese; the other between the mese tetrachord and that of the synnemmenon; and the third between the disjunct tetrachord and that of the hyperbolæon. See SYSTEM and TETRACHORD.

SYNAULIA, the union of many musicians, who in the ancient music played on flutes in the antiphonal manner, answering each other alternately, without any mixture of voices. Rousseau observes that Malcolm, who doubted whether the ancients had any music composed expressly for instruments; yet has cited from Athenæus this account of the synaulia. He is, however, right in his first conjecture; for these synaulia were nothing more than vocal music played by instruments, in a concert of unisons and octaves.

SYNCOPE, and SYNCOPEATION, in Music, the prolonging of a note begun on the unaccented part of a bar, to the accented part of the next bar. Thus every syncopated note is what the French call à contre-temps, against time; and every succession of syncopates is moving against time. It must be remembered, that though the notes are not tied, if they are repeated in quick notes on the same line or space, they are as much syncopes in the harmony, as if they were united by a ligature.

Syncopation has its use in melody for taste and the expression of words; but its principal effect is in harmony, for the treatment of discords. The first part of a syncope serves as the preparation; the discord is continued on the second part; and in a succession of discords, the first part of the following syncopae serves as a resolution of one discord, and the preparation of another. The derivation of the word syncopae, or syncopation, by Rameau and Rousseau, does not satisfy us: the first thought it came from the shock or clash of sounds, in the dissonance; and the citizen of Geneva derived it from σνυ, and κοπτω, I cut, or beat. But by the sensation it excites, we rather think it resembles in music the effect of a syncope in medicine, in which faculty the word implies a swoon, or fainting away.

Syncopation is used for a driving note, that is, when some shorter note at the beginning of a bar, or half a bar, is followed by two, three, or more longer notes, before any other occurs equal to that which occasioned the driving note, to make the number even; when, for example, an odd crotchet comes before two or three minims, or an odd quaver before two or three crotchets, &c.

To describe all the effects of syncopation in melody, and all its use in harmony, would require a book, instead of an article for a dictionary. In quick movements, syncopation or driving notes express passion and impatience; in slow, languor and sorrow, sighs and despair. In harmony, all regular discords are prepared, struck, and resolved in syncopation. In the 2d, the syncope is in the base; in the 4th, 5th, 7th, and 9th, in the treble. But in melody, the syncopae so much resembles what the French call defaillance, sinking, fainting, and swooning, that it seems to confirm the etymology to which we incline; as a tone in syncopation, however forcible and loud in the beginning, grows more and more feeble and faint to the end; particularly on stringed instruments incapable of sustaining a sound.

In our Music plates, examples may be observed in the preparation of all regular discords.

SYRINX, Gr.; Fistula Panis, Lat.; i, Ital.; Pan's Pipes, Engl.; an instrument composed of reeds of different lengths, tied or fastened together with wax, said by the poets to be invented by Pan; and with respect to the syringa Panis of the ancients, it is observed by the editors of the Supplement to the first folio edition of the Encyclopédie, that Bartholinus, De Tibiis Vet. l. iii. c. 6. has related his having seen at Rome, on a monument in the Farnese palace, a syrinx with eleven pipes: the five first are of equal length, and consequently produce the same tone; with six others of equal diameter, but of different lengths from the first five. “I confess,” says the author of the article, “that I am unable to conceive the use of the five first reeds or pipes of the same length, for no two of them could be made to sound at once. Is it not possible that these five pipes were half tones, and differed from each other in length so little, as to seem all of a length; or, perhaps, they differed in diameter, and may have all produced different tones, though of equal length.”
It is not a very sagacious conjecture to imagine that any ancient instrument had five semi-tones de suite. The chromatic tetrachord consisted only of one semitone major, one minor, and a minor third. We saw the syrinx mentioned by the encyclopædist at Rome, and had a drawing made of it; but reflecting on its absurdity afterwards, we made no use of it, and we have long seen that there is no trusting to painters or sculptors for accurate drawings of ancient instruments of music. We have seen the syrinx, which had a regular series of sounds, ascending or descending, representing four of one length, and three of another; which of course would furnish no more than two different sounds. Now the reeds that were joined together decreased in this proportion; at the top, where they received the breath, they were all of the same height; but at the bottom, where the breath escaped from the tube, they were all gradually shorter, one than the other. The cymbals, too, which were to be struck against each other, are placed in the hands of some antique figures in such a manner, that it would be impossible to bring them in contact with the necessary degree of force, without amputating, or at least violently bruising, the thumbs of the performer.

The manner of playing on the syrinx by the ancients under the title of fistula panis, is accurately described in a single verse of Lucretius, lib. v. "Et supra calamos unco percurre labro."


Bonanni (Gabinetto Armonico) calls the syrinx ciusoli pastorali, the shepherd’s whistles.

The two sets of admirable performers on Pan’s pipes, here at present, (1803) exalted the syrinx into a concert instrument in the open air; which is beating the ancients with their own weapons; for besides playing in different parts, they perform prettier airs, we believe, than the ancients ever heard on these rustic instruments. They have extended the scale beyond the ancient systema perfectum, maximum immutatum.

SYSTEM, in Music, denotes a compound interval, or an interval composed, or conceived to be composed, of several less intervals. Such is the octave, &c.
series in minuscules, or small letters. See St. GREGORY.

At length, says Baronius, in the eleventh century, Guido Arete, a native of Arezzo, in Tuscany, a Benedictine monk of the monastery of our Lady of Pompose, in the duchy of Ferrara, invented a new system of sounds, which, with subsequent additions, is still the foundation of the general and universal system of Europe.

SYSTEM of Guido. We shall not here dispute, or attempt to ascertain, several inventions included in what is called Guido's system; but specify the principal constituent parts of the system of music which has long gone under his name: such as the gammut, or diatonic scale of tones and semitones; flats, sharps, naturals, hexachords, and solmisation; diaphonia, or organizing, other forms for the beginning of counterpoint; intervals, discant, or singing a part above or below the chant, or plain-song.

The two great defects in the rude system of Guido, as far as it goes, were the want of semitones in transposed keys for harmony and modulation, and a time-table for melody. And those deficiencies occasioned by the ecclesiastical modes or tones, stop all material improvement in secular music for many ages after the time of Guido. The want of a sharp 7th to all the modes and tones of the church in canto fermo, and their being expressed on a staff of only four lines and spaces in Gregorian notes of only two kinds, the square and lozenge, formed a new genus, and enchains both melody and harmony, till the invention of the time-table, and the free use of all the semitones in the modern chromatic scale, till the time of Ockenheim and his admirable disciple Josquin, in the fifteenth century. See GUIDO, GAMMUT or SCALE, HEXACHORDS, POINTS, and COUNTERPOINT.

SYSTEM of Rameau. This system has been so amply discussed in the articles BASSE Fondamentale, HARMONICS, D'ALEMBERT, the Abbé ROUSSIER, and M. LABORDE, that we shall add but little here to what those articles contain. He was the first who arranged the scattered rules of music into a system, deducing all melody and harmony from the vibration of a single string, organ-pipe, or great bell; in short, from the harmonics of a low sound, which he calls the generator. It had been discovered by Galileo, and afterwards confirmed by Mersennus, that every base or low sound divides itself into its aliquot parts, \( \frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}, \frac{1}{6}, \frac{7}{12}, \frac{3}{5}, \frac{5}{6} \); which divisions singly, would be the octave, the 5th of the octave, the 4th of the 5th, or the double octave, the tierce above the 15th or major 17th, minor 3d of the 17th, or 19th above the generator; between the 5th of time octave, or 12th and 17th, we have a major 6th; between the 17th and triple octave, or 8th part of a string, we have a minor 6th. So that in the single string or sound, we have all the concords perfect and imperfect; unison, 8th, 5th, and 4th, perfect; and major and minor 3d and 6th, imperfect, all given in the order of their perfection. In extending calculation beyond the minor 3d and the 4th octave, we have all the discords and small intervals in the 9th, 10th, 11th, 12th, and 13th part of a string, even to a comma. And here we have in nature all the intervals in melody, and concords and discords in harmony necessary to composition; but how to use and combine them is another inquiry.

But Rameau, before he entitled his basse fondamentale a system, and dipt into harmonics and the theory of sound, had published two quarto volumes on practical music, from the scale or gammut and first elements of sound, to the composition of fugues, double counterpoint, and canon.

The essence of these practical works had been incorporated by d'Alembert with the theory of sound and fundamental base, with clearness and geometric order; and whoever would know the merits of Rameau's system should seek his knowledge in the great geometrician's "Elemens de Musique theorique et pratique, suivans, les Principes de Rameau," to which we shall refer our readers, and to the article BASSE Fondamentale.

SYSTEM of Tartini. The ingenious theoretical writings of the admirable practical musician Tartini, have been reviewed and criticised in France by some, aid his right to the discovery of the terzo suono disputed and claimed as his own property by M. Rameau. Rousseau, who was partial to his talents, and opposes his system to that of Rameau, has given it a long article of development and analysis at the end of his dictionary; but not with his usual clearness, feeling, and spirit in speaking of Italian music and musicians. He has, however, honoured his system with a very flattering eloge, in saying "the system of the illustrious Tartini, being written
in a foreign language, often profound, and always diffused, is accessible to few, and even those few are discouraged by the obscurity of the style of the work before they are acquainted with its beauties. However, this system, if not that of nature, is at least, of all those which have hitherto been published, that of which the principle is the most simple, and that in which all the laws of harmony appears to arise in a less arbitrary manner than any other.

But his theoretical treatises have never been so candidly examined as by our learned countryman Stillingfleet, in a professed commentary, under the title of “Principles and Power of Harmony,” which he has rendered one of the most agreeable and amusing books on the subject of music, as well as the most instructive in our language. And to this work we shall refer our readers who wish to be better acquainted with Tartini.

The work in question, which Mr. Stillingfleet has commented, was published at Padua, in 4to. 1754. Mr. Stillingfleet probably treats St.Anthony of Padua’s first violin with the more respect, from having heard him perform, and being well acquainted with his compositions and character. He does not always subscribe to his opinions, and sometimes, like less partial critics, complains of the obscurity of his style, and want of sound geometrical science; yet he points out so many profound and ingenious thoughts, so much refinement and feeling in melody and harmony, that whoever peruses Tartini, with Stillingfleet for his guide, will not only admire many parts of his treatise, but entirely love and reverence the author. Mr. Stillingfleet takes no notice of Tartini’s second treatise, entitled “De’ principj dell’Armonia musicale,Contenuta nei Diatonico Genere Dissertatione,” 4to. 1767. But Tartini himself says, that it was written only to explain the first.

The system of Tartini, as explained by Stillingfleet, has a long article assigned it in the supplement to the first folio edition of the Encyclopædie, among materials with which the editors were furnished from Germany, chiefly extracted from the “General Theory of the fine Arts,” by M. Sulzer of the Royal Academy of Sciences at Berlin. The author of this work was director of the philosophic class in the Royal Academy, and author of several works in literature and science that were much esteemed. He was particularly attached to music, which he had studied very seriously, though only a dilettante. Yet he drew up the chief musical articles of his work, which was published in 2 vols. 4to. in the form of a dictionary, under the counsel of Agricola, Schuiz, and Kirnberger, who had been his music-master, and of whom he speaks in the highest terms of respect and friendship.

After analysing the principal musical systems that have been current at different periods, in the several parts of the world, the encyclopædists introduce what is called Kirnberger’s system, in the following manner.

“In all the systems which we have analysed, we have had recourse to physical experiments, to calculations, and to analogies. The chief part of the experiments depend on the ear, as this organ is the sovereign judge of music. All the systems which we have analysed, (a term in periodical works of criticism, at present, by which we understand reviewed.) in assigning reasons for many things, leave others in obscurity, and oblige us to abandon various harmonical combinations, to which we have been long accustomed. If, therefore, a system is found, supported on a few simple principles, which reduce all harmony to two chords only; which, however, accounts for all harmonical phrases and transitions employed by good masters, however capricious these transitions may appear; if this system, notwithstanding its simplicity, requires no change, even in our diatonic scale, nor obliges us to abandon any harmonical practice allowed to be good by great composers in Italy, Germany, or even in France, before the time of Rameau; it seems as if we might reasonably regard it as the only true system, and consequently that which we ought exclusively to adopt.

“We are now going to analyse such a system, which is that of M. Kirnberger, a celebrated German musician, at present (1777) in the service of her royal highness princess Amelia of Prussia. We can answer for the accuracy of the analysis, as it has been drawn up under the inspection of the author, with whom we have the happiness to be particularly acquainted, and to whom we are indebted for all that may appear curious and useful in harmony, throughout the different articles of this supplement. This confession would wound our sellove, if the satisfaction of acknowledging publicly all that we owe to M. Kirnberger did not overpower every other sentiment.”
This system having been adopted and explained by Mr. Kollmann, in his “Essay on Musical Harmony,” published in 1796, and in his “Essay on practical Composition,” in 1799; as we have referred our readers to d’Alembert’s “Elemens de Musique,” for a clear and well-digested analysis of Rameau’s system; and to Stillingfleet, for an excellent commentary on Tartini’s system; we shall only point out the principles on which Kirnberger’s system is founded, and refer our studious musical readers to Kollmann’s full development of the system of his profound countryman.

SYSTEM of Kirnberger. “Since music is made for the ear, its principles ought to be founded on the judgment of that organ.

“When we speak of the judgment of the ear, we mean the judgment of the majority of the greatest musicians. If we were to be guided by the ears of every individual, we should never have done.

“Our music consists in different intervals; their names, the manner of expressing them, &c. we suppose already known.”

Intervals are considered either in succession, as in melody; or in their combination, as in harmony. “With respect to melody, intervals are easy or difficult to express; with respect to harmony, they are concords or discords. A constant and uniform experience proves that the most consonant intervals are the most easy to execute; for which reason it is necessary to learn the degree of consonance in each interval.

“To know the natural cause of consonance and dissonance of tones is often wished. The greatest philosophers are of opinion that the intervals, of which the ratio is the most simple, are likewise the most consonant; and experience leans to this opinion. Two strings of equal length, thickness, and tension, render two sounds so similar, that one cannot be distinguished from the other. The unison, therefore, is regarded as the most perfect concord. After the unison, the ear finds the octave the most consonant interval; it has two sounds, but so united together as hardly to be distinguished. They are indeed two sounds, but not two different sounds: the length of the strings which produce an octave, or, if you please; the number of vibrations, is as 1 to 2; a ratio the most simple, after that of 1 to 1; after the octave comes the fifth, of which the ratio is 2 to 3; then the fourth, 3 to 4, &c. in the usual and well-known proportions,” till we come to the second, which is in the proportion of 8 to 9. “The more close and minute the intervals,” says Kirnberger, “they are always the more dissonant. The second minor, therefore, is more dissonant than the major.

“The minor third, in the ratio of 5 to 6, is generally regarded as a concord; but as it will bear a little diminution, without ceasing to be a concord, we have a right to conclude that the interval in the ratio of 6 to 7 is the last which the ear can receive with sufficient facility to imagine it to be a concord. The ratio, therefore, of 6 to 7 is the last concord, and of 7 to 8 the first discord.”

This is new doctrine. More liberties have long been taken with the flat 7th, than with any of the other discords. The ceremony of preparing it has been long relaxed; but it has never, till lately, been numbered with concords.

“It is true,” continues Kirnberger, “we do not find the interval of 6 to 7 on our keyed instruments; but the trumpet gives it. Every one knows that the trumpet and French horn give A and B♭ too low, and F too high; but few know that the tones of the trumpet and French horn are the two natural tones.”

New doctrine again. We never yet met with a practical musician, or a lover of music with a good ear, who did not complain of the false intonation of the trumpet and French horn, particularly in the 4th and 6th of their scale.

“It can be proved that every string or bell gives, besides the principal tone, expressed by 1, the tones expressed by \( \frac{1}{7}, \frac{1}{13}, \frac{3}{13}, \frac{3}{5}, \frac{7}{13}, \frac{11}{13}, \frac{11}{15}, \) all which together produce the total sound: so that the tone which horn-players regard as B♭, is a true natural tone, expressed by \( \frac{1}{7} \), &c.; as F is by \( \frac{11}{15} \), and A by \( \frac{1}{13} \).

“We should do well, therefore, to adopt the tone \( \frac{1}{7} \) in our musical system, which is included in the first octave \( \frac{6}{7} \); in calling C the fundamental sound, which we call i, it would fall upon A \( \frac{3}{5} \), and on B♭ \( \frac{8}{13} \).

“The chord C, E, G, i, is literally a chord of four sounds, or consonant parts, and not the chord of the flat 7th. This is proved by the use which the best composers make of the extreme sharp 6th, and of the
minor 7th, which they treat as concords, doubtless because the ear takes them for the interval $\frac{4}{7}$.

“As the minor 3d, $\frac{6}{7}$ is the smallest concord, the major 6th, $\frac{7}{12}$, which is its inversion, will be the greatest; and we have, beside the unison and octave, still four kinds of concord, the tierce, the fourth, the fifth, and sixth; or rather we have but two, the sixth being a tierce, and the fourth a fifth inverted.

“But we must not regard all the 3ds, 4ths, 5ths, and 6ths, as concords. Intervals have their names from their place in the diatonic scale; so that their intervals are called 3ds, 4ths, &c. on account of their situation in the scale, though they are very dissonant; thus, C, C♯, a false relation or redundant octave; a sharp 4th, or tritonus, &c.

“The following are the true concords, and their ratios:

<table>
<thead>
<tr>
<th>Interval</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd minor</td>
<td>$\frac{5}{6}$</td>
</tr>
<tr>
<td>3rd major</td>
<td>$\frac{4}{5}$</td>
</tr>
<tr>
<td>4th</td>
<td>$\frac{3}{4}$</td>
</tr>
<tr>
<td>5th</td>
<td>$\frac{2}{3}$</td>
</tr>
</tbody>
</table>

“And if the note $i$ or za be admitted, the interval is expressed by $\frac{4}{7}$.

These intervals are in their greatest purity; but experience tells us that they may be a little altered, without becoming discords. The 4th may be a semicomma, or $\frac{1}{60}$ too sharp; and, consequently, the 5th as much too flat. The major 3d may be a whole comma, $\frac{1}{80}$ too sharp; and the minor 6th as much too flat. And, finally, the minor 3d may be a comma, or $\frac{1}{80}$ too flat; and the major 6th consequently as much too sharp. All other intervals are discords.

“In the music of the present times (1777), every melody is accompanied by different simultaneous melodies, which make but one whole with the principal: at such times we, therefore, hear many tones or sounds at once. These assemblages of simultaneous sounds are denominated chords; and the effect which results from them, harmony.”

Then follow the usual and well-known definitions of common chord, chord of the 6th, and chord of the $\frac{6}{4}$, all arising from the triad; unison, 3d and 5th, or 3d, 5th, and 8th, to the fundamental base, or harmonic triad.

“It is probable (we are sure, from our researches, that it is certain) there was music in parts, long before discords were introduced in counterpoint.”

He next gives the usual rules for preparing and resolving discords.

The origin which he gives of the minor 7th, in the chord of the 5th of the key, and to all other regular 7ths, is the same as in every other elementary book. (See DISCORD.) The minor 7th, and the major or sharp 7th, called by the French la note sensible, have very different effects on the ear: the flat 7th tends to a descent, and, like Falstaff,” has an alacrity in sinking, whereas the sharp 7th has a contrary disposition, and, as if charged with gas, forces its way upwards. The sharp 7th and the sharp 4th are the only discords that are resolved upwards.

It is the usual minor or flat 7th that Kirnberger calls the one essential discord. He next distinguishes three kinds of triads, or common chords: the common chord with a major 3d, with a minor 31, and with a minor or 6 it 5th. The last can be only used in the course of a passage or musical period, but never at the beginning or the end.

“In four parts there are four ways of playing or writing the chord of the 7th, which are well known to thorough-base players.”

It is by making each of these chords an appoggiatura, or suspending it to the next base, and calling the whole chord an accidental discord.

The reducing all discords to one essential discord is rather an evasion of the difficulty of learning all the usual discords, than a solution. The student will still have to learn what the common chord of the key-note will make to every note of the scale ascending and descending, and what the discord of the 7th will make to whatever note it is struck or applied in composition; which will not be learned the sooner for having new names, or being called accidental instead of essential. The rest must be learned, whether by their old names, or by no names at all.

The new note za has not yet been adopted by composers or performers.

The author of this system takes great pains to explain the difference between the accidental and essential discords. But we fear that many of these distinctions are so nearly without a difference, as not
easily to be retained by a student in harmony. M. Kollmann’s plates will smooth many difficulties in this study, which the plates in the Supplement to the Encyclopédie leave in obscurity.

When the author quits this subject, which he takes great pains to explain, he proceeds to account for many chords which appear singular.

“The chord of the superfluous 6th, as Rousseau has well remarked, is only the chord of the minor 6th sharpened by accident. When our old musicians wished to make a pause on the 5th of a minor key, it was done by means of the natural 6th major, which led to the chord of the 5th of the key with a sharp 3d; which was called a demi-cadence.”

We have mentioned all the singularities of this system, and what remains, though the sound and good doctrine of the best masters, is not new, and therefore needs no particular explanation.

We have enumerated all the musical systems that seem entitled to praise from their originality, or to adoption for their improvement of former principles. Many have called their publications new systems; but though some of them contain much ingenuity of arrangement, and some additions to former systems, they are not constructed on new foundations: such are those of M. Sauveur, of the great geometrizer Euler, of M. Boisgelou, of M. Serre, Dr. Smith’s “Harmonics, or System of Tuning by Beats.” M. Jamard, the worthy ci-devant canon of St. Genevieve, prior of Rocquefort, member of the Academie de les Belles-Lettres et arts de Rouen, who escaped to England from Normandy during the revolution, published, in 1769, an ingenious tract, entitled “Recherches sur la Théorie de la Musique,” totally distinct from the practice, putting, it should seem, the ear out of the question; and fancying the bad notes in the French horn to be the harmonics of nature, the auricular organ is not gratified by his system. And as none of the systems, as they have been called, are received into practice, we can only allow them to be ingenious hypotheses or speculations, sometimes correcting, and sometimes elucidating established theories.

The taking the French horn as the standard of harmonic perfection, which is so notoriously false in the two intervals of the 4th and 6th, will alarm every nice and cultivated ear, and make them fear the result of their calculations.

Here Kirnberger, an excellent practical musician, and profound contrapuntist, deserves more respect than mere speculatists; but we cannot call his an original system on a new foundation; he has refined on the old system, and proposed improvements. He is neither a blind follower of Rameau nor Tartini; but steers safely between both. There is so little nature in music, that we seize on the slightest indication of her support.

The new scale of M. Jamard would involve music in great confusion. It was a language, in the old scales, which had only two expressions; it has, according to the venerable prior of Rocquefort, 56 in every octave.

Chronological History of ZA, a new Interval in Secular Music. — Tartini, in 1754 and 1767; Balliere, in 1764; Jamard, 1769; Stillingfleet, 1771; Kirnberger the same year, in the Supplement to the folio edition of the Encyclopédie, 1777; and Kollmann, 1796, in his “Essay on Musical Harmony.”

Tartini, when he first mentioned this new sound in his “Trattato di Musica,” p. 126, says: “Nascono dalla divisione armonica della sesqui terza, o sia quarta, ed tro avvertito, che questo intervallo è di facilissima intonazione sopra il violino, ed evoluto dalla natura armonica perche si trova fatto dalla natura nelle trombe marina e da fiato, e ne’ corni di caccia; stromenti ne’ quali non a luogo l’arbitrio umano mala tota fisico-armonica natura. Si aggiunga dunque in nota musicale il termine +; ed questa nota aggiuntesi segno con la cifra * a distinzione di B sa segnato con la cifra ♭.

Editorial note: At the point *, above, the character used is like this, \( \text{\aleph} \), but with the left-hand arm extended. It can be seen in the music example below.

\[
\begin{align*}
\text{\aleph} & \quad \text{\?} \quad \text{\?} \\
\text{\#} & \quad \text{\?} \quad \text{\?}
\end{align*}
\]

Mr. Stillingfleet is very short on this subject. He has not translated this passage, nor does he seem
quite to agree with Tartini about its use, or the necessity of adopting it.

The passage, translated as literally as we are able, is the following.

“There arises from the harmonical division of the scale, after the ratio of $\frac{1}{6}$th, an interval from $\frac{1}{7}$th, which is of an extremely easy intonation on the violin, because it is the work of nature herself on the tromba marina, and on the real trumpet and French horn, instruments not governed by the arbitrary will of man, but solely by natural harmonics. We shall, therefore, add a musical note to the scale from the ratio $\frac{1}{7}$th, and expressed by this character $\Phi$, to distinguish it from B♭."

Kirnberger goes still further in pointing out the production and double use of this new note, as an extreme sharp 6th to C natural, and a flat 7th to the same base.

Though, as Tartini says, it is in nature, and of easy production by the voice and violin, upon keyed and wind instruments it is purely imaginary.

Tartini thinks that, with the assistance of this new sound, the enharmonic may be recovered.

In Stillingfleet’s remarks on what Tartini says of the ancient enharmonic being contrary to the principles of harmony, the commentator tells us that he undertakes to give us an enharmonic of his own, by means of this new note, which is out of the limits of the hexachords, which he calls a consonance.

This note seems brought into use in melody, particularly in descending, though unnoticed in harmony. See Music Plates.

But the intonation of wind-instruments in general is false, particularly on the trumpet and French horn, in which the 4th and 6th differ so much from the instruments and the voice which is formed upon them, or at least is obliged to conform to them, that no composer dares use them in any thing but transient passages; in slow and sustained notes, they offend every natural ear: but the $\frac{1}{6}$th, or new B♭ of these instruments, if dwelt upon, or even used at all with other instruments which have no such sound, would drive an audience mad, or at least out of a theatre or concert-room.

The 3ds, given by the Abbé Roussier’s triple progression, and 4ths and 6ths of Balliere, Jamard, and Kirnberger, in unison with those intervals in the trumpet and French horn, we cannot reconcile our ears to, though recommended by our favourite composer Tartini.

The flat 7th, given by the last effort of the æolian harp, is not so offensive as that of the trumpet and French horn. But nature gives us no music: it is all a work of art. Let us, therefore, make it as pleasing as we can to that sense for which it is alone designed. There is a little pedantry in Kirnberger’s treatment of the subject. To all his other precepts we can subscribe, as they are the result of great experience, professional knowledge, and sagacity. We know not whether his treatise should be called a system, like those of Guido, Rameau, and Tartini; the first built on the Grecian system, and the two last upon physical phenomena. Kirnberger’s is but the last refinement of old doctrines. He says, that the 4th, the 6th, and flat 7th of the trumpet and French horn, should be adopted in our system, “for they are the true natural tones.” We respect nature very much; but is not nature improved very much by cultivation in fruits and flowers? and why do all professors and persons of nice ears complain of the dissonance of wind-instruments?

**SYSTEM of Solmisation.** Dr. Wallis makes use of only four of the six syllables ascribed to Guido; mi, fa, sol, la; which method resembles that of the ancient Greeks in naming the sounds of the tetrachords τα, τε, τη, τε. But it appears in Clifford’s Collection of divine Services and Anthems, published in 1664, that the English began to discontinue the use of two of the syllables of the hexachords, the ut, and re, about the year 1650. Dr. Pepusch, however, in 1731, revived the ancient solmisation, and informs the vocal student, in his “Treatise on on Harmony,” p. 70, that the mutations begin on the third note before F♯, which must be called re ascending, and la descending.

No accidental flat or sharp alters the names of the notes in singing, except B, which, when flattened in the key of C, is called fa. When B is natural, F and C are called fa; and when B is flat, F and B are so called.
In ascending one octave from C to c, the notes are denominated, d, r, m, f, s, r, m, f. In descending f, m, l, s, f, m, r, do. The Italians have long in their solfeggiars, for the facility of the voice and purity of sound, changed the key note ut to do.

In F, an octave ascending from C is thus denominated: d, r, m, f, s, l, f, s, descending, e, f, l, s, f, m, r, do. From G to g, with f natural: d, r, m, f, r, m, f, s; descending, s, f, l, s, f, m, r, d. With B flat, G must be called r, m, f, s, r, m, f, s, and in descending, s, f, m, l, s, f, m r. This is a passage in the key of F, but, query in the key of G minor, what is E♭ to be called?

After a careful examination of all the most favoured systems of solmisation throughout Europe, we find no one which provides a specific name for every sound in every key. The following rules will, perhaps, subject incipient vocal students to fewer difficulties, and enable them to distinguish a whole tone from a semi-tone, with equal certainty, in all keys, as well as in those of the three hexachords. See HEXACHORD, and MUTATIONS.

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T, in Music, is the initial of tenor, vocal and instrumental; of tacet, for silence: as adagio tacet, when a performer is to rest during the whole movement. In concertos and symphonies, t is the initial of tutti, the whole band, after a solo part. It also frequently stands for trillo, or tr, a shake.

TABLATURE, Tablatur, in Music, in general, is when to express the sounds or notes of a composition, we use letters of the alphabet, or ciphers, or any other characters not used in the modern music.

TABLATURE, in its stricter sense, is the manner of writing a piece for the lute, theorbo, guitarre, bass viol, or the like; which is done by writing on several parallel lines (each of which represents a string of the instrument) certain letters of the alphabet, referring to the frets on the neck of the instrument: of which A marks, that the string is to be struck open; i. e. with out putting the finger of the left hand on the head; B shows, that one of the fingers is to be put on the first stop; C, on the second; D, on the third, &c. The time of the notes is signified by marks over the letters of a hooked form, that answer to the minim, crotchet, quaver, &c. in the French tablature; but the Italians and Spaniards, till of late years, made use of figures instead of letters.

The tablature of the lute is usually written in letters of the alphabet, and that of the harpsichord in the common notes.

TABLEAU, Fr. This word is used frequently in music, says Rousseau, to express the whole design of a composition in the score: as "this score is quite a picture;" "this opera is full of admirable paintings and imitations of nature."

TACE, Ital., in Music, be silent.

TACET, Lat., is used when a vocal or instrumental part is to be silent during a whole movement; as in a mass, Christe tacet; in a concerto or sonata, Largo tace; &c.

TACTUS, Sext, in Music, before the use of bars, implied nearly the same thing as a bar: that is, the time when the hand or foot is beaten down in marking the measure. Tutto, Ital., the same.

TAGLIATO, Ital., in Music, is used for measure, which the French call barré, that is, when the character for common time is thus marked, or with a perpendicular line drawn through the middle of the C; it implies quick time, in which the notes are played or sung twice as rapidly as in the usual common time; a semibreve being performed like a minim, a minim like a crotchet, a crotchet like a quaver, &c. A breve, double the length of a semibreve, used to fill a bar; whence the terms alla breve. This time is still used in music à capella, and alla Palestrina, in which the notes being chiefly open, and in fuge, musicians usually call a fuge consisting chiefly of semibreves and minimas a white fuge. The time too, when a line is drawn through the C, is called cut time.

TAMBOUR, Fr. a drum; which see.

TAMBOUR de Basque, a small drum used by the Biscayans as an accompaniment to the flageolet, or octave flute: a tabor and pipe.

TAMBOURIN, a French dance, much in favour formerly on the French stage in all the opera dances of Lulli and Rameau. The air is gay and in common time.

TARANTARA, according to Ennius, the military trumpet’s flourish of the Romans.
TARANTELLA, a rapid tune played to persons in Calabria, supposed to be bitten by the tarantula, in order to excite them to dance, which has been thought, while the disease was believed, to be the only specific.

TARDO, in the Italian Music, is used to denote a slow movement, being much the same as largo.

TASTATURA, Ital, the whole range or set of keys, in an organ, harpsichord, virginal, spinet, clavichord, or, piano-forte. The term is naturally formed from tasto, a touch, or key. The Italians, we believe, call the fingerboard of the lute, guitar, viols, and all stringed instruments with a neck that is fretted, the tastatura.

TASTE, in Music, is often confounded with graces, or change of passages; but a movement composed in good taste, is often injured by what are called graces. We rather suppose taste to depend on feeling and expression, than in flourishes, or, as the Italians call them, rissioramenti; in sorrow, pathos; in joy, brilliancy and fire. Yet when changes and embellishments are necessary, good taste is likewise requisite in their choice and application. The composer discovers his taste by his melodies, as much as the performer by expressing his thoughts.

Taste, says Rousseau, is of all Nature's gifts the most easily felt, and the most difficult to explain; it would not be what it is, if it could be defined: for it judges of objects beyond the reach of judgment, and serves, in a manner, as a magnifying glass to reason.

There are some melodies more agreeable than others, though equally well phrased and modulated; there are combinations in harmony of great effect; and others that excite no attention, all equally regular as to composition; there is in the texture of the parts, an exquisite art of arranging and setting off one passage by another, which depends on something more subtle than the laws of contrast.

Genius creates, but taste selects. Genius is often lavish and redundant, and in want of a severe critic to prevent him from the abuse of his riches. Many great things may be achieved without taste; but it is taste that renders them interesting. It is taste which enables a vocal composer to seize and express the ideas of the poet; it is taste which guides the performer to the true expression of the composer's ideas; it is taste which furnishes both with whatever can embellish and enrich the subject; and it is taste which enables the hearing to feel all these perfections. Taste is, however, not mere sensibility. A cold heart may have much taste; and a man transported with things truly spirited and impassioned, is little touched by grace and elegance. It seems as if taste attached itself to minute refinements, and sensibility to grand and sublime effects.

TASTE in singing and playing; Gout du Chant, Fr. According to Rousseau, there was, in his time, in France, a person distinct from the music-master, to teach the necessary agrément or graces thought necessary to cover, in some degree, the insipidity of French melody. Most of the young students in music used therefore to have two masters, one for music and one for taste, called Maitre de Gout-de-chant.

Gout-de-chant likewise consisted in imitating or taking-off the voice and manner of a particular singer; which is always done by exaggeration. The face of a man with a mole or wart upon it, is of great use to a portrait painter in fixing a likeness: so a singer, with a little tendency to nasality, to coarseness, to singing through the throat, or of quivering upon one note in attempting to shake, which the Italians have well denominated tosse di capra, a goat's cough, are easily taken off.

TASTO, in Italian Music, the touch or part of any instrument, whereon, or by means of which its notes are made to sound, be it on the neck, as lutes, viols, &c. which are called fixed and immoveable; or the front of organs, spinets, or harpsichords, where the keys are disposed to raise the jacks, called moveable touches; and is properly no more than the finger-board of each.

TASTO Solo. These two Italian words, written over or under a base to solos that are figured, generally at a pause, or preceding a close, imply that the accompanier on a keyed-instrument ought to play no chords with the right hand; but only to strike the base note with the left hand, which is implied by the word tasto solo, a single key; or at most to double that sound with the right hand in the octave: as it is hardly possible to divine or figure the harmony of an ad libitum or cadence, either written or played extempore, which the composer or the performer is allowed to write or play on these occasions. Solos are now no longer in fashion; but the violin solos of the early part of the last century, by Corelli, Gem-
iniani, Somis, and Tartini, have all closes of this kind, to which the base is confined to a single note, or *tasto solo*.

**TATTOO,** Ital. from *Tactus*, Lat. in *Music*, implies a measure, or bar, the period when the hand or foot is beaten down in marking the time. See TACTUS, and BATTUTA.

**TE DEUM,** a kind of hymn, or song of thanksgiving, used in the church, beginning with the words *Te Deum laudamus, We praise thee, O God.* — It is usually supposed to be the composition of St. Augustine and St. Ambrose.

It is customarily sung in the Romish church with extraordinary pomp and solemnity upon the gaining of a battle, or other happy event; and sometimes even to conceal a defeat.

This hymn was likewise sung in Protestant churches on days of thanksgiving for a victory, peace, or other national event.—Purcell composed his Te Deum for the opening of the cathedral of St. Paul’s, but did not live till that structure was finished.

In Boyer’s Annals of Queen Anne, vol. iv., 1704, it is said that the hymn Te Deum, with other anthems, were admirably performed at St. Paul’s, when her majesty went thither in great state on the day of thanksgiving for the victory at Blenheim. We are not informed by whom the music was composed; it is only said that it was performed with great solemnity by the three choirs of her majesty’s chapel, Westminster Abbey, and St. Paul’s. There was no instrumental band on this occasion, or any other accompaniment to the voices than the organ, which seems to have been the case in all former times, when any of our sovereigns went in state to St. Paul’s.

But in 1706 we are told in the same Annals, vol. v. p. 333, that at a public thanksgiving for the battle of Ramillies, her majesty went in great ceremony to St. Paul’s, accompanied by both houses of parliament, and all the great officers of state; when Te Deum was performed “with vocal and instrumental music, after the composition of the famous Mr. Henry Purcell.” And this seems the first time that an instrumental band was allowed to accompany the voices in our metropolitan church of St. Paul.

In 1708, Te Deum was sung to excellent music at St. Paul’s, composed by Dr. Crofts for the victory at Audenarde, whither her majesty went in great solemnity.

We were extremely curious to learn when and where Handel’s grand Te Deum for the peace of Utrecht was It was natural to imagine that it was first heard at St. Paul’s, and that queen Anne went thither in state on the occasion, which sir John Hawkins positively asserts, telling us that, “in 1713, the treaty of peace at Utrecht being finished, a public thanksgiving was ordered for the occasion, and Mr. Handel received from the queen a command to compose a Te Deum and Jubilate, which were performed at St. Paul’s cathedral, her majesty herself attending the service.” Hist. Mus. vol. v. p. 269.

But though in a paragraph of the Post Boy, July 2, 1713, it is announced that “her majesty goes the 7th to St. Paul’s, being the day appointed for the thanksgiving, accompanied by the houses of the lords and commons;” yet in the same newspaper, from Saturday July 4, to Tuesday July 7, 1713, the public was informed that “her majesty does not go to St. Paul’s July 7, as she designed, but comes to St. James’s (from Windsor) to return thanks to God for the blessings of peace.”

If Handel’s elaborate composition had been executed at St. Paul’s, a style of music so new, forcible, and masterly, must have had a great effect on an English congregation, who had never heard ecclesiastical music so accompanied. Purcell’s voice parts, always pleasing, well accented, and expressive, had little assistance from an instrumental band. Instrumental music, except organ playing, was but little cultivated in our country during his time. But Handel, besides his experience in Germany, had heard operas and masses performed by great bands in Italy, with such precision and effects, as were unknown in our country till he came hither to teach us.

Handel’s Te Deum for the battle of Dettingen, 1743, and Graun’s for the king of Prussia’s victory at Colin, in 1757, are the most celebrated compositions to that sacred hymn of the last century, and the most likely to survive the present.

**TEMPERAMENT,** *Temperamento, in Music,*

*Editorial note: A scientific article by John Farey Sr.*

[This term] generally denotes a rectifying or amending of the false or imperfect concords, by
transferring to them part of the beauty of the perfect ones.

The degrees of the octave, which may be called its elements, as being the smallest intervals into which it is resolvable, are two greater semitones, two less tones, and three greater tones.

Now the different situation of these elements, with respect to each other, occasions that intervals or concords of the same name, as thirds, fourths, &c. do not consist of the same degrees or elements, though there be always the same number of them: but one fourth, for instance, is agreeable and perfect, and another not.

To mend these imperfect concords, the musicians have bethought themselves to temper, i.e. give them part of the agreeableness of perfect ones. In order to this, they take a medium between the two, and this they call a temperament; which necessarily produces a new division of the octave, or, which amounts to the same, new elements.

For instance, whereas naturally its elements are the greater semitone, and the greater and less tone; they take a middle tone formed of the greater and the less: and the only elements now are the greater semitone, and this mean tone, which renders the five intervals that are tones equal, and those that are semitones less unequal to these.

One might also divide each of the five tones of the octave into semitones, which, joined to the two it naturally has, would make twelve: in which case, the whole octave would be divided into twelve equal parts, which would be mean semitones.

It is easy to form various other kinds of temperaments: all the difficulty is to find such as are free from two great inconveniencies, i.e. which do not alter either all the concords too much, or, at least, some of them.

All such divisions of the octave are called tempered or temperative system.

The temperament does, indeed, according to the definition above given, and considered in one view, correct some false concords, yet, in other respects, it spoils and falsifies both perfect and imperfect concords, and renders discord more harsh than they would otherwise be, if the intervals were justly taken. To explain this, we must consider that all the intervals are founded on the primary proportions arising from the numbers 2, 3, and 5, that is, if we do not exceed the compass of an octave, $\frac{5}{4}$, $\frac{3}{2}$, and $\frac{2}{1}$. See INTERVAL.

The nearer we come in practice to the true intervals, the more perfect the melody and harmony will be; and it is certain, that the human voice, and some instruments, as violins, &c. which have no stops nor frets, will execute music to a great degree of exactness; but the case is not the same with fixed or fretted instruments, as harpsichords, organs, lutes, viols, &c. Accuracy is here impossible, unless we would content ourselves with always playing in the same key, without any transition or transposition whatsoever. In this case, indeed, the harpsichord or organ might vie with the accuracy of the voice or violin. For instance: if we were to compose or play in the key of C, then we might make the several intervals of that key to be in the following true proportions, $1, \frac{9}{8}, \frac{10}{9}, \frac{10}{9}, \frac{10}{9}, \frac{16}{15}$; that is, in whole numbers:

<table>
<thead>
<tr>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>27</td>
<td>30</td>
<td>32</td>
<td>36</td>
<td>40</td>
<td>45</td>
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</tbody>
</table>

and the instrument tuned in this manner, would perform any piece of music in C, justly composed, with great beauty and exactness; taking for granted, that every key, fundamental note, or sound, ought to have its true fifth and fourth, and that these ought also to have their true fifths and thirds.

Now this being premised, it will presently appear, that in making any transposition or transition from C, we shall find some false concord. Thus, for instance, if we proceed to G, and consider it as a key, or fundamental sound, we shall have the following series of numbers for the octave of G:

<table>
<thead>
<tr>
<th>G</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>g</th>
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<tbody>
<tr>
<td>36</td>
<td>40</td>
<td>45</td>
<td>48</td>
<td>54</td>
<td>60</td>
<td>64</td>
<td>72</td>
</tr>
</tbody>
</table>

But here the interval between 40 and 54 is false, being a comma too much, for the second of a key must make a true fifth with the fifth of the same key. In like manner, if we were to proceed from C to A, as a new key, we should find the following series for the octave of A:

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>a</th>
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</thead>
<tbody>
<tr>
<td>40</td>
<td>45</td>
<td>48</td>
<td>54</td>
<td>60</td>
<td>64</td>
<td>72</td>
<td>80</td>
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</tbody>
</table>
where the interval between A 40 and its fourth D 54 is false, being too great by a comma. If any other transition were examined we shall always find some note false as in F, the sixth would be redundant by a comma; and in D, the fifth would be deficient by a comma. All which shows the impossibility of truth and exactness of music on fixed instruments. Yet as these instruments have their use and convenience in some respects, it was proper to endeavour to find out a method of making them tolerable. It has been observed under the article INTERVAL, that the tone major exceeds the tone minor by a comma. Their difference is necessary for the truth and perfection of music; but yet if these tones were rendered equal, the ear would not be offended. And this has suggested the If we were to make all tones equal to the tone major, as some imagine the ancients did, then we should find the ditonus, or third, exceeding a true third major by one comma, which would be intolerable. In like manner, if all tones were to be minor, we should have thirds major defective by a comma, which would also be intolerable, not to mention other false intervals that must necessarily arise from such a supposition.

Supposing then one tone increased, and the others diminished by half a comma, we should have our thirds major remain perfect. But still it would be necessary to examine what fifths this supposition would give. Now it is evident that a tone major added to an octave, makes just two fifths, thus \( \frac{2}{1} \times \frac{\sqrt{5}}{2} = \frac{\sqrt{5}}{4} \). But the tone here added is a tone major, and the tone we have assumed is a temperate tone deficient from the tone major by half a comma; hence the sum of the two fifths, on this supposition, will fall short of the truth by half a comma, and consequently one fifth will be deficient a quarter of a comma; and lastly, that the semitone major will exceed the truth by a quarter of a comma.

If we introduce chromatic notes, or flats and sharps, the semitone minor will also exceed the truth by a quarter of a comma, and consequently the difference between the two semitones, or the diesis enharmonica, will be preserved.

If then we had a harpsichord or organ, with each feint or half note divided, we should have the following notes or sounds, viz. C C ♯, D ♯, D, D ♭, E ♯, E, F ♯, G ♯, G, G ♭, A ♯, A, A ♭, B ♯, B, c, in the compass of an octave. Yet this system of notes, numerous as they seem, would not be sufficient for all transitions and transpositions. For though a piece of music transposed to any of the natural keys C, D, E, F, G, A, B, and to the flats, as E ♯ and B ♯, and some others, would do well; yet, in transposing to sharps, as to C ♯ we should not find a true third major, unless we introduced E ♯. And even in flats, as A ♭ and E ♭, we should not find a true third major in descending, or a sixth minor in ascending, unless we introduced F ♭ and C ♭. And in like manner, transpositions to G ♯ and E ♭ would oblige us to introduce B ♯ and C♭. Nor would even this suffice, for if necessity required a transposition from the key of C to that of D ♭, we should not find a true third major without introducing F ♯ ♯ and c. So that at last we shall come to a temperate system, where, in ascending, the notes C, D, F, G, A, would each have its sharp and double sharp, and the notes B and E each a single sharp. In descending, the notes E, D, B, A, G, would each have their flat and double flat, and the notes F and C each a single flat. And thus the octave would be divided into 31 intervals, whose designations are

<table>
<thead>
<tr>
<th>C</th>
<th>D♭</th>
<th>C♯</th>
<th>D♭</th>
<th>C♯♯</th>
<th>D</th>
<th>E♭</th>
<th>D♯</th>
<th>E♭</th>
<th>D♯♯</th>
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<td>E</td>
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<td>E♯</td>
<td>F</td>
<td>G♭</td>
<td>G♯</td>
<td>F♯</td>
<td>G</td>
<td>F♯♯</td>
<td>G</td>
</tr>
<tr>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>A♭</td>
<td>G♯</td>
<td>A♭</td>
<td>G♯</td>
<td>A♭</td>
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<td>A♭</td>
<td>G♯</td>
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<td>G♯</td>
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<td>20</td>
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<td>24</td>
<td>25</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A♯♯</td>
<td>B</td>
<td>C</td>
<td>B♭</td>
<td>C</td>
<td></td>
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<td>31</td>
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</tbody>
</table>

Where the letters C, D, E, F, G, A, B, signify the common diatonic notes: those marked with a single ♯ or ♭ are the chromatic; and those marked with a double ♯ ♯ or ♭ ♭ are enharmonic notes; so called, because the interval between them and the next
diatonic note is an enharmonic diesis; for which reason, the notes E♯, F♭, and B♭ C♭, are also enharmonic.

But even in this division of the octave, all the notes would not have a third major in ascending and descending: thus, for instance, D♯ ♭ has no third major; for this would be F♭ ♭ ♭, which is not in the scale, nor can any number of additional notes suffice in all cases. But this inconvenience is easily remedied, and the system considerably improved, by making all the thirty-one intervals equal. We have already observed, that in the common temperament, the semitones major and minor exceed the truth by a quarter of a comma, and that the enharmonic diesis is preserved true. Hence it follows, that the hyperoche, or difference between the chromatic and enharmonic diesis; for example, the interval between F♭ and E♯ or D♭ ♭ and C♯, &c. will also exceed the truth by a quarter of a comma. Now the hyperoche, by our table under INTERVAL, is equal to 1.37695, to which adding a quarter of a comma = 0.25000, we have 1.62695, which differs from the enharmonic diesis 1.90917 only by 0.28222, or about \( \frac{1}{25} \) of a comma. Neglecting this small difference, let us suppose all the thirty-one intervals of the octave equal, it will follow that transpositions to all the notes of the system, whether diatonic, chromatic, or enharmonic, will be equally good, and differ only in pitch or tone, as they ought, but not in accuracy, which must next be examined.

The division of the octave into thirty-one parts may be conveniently done by logarithms. Under the article INTERVAL, I find the logarithm of the octave = 55.79763 commas; consequently each diesis, or division of the octave, = 1.79992 comma; hence the fifth, being 18 dieses, will be 32.399 commas. Now the true fifths being 32.640, the fifth consequently in this temperament is deficient by 0.241 parts of a comma. But this is an insensible difference. Next, proceeding to examine, the third, we shall find it equal to 10 dieses or divisions, that is, 17.999 commas; and the true third major being 17.963 commas, the difference is 0.036, that is, about \( \frac{1}{18} \) of a comma. Now as the ear can bear a fifth, altered by a quarter of a comma, it will much more easily bear the alteration of \( \frac{1}{25} \) of a comma in a third major. Again, in this temperament the third minor is indeed, strictly speaking, worse than in the vulgar, which differs from the truth but a quarter of a comma, whereas here it differs by about \( \frac{1}{25} \) of a comma more; but then this difference is insensible.

Thus we have been led from the consideration of the vulgar temperament, to the invention of the temperament which divides the octave into 31 equal intervals, commonly called Huygens's temperament. This great mathematician was, indeed, the first who gave a distinct account of it, and showed its use and accuracy. But here, as in many other inventions, we find the hint of the thing much older than the true knowledge of it. See Huygeni Opera omnia, vol. i. p. 748, 749, edit. 1. Lugd. Batav. 1724.

The division of the octave into 31 parts was invented in Italy about 300 years ago, by Don Nicola Vincentino. The title of his book is "L'Antica Musica Riddotta alla Moderna Prattica, &c." Roma, 1555, fol.; and an instrument, called archicembalo, was made upon this scheme, as Salinas informs us, who at the same time condemns it, as very disagreeable in practice. But this could be owing to nothing but its not being tuned according to the intention of the inventor. For if all the thirds major of this instrument were made perfect, and the fifths diminished by a quarter of a comma, it is evident that the instrument would be equally exact with any tuned according to the vulgar temperament, and would suffice for transpositions to any diatonic or chromatic notes, though not to all the enharmonic, as D♯ ♭ &c. because we should not find its third major. And if the instrument were tuned according to M. Huygens's scheme, of making all the divisions equal, it would then have all the 31 keys equally good, and very near the truth. See Salinas, lib. iii. The title of his work is "Francisci Salihæ Burgensis de Musica Libri Septem," Salmanticae, 1577, fol. Mersennus's work is entitled "Harmonicorum, Libri XII. authore F. M. Mersenno Minimo, Lutetiae Parisionum," 1648, fol. He published another book before this, the title of which is "Harmonie Universelle, contenant la Theorie et la Pratique de la Musique," Paris, 1636, fol. 2 vols.
Hence it is plain, Salinas and Mersennus had not sufficiently examined this matter.

The use of this temperament of M. Huygens deserves to be introduced into the practice of music, as it will facilitate the execution of all the genera of music, whether diatonic, chromatic, or enharmonic; nor does the multiplicity of its parts render it impracticable, the author assuring us that he had a harpsichord made at Paris with such divisions, which was approved of and imitated by some able musicians. Mersennus also gives a scheme for this purpose; and Salinas says he saw and played upon such an instrument. See also Don Vincentino before cited, lib. v. p. 99, &c.

M. Huygens, to facilitate the tuning of instruments with such divisions, has given us a table of the parts of an octave, according to his system, together with their logarithms. The table is as follows:

<table>
<thead>
<tr>
<th>Intervals</th>
<th>Names</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

The second column of this table contains the numbers expressing the length of chords making 31 equal divisions, the longest, answering to C, being supposed to be divided into 100,000 parts.

In the third column are the syllables by which the notes are usually named in France; and the asterisk * shows some enharmonic notes, of which that near sol is most necessary.

In the fourth column are the letters commonly used to denote the sound of the octave.

The numbers of the second column were found by means of those in the first, which are their respective logarithms; and these were found by dividing 0.30102999566, the logarithm of 2, by 31. The quotient 97106450 is marked N, and being continually added to the logarithm of 50000, that is, to 4.6989700043, gives all the logarithms of the first column to the greatest 4.9999999993, which being extremely near to 5.0000000000, the logarithm of 100000, shows the operation to have been rightly performed.
contains their respective logarithms, Vide Huygenii Opera, vol. i. p. 752, 753.

The learned author of this temperament has not given the notes answering to all the divisions of the octave; but that may easily be supplied from what has been said above when we derived this temperament from the consideration of the common.

As Huygens has not given the names of all the intervals that occur in his temperate scale, we shall here insert them in the octave, from C to c, with their respective measures in the commas, and tenths of a comma. intervals.

The temperate diesis enharmonica of Huygens being 1.8 comma, nearly, which is easily remembered, the measure of any interval in the octave may be found by multiplying it by the number denoting the place of that interval. Thus the sixth minor, being the twenty-first interval, will be \(1.8 \times \frac{21}{10} = 37.8\). The octave, being the thirty-first, will be \(31 \times 1.8 = 55.8\), which does not differ from the truth by more than 0.00237, that is, not by \(\frac{1}{400}\) of a comma, and therefore perfectly insensible. See INTERVAL.

All the intervals in the foregoing table, either have received names, or at least night receive them, from a perfect analogy to the names in use among practical musicians; but many of these intervals are as yet unheard of among practitioners. Perhaps, if all the genera of ancient music were restored, every interval here mentioned might be of use, either in melody or harmony, and thereby greatly add to the variety of composition.

We have already mentioned the advantages of M. Huygens’s system; but its excellency will better appear by comparing it with the schemes of others. We may distinguish and name the different temperaments by the number of equal parts into which the octave is supposed to be divided. The temperaments that occur in books are temperaments of 12, 19, 31, 43, 50, 53, and 55 parts, of which in order.

The temperament of 12 parts is founded on the supposition that the semitones major and minor may be made equal. Hence the octave will be divided into 12 equal semitones, seven of which will make the fifth, four the 3d, and three the 3d minor.

The temperament of 19 parts does upon the supposition that the semitone major is the double of the semitone minor. Hence the tone will be 3, and the third major 6. The diesis enharmonica will be 1, and consequently the octave, being three thirds major and a diesis, will be 19. The fifth contains 11 parts. The harpsichord, in this scheme, will have every feint cut in two, one for the sharp of the lower note, and the other for the flat of the higher. Between B and C, and between E and F, will be interposed keys, which must serve for the sharps of B and E, and the flats of C and respectively.

The temperament of 31 parts is M. Huygens’s, already described: here the semitones are as 3 to 2. The third major is 10, and the fifth 18.

The temperament of 43 is M. Sauveur’s, and by him very fully described in the Memoirs of the Royal Academy of Sciences, A.D. 1701, 1702. He supposes the proportion of the semitones to be as 4 to 3. Hence his tone is 7, the third major 14, the fifth 25, and the octave 43. What musical foundation this learned gentleman went upon in the investigation of this temperament, is not known: but it seems liable to insuperable difficulties; for here the diesis enharmonica is but the half of the difference between it and the chromatic diesis: whereas, in truth, this difference, instead of being double of, is really less than the enharmonic diesis, as was long ago objected to him by Mr. Henfling, and appears from the table under INTERVAL. Miscel. Berolin. tom. i. p. 285, 286.

Besides, his enharmonic diesis falls greatly short of the truth, being but 1.27 of a comma, which is an error of 0.64, or nearly \(\frac{2}{3}\) of a comma. Whereas, in M. Huygens’s temperament, the error of the diesis is almost insensible, being but \(\frac{1}{10}\) of a comma. Nor are the practical advantages of M. Sauveur’s system any ways comparable to Huygens’s. His fifth is indeed, strictly speaking, better; but so little, that the difference is not sensible, not being \(\frac{1}{20}\) of a comma. On the other hand, his thirds are sensibly worse, the major being \(\frac{7}{10}\), and the minor \(\frac{8}{10}\) of a comma false.

Whereas Huygens’s third major does not differ sensibly from the truth, and the minor has no sensible difference from the third minor deficient by \(\frac{1}{4}\) of a comma of the common temperament, which ought to be deemed the limit of the diminution of concords. If we add to this, that the much greater number of parts in M. Sauveur’s octave, makes it much more intricate than M. Huygens’s, and that these parts would be false or useless, even supposing the
enharmonic genus restored, no musician will long hesitate which he ought to prefer.

The temperament of 50 parts is proposed by Mr. Hensling in the Miscell. Berolin. above cited: he takes the proportion of the semitone as 5 to 3: hence his tone is 8, the third major 16, the fifth 29, and the octave 50. The third major and fifth in this system will be worse than Huygens's, though the third minor be a little better. The third major is here less than the true, and the fifth deficient by more than \(\frac{1}{4}\) of a comma, which is a fault, not to mention the inconvenience arising from dividing the octave into 50 parts; besides, 5 : 3, the proportion of the semitones here assumed, although expressed in greater numbers, is not so near the truth as M. Huygens's of 3:2. See RATIO.

The temperament of 53 parts is mentioned by Mersennus, . Here the tones will be unequal, 9 being the tone major, and 8 the minor. Hence the third major will be 17, and the fifth 31, which last does not differ from the truth by above \(\frac{1}{33}\) part of a comma.

The third minor is also more perfect than in M. Huygens's system. But the multiplicity of parts in the octave of this system renders it too intricate; and the distinction of tones major and minor upon fixed instruments is impracticable.

The last temperament we have to mention is that of 55 parts, which M. Sauveur calls the temperament of practical musicians. Its foundation lies in assuming the proportion of the semitones as 5 to 4; so that the tone will be 9, the third 18, and the fifth 32. The fifth in this system, as in that which makes the semitones equal, is nearer the truth than M. Huygens's, but this advantage is not \(\frac{1}{33}\) of a comma; and on the other hand, the thirds, both major and minor, are here greatly mistuned, as will appear by the annexed table, exhibiting the thirds and fifths of these several temperaments, as also the thirds and fifths of the common temperament, and two mentioned by Salinas, marked 1st Salin. 2d Salin. The letter V. stands for the fifth; III. for the third major; and 3. for the third minor. The fifths are all deficient, but the thirds are sometimes less than the true; the first are marked +, the others —

Temperaments, V. Com., 1st Salin, 2d Salin. The Scale.

\[
\begin{array}{cccccc}
\text{V. Com.} & 3\text{v}. & 3\text{v}. & 3\text{v}. & 3\text{v}. & 3\text{v}. \\
1\text{st Salin.} & 0.091 & 0.070 & 0.091 & 0.070 & 0.091 \\
2\text{d Salin.} & 0.315 & 0.286 & 0.315 & 0.286 & 0.315 \\
\text{The Scale.} & 0.000 & 0.000 & 0.000 & 0.000 & 0.000 \\
\end{array}
\]

Temperaments formed by the division of the octave into equal parts, may be called geometrical temperaments. The common, and the two mentioned by Salinas, do not proceed upon this foundation; the intention of the first inventors not having been to make transpositions to every note of the system equally good; but only to make the most usual transitions in the course of a piece of music tolerable. Hence the parts of the octave, in their supposition, were not all equal.

The common temperament, as we have said, preserves the third major perfect. The first of Salinas preserves the semitone minor perfect. In the second of Salinas, the semitone minor is perfect. The foundation of his first temperament is making the temperate tone equal to the tone minor and \(\frac{2}{3}\) of a comma, or the tone major less \(\frac{2}{3}\) of a comma. Hence his fifth and third major will be deficient by \(\frac{1}{3}\) of a comma; and the third minor consequently will be true. The ground of his second scheme is, to add \(\frac{2}{7}\) of a comma to the tone minor, or take \(\frac{2}{7}\) from the tone major for his temperate tone. Hence the fifth will be deficient by \(\frac{1}{7}\) of a comma, and the thirds major and minor each deficient by \(\frac{1}{7}\) of a comma. Consequently, the semitone, being their difference, will be preserved.

As to Mr. Salmon's scale in the Philosophical Transactions, there is nothing true in it, but the diatonic scale. of C. His scale for A is false, the fourth being erroneous by a comma: most of his semitones are likewise false. In short, it can neither be considered as a true scale, nor as a temperament.

Before we close this article, it may be proper to add a few words about the method of invention of the foregoing geometrical temperaments. M. Huygens having had the hint of a division of the octave into 31 parts, had nothing farther to do but to examine it by logarithms. But supposing no such hint had
been given, he might have investigated it directly, by
the method laid down by himself, and also by Dr.
Wallis and Mr. Cotes, for approximating to the value
of given ratios in smaller numbers. We have given
Mr. Cotes’s method under RATIO. The application
of that method to the present purpose is thus: the ra-
tio of the octave to the third major is 55.79763 to
17.96282, and the approximating ratios will be,

Greater than the true 28:9, 87 : 28, &c.
Less than the true 3 : 1, 31 : 10, 59 : 19, 205 : 36, &c.

The ratios greater than the true must all be rejec-
ted; because they give the third major less than
true, and consequently the tone (its half) deficient
by above of a comma; which gives the fifth deficient
above 3 of a comma; but this ought not to be. The
first of the ratios less than true is 8:1, or 12:4, which
is the temperament of 12 parts before described, and
too inaccurate. The next is 3.1 : 10, or M. Huygens’s.
The rest divide the octave into too many parts.

The same may be also found thus: the ratio of the
octave to the common temperate fifth, deficient by
\( \frac{1}{4} \) of a comma, is 56.79763 to 32.38952. The approx-
imating ratios to which are,

2. Less than the true 1 : 1, 3 : 2, 5 : 3, 12 : 7, 31 : 18, 205 : 1
19.Where we have the temperaments of 12, 19, 31, and 50
parts, before examined.

And here all ratios greater than the true ought to
be rejected, because they give the fifth less than true,
that is, in this case, deficient by more than 3 of a
comma.

If we investigate the approximating ratios to the
ratio of the semitones major and minor, or 5.19529 to
3.28612, we shall have the ratios 1 : 1, 2 : 1, 2 : 2, 5 : 3,
which respectively give the temperaments of 12, 19,
31, and 50 parts, before described.

Again, investigating the approximating ratios of
the fifth to the third major, we shall find 7: 4, 9 : 5, 11
: 6, 29 : 16, which will also give the temperaments 12,
19, 31, 50, as before.

Lastly, the approximated ratios of the octave to
the true fifth are 12 : 7 and 53 : 31 greater than the
true; the others being of no use, since the fifth must
necessarily be diminished. Here we find the tem-
perament of 53 parts. As to the temperaments of 43
and 55, being destitute of any musical foundation, it
is no wonder they do not appear by this method of
investigation.

M. Huygens, in his Cosmotheoros, says that the
tone or pitch of the voice cannot be preserved, un-
less the consonants be tempered, so as to deviate a
little from the highest perfection. For the proof of
this assertion, he brings a melody consisting of the
following sounds, C, F, D, G, C; where, if the inter-
vals were to be sung perfect, by taking the interval
from C to F a true fourth ascending, from F to D a
third minor descending, from D to G a true fourth
ascending, and lastly, from G to C a true fifth des-
cending, we should fall a comma below the C from
whence we began. Therefore, if we were to repeat
this series of notes nine times, we should at last fall
near a tone major below our first sound.

M. Huygens’s solution of this difficulty is, that we re-
member the note from whence we set out, and re-
turn to it by a secret temperament, thereby singing
the intervals a little imperfect; which, he says, will be
found necessary in almost all songs or melodies.

A like difficulty is mentioned in the Memoirs of
the Royal Academy of Sciences; and is there urged
for the necessity of a temperament, even for singing
in the same key. And M. Huygens’s solution of the
difficulty is there approved of. Ann. 1707, p. 264.

But the solution of these learned gentlemen is, as
yet, far from being decisive. No experiment has yet
been brought to show that the human voice sings
tempered notes; not even when accompanied by
tempered instruments. It seems to us, on the con-
trary, that an exercised voice, guided by a good ear,
sings true, even though accompanied by a mistuned
instrument, as harpsichords most frequently are, es-
pecially in transposed keys. And were these instru-
ments always as well tuned as art could make then,
yet their tones would be equal; and it seems evident
to the ear, that the human voice singing naturally
two tones in succession, as C, D, E, never makes
them equal; and cannot, without great difficulty, and
by means of a variation of harmony, be brought to
make them equal.

Another solution, therefore, of M. Huygens’s
difficulty, must be sought for. The truth seems to be,
that the second of the key must be the true tone ma-
jor above the key and therefore the third between
the second and fourth of the key must be sung defi-
cient by a comma. Thus in the key of C, from C to D
It would be impossible here to do justice to the learned author’s reasonings on this subject; we shall only add, that he establishes, contrary to the common opinion, that the less simple consonances, generally speaking, will not bear so great temperaments as the simpler consonances.

Dr. Smith mentions a temperament communicated to him by the ingenious Mr. Harrison, which consists in making the proportion between the octave and third major equal to that of the circumference of a circle to its diameter. In this temperament the third major is diminished by $\frac{1}{2}$ of a comma, but the third minor is very near the truth, and extremely beautiful.

A late author seems to think the division of the octave into thirty-one parts, not to be of modern invention, but necessarily implied in the doctrine of the ancients. At first sight, it would seem as if the ancients made but twenty-four dieses or divisions in the octave, *viz.* ten to each fourth, and four to the tone; which (the octave being equal to two fourths and a tone) gives twenty-four dieses to the octave. But the author just quoted contends, that this division is to be understood only in one tension, that is, either ascending or descending; but that, accurately speaking, if we consider all the dieses, or divisions of the fourth, both ascending and descending, we shall find thirteen; five to each tone, and three to the semitone major; and consequently thirty one divisions in the octave. These, indeed, are not all naturally equal; but if we make them so, we shall have a temperament known by the moderns under the name of Huygens’s temperament. Dr. Pepusch, in Phil. Trans. N° 481. p. 273. See the article DIESIS.

Such was the history and theory of temperament about half a century ago. But as our keyed and wind instruments have extended their compass and powers, and all the ancient laws of relative modulation are disregarded by modern composers, most practical musicians incline to equal harmony, in which all the keys participate of the imperfection of the scale when the octave is confined to twelve semitones, of which every one occasionally serves for two or three different purposes. As the note A natural, for instance, is sometimes B double flat, and sometimes G double sharp, E natural is obliged to officiate for D double sharp, and sometimes for F flat.
There are, however, theorists who calculate, but never listen, and who think temperament an abomination, a deadly sin against Pythagoras and his *triple progression*. Now as it is generally agreed that the ancients had no simultaneous harmony, or music in parts, and allowed of no consonances but the unison, octave, 4th, and 5th, they did wisely to make them as perfect as possible; but since the invention of counterpoint, and new instruments of fixed tones by keys, frets, and additional ventages, which furnish but twelve semitones, whereas thirty-one different sounds are wanting to supply two distinct sounds for synonimous notes, such as A♯ and B♭, C♯ D♭, D♯ E♭, &c. temperament, though it a little diminishes the perfection of certain notes, the whole instrument is bettered by it, and rendered equally fit for all keys. Every concord, except the unison and octave, has a latitude, and allows of *bearings* without offending the ear. A perfect 5th makes an intolerable major. 3d below it. And as the 3d, though called an imperfect concord, is the most grateful and pleasing of all the concords when perfect; contrapuntists do wisely to allow tuners to rob 4ths and 5ths of a little of that perfection which they can spare without injury, for the good of the whole. If the learned harmonist, the abbé Roussier, is living, we shall only observe; that the greatest musicians in the course of their lives have often changed their method. In our cathedrals and parish-churches, where the natural keys are made as perfect as possible, at the expense of A♭, D♭, F♯ and C♯ keys that have never been admitted within the pale of the church, organists that hear little other music, are extremely offended by equal participation of the scales, when the pure harmony of their favourite keys is deformed by temperament: and those accustomed to the levelling system of equal harmony, on the contrary, hold the *wolf* in as much abhorrence, as they would the destructive wolf in the Gevauden. At present, our tuners mitigate the extremes of equal and unequal temperament, by favouring the natural keys, and making the extraneous or transposed keys somewhat less perfect; but devoting the wolf to total destruction.

It is imagined by many, that the character of keys, particularly the minor, depends on the imperfection of the scales, occasioned by unequal temperament: as F minor is plaintive, E♭ solemn, and E♯ brilliant. But though the difference between the pitch of E♭ and E♯, D♭ and E♭, is but half a note, whatever may be the general pitch of the instrument, whether half a note too high, or half a note too low, these keys still retain their character, it should seem not from the tuning or elevation of the general system, but from something for which we are unable to account. See MUSIC, and SOUND.

TEMS, Fr., *time*, in *Music*; as *à contre temps*, against time.

ΤΕΝΕΛΛΑ, τενελλα, in *Ancient Music*. As some conquerors at the Olympic games were not so fortunate as to have poets for their friends, or so rich as to be able to purchase odes on their particular victories, which were rated very high by bards of the first class; in honour of such, the old hymn to Hercules, of Archilochus, was sung by the friends of the conquerors only, if they could not afford to engage a band of professed musicians. The scholiast on Pindar’s ninth Olympic tells us, that to supply the want of a citharadist, Archilochus framed a word in imitation of the sound of a cithara, which word (Tenella, Τενελλα), when there happened to be no musician present, the leader of the chorus chanted forth, and was answered by the rest of the chorus, in the words of the hymn, Ω Καλλινιϰε χαιρε, Ω glorious Victor, *hail*! at every comma or pause of which, this burden was again repeated.

ΤΕΝΟΡ, Tenore, Ital., in *Vocal Music*, implies the natural pitch or *tenour* of a man’s voice in singing. In the voca lmusic of Italy, France, and Germany, there are three several tenor clefs in use at present: the *soprano* on the first line, for the highest part; the *contralto* on the third line, for the counter-tenor part; and the *alto tenore* on the fourth line, for the tenor
part. (See CLEF.) In old music of the 15th, 16th, and 17th centuries, a tenor clef, called the mezzo soprano, on the second line, and even on the fifth line, frequently occurs, instead of the baritone, or F clef, on the third line.

In instrumental music, the tenor clef on the third line is used for the alto viola, and simply viola, or tenor part. The tenor clef on the fourth line frequently occurs in violoncello parts and harpsichord lessons of the early part of the last century; but at present, the high notes in the violoncello part, and in the base of pieces for the pianoforte, are more frequently written in the treble clef.

TENOR, or Tenorista, is also used for a person who sings the tenor part in concert; and also for an instrument proper to play it.

TERZA, Ital, the 3d in Music. The terza maggiore, or major 3d, is four semitones, or half notes, above the base; the terza minore, or minor 3d, is three. See CONCORDS and INTERVALS.

TERZETTO, in the Italian Music, a little tune or air in three parts. See TRIO.

TERZINI, Ital. implies, in the language of practical musicians, triplets, or three notes in the time of two.

TERZO SUONO, Ital. the third sound, discovered by Tartini to be produced in the medium by two sounds that can be sustained, and which third sound is the true fundamental base. Upon this harmonic phenomenon Tartini has founded his system; and Mr. Stillingfleet, in his “Principles and Power of Harmony,” describes the terzo suono in the following manner.

“Two sounds being given on any musical instrument, which will admit of being held out for any time, and of being strengthened at pleasure, as in the trumpet, the German horn, the violin, hautbois, &c. a third sound will be heard. On the violin, let the notes CE, C♯ E, BE, BG, B♭ G, be sounded with a strong bow, the third sounds will be heard in the following manner.

The same thing will happen if the same intervals are sounded by two players on the violin, distant from one another about twenty-nine or thirty feet; always using a strong bow, and holding out the notes. The auditor will hear the third sound much better, if placed in the middle between them, than if nearer to one than the other. Two hautbois produce the same effect placed at a much greater distance, and even when the hearer is not in the middle, and still more if he is.”

Tartini has been unfairly treated by d’Alembert, M. Serre, and other French writers, who not only dispute his system built on the terzo suono, his own discovery, but give the discovery itself to another.

D’Alembert accuses him of writing in a manner so obscure, that it is impossible to form any judgment of his intentions; yet he is obliged to own that the subject itself is obscure, metaphysical, and uncertain. As to the obscurity in the phenomenon itself, we deny it; the third sound, produced by two other sounds, we have always found, from innumerable experiments with two voices, two instruments, two sounds on one instrument, as double stops on a violin, violoncello, and on an organ, that the third sound thus produced in the medium was the true fundamental base, such as Tartini himself has expressed by musical notes.

D’Alembert and all the French writers on the subject, have stated the case (except Rousseau) in a disingenuous manner. Even when disputing Rameau’s principles, they wish to keep him above Tartini and all foreign claimants to original discovery or improvement in music; Rousseau is envied for being the first to abuse the old French music, even by those who thought and allowed it to be bad in their other writings. See the Abbé Arnauld and M. Suard’s critique upon his Dictionnaire de la Musique, with those of the Abbé Roussier, M. Laborde, &c. &c.

TESTA, in Italian Singing. When a performer sings through the nose, the throat, or the teeth, the voice is called voce da testa, to distinguish it from voce di petto. Tosi says: “let the master attend with great care to the voice of his scholar, which, whether it be di petto, or di testa, should always come forth neat and clear, without passing through the nose, or being choaked in the throat; which are two of the most horrible defects in a singer, and past all remedy if once grown into a habit.” Galliard’s Transl. of Tosi on florid Song.
TESTO, Ital. literally test. In Music it implies a subject, or words of a song, or other vocal composition, to which some air, melody, or harmony, is to be composed.

It is a matter of great concern to understand well how to appropriate or adapt the music to the words of a song, to express the sense, and make a just application of the long and short syllables to the notes and time with which they are to be connected.

But this branch of the science, which depends greatly on the knowledge of poetry, has lain a long time almost unregarded; and even at present, very little care is taken in this point in the modern music, which is somewhat wonderful, since it was to this that the ancients attributed the extraordinary effects of their music; for by them this branch was most accurately observed, and by this they regulated and governed their measures, so that they might produce the desired effects; and some philosophers say, the human passions and affections. Vossius de poem. Cantu, &c.

TESTUDO, in Antiquity, was particularly used among the poets, &c. for the ancient lyre, or lyre of Amphion; because it was said to have been originally made, by its inventor Mercury, of the back or hollow shell of a testudo aquatica, or sea-tortoise, which he accidentally found on the banks of the river Nile.

Mr. Molyneux has an express discourse, in the Philosophical Transactions, to show that the tortoise shell was the basis of the ancient lyre, and that the whole instrument had thence the denomination testudo; which account throws some light on an obscure passage in Horace, ode iii. lib. 4, mistaken by all the commentators:

“O, testudinis aureae
Dulcem quae strepitum, Pieri, temperas!
O mutis quoque piscibus
Donatura cygni, si libeat, sonum!”

TETRACHORD, TETRACHORDON, formed of τετρα, of τετταρα, four times, and χορδη, a chord, or string, in the Ancient Music, was a series of four sounds, of which the extremes, or first and last, constituted a fourth. These extremes were fixed and immutable; the two middle sounds were changeable according to the genera, and called mobiles. There were three genera or ways of tuning each tetrachord; the diatonic, chromatic, and enharmonic. The character of the diatonic was the tone; of the chromatic, the semitone; and of the enharmonic, the quarter tone.

A tetrachord in the diatonic genus consisted of one major semitone and two tones.

In the chromatic genus, of two semitones and a minor third.

In the enharmonic genus, of a quarter tone, a semitone, and a major third.

The general system or scale of the Greeks consisted of tetrachords repeated, as the scale of Guido does of octaves. See GREEK Music.

The tetrachord of Mercury contained four strings or chords in the proportion of twelve, nine, eight, and six; so as to give the fourth, fifth, and octave of the lowest chord. This is the opinion of Boethius, and after him of Zarlino. Vide Wallis’s Append. Ptolem. Harm. p. 178.

Editorial Note. At * in the Greek word at the start of this article is a character not in the modern Unicode character set. It is a vertical bar linked to an acute accent to the left, thus: Ῥ

THEME, in Music; Thema, Lat.; Tema, Ital.; Motivo, Soggetto, is a series of notes selected as the text or subject of a new composition, or an old favourite and well-known air to grace and embellish with variations. About the middle of the last century, the musical world was overwhelmed with dull, unmeaning, and monotonous variations to old and new tunes, which consisted of nothing more than a regular multiplication of notes, without fancy, taste, or harmonical resources; till Haydn, in the slow and graceful middle movements of his quartets and symphonies, by a richness of imagination, by double counterpoint, and inexhaustible resources of melody and harmony, rendered variations the most ingenious, pleasing, and heart-felt of his admirable productions à grand orchestra; and Mozart, in a totally different style, and for a totally different purpose, has rendered little favourite French, Italian, German, and English airs the most beautiful, amusing, and useful compositions for the piano forte that have ever been produced since the invention of that in-
The 3d is the most agreeable third part of a string; and the minor or flat 3d, which is three semitones or half notes above the whole system of practical harmony.

These themes seem to have been a series of lessons, composed expressly to form the hand and taste of some disciple of the author, who promised to be a great performer. In every one of these themes, there are some peculiar difficulties of execution, refinement, and expression to vanquish, at which it is in vain for mediocrity to aspire.

THEORBO, THIORBA, or TIORBA, a musical instrument, made in form of a large lute; except that it has two necks, or juga, the second and longer of which sustains the four last rows of chords, which are to give the deepest sounds. See LUTE.

The word is formed from the French teorbe, or theorbe, and that from the Italian tiorbe, which signifies the same, and which some will have to be the name of the inventor.

The theorbo is an instrument which for many years succeeded to the lute, in the playing of thorough basses; it is said by some to have been invented in France, by the sieur Hotteman, and thence introduced into Italy, &c.

The only difference between the theorbo and the lute is, that the former has eight bass or thick strings twice as long as those of the lute; which excess of length renders their sound so exceedingly soft, and keep it up so long a time, that it is no wonder many prefer it to the harpsichord itself. At least it has this advantage over it, that it is easily removed from place to place, &c.

All its strings are usually single; though there are some who double the bass-strings with a little octave, or the small strings with a unison; in which case, bearing more resemblance to the lute than the common theorbo, the Italians call it the arcileuto, or arch-lute.

THIRD, TERTIUS. See NUMBER and NUMERATION.

THIRD, in Music. The 3d is the most agreeable and necessary concord in counterpoint, throughout the whole system of practical harmony.

There are two kinds of thirds; the major or sharp 3d, which is four semitones or half notes above the base; and the minor or flat 3d, which is three.

Very agreeable music in two parts may be composed, and often is composed, of thirds only. The 3d is wanted with every other concord, and even discord, except the 4th, when it is used as such with the 2d instead of the 9th.

Dr. Pepusch, in his “Treatise on Harmony, has given curious and ample instructions for the use of thirds in composition.

It would be a curious inquiry, why a 3d was regarded by the ancients as a discord; and why it is called by the moderns an imperfect concord. We cannot afford space for long disquisitions on every subject of vain and frivolous curiosity, among which this would probably be numbered. But it seems as if the ancients estimated the perfection of consonances by the simplicity of ratios in the division of the monochord; regarding the octave as the most perfect concord next to the unison, as it was produced by a simple division of a string into halves, expressed by \( \frac{1}{2} \).

The next in perfection was the 5th, produced by a third part of a string \( \frac{2}{3} \).

After this, the 4th, which was reckoned by the ancients as not only a concord, but a perfect concord, expressed by the ratio \( \frac{3}{4} \).

The fifth part of a string produces the major 3d to the 15th, which, though in the organ the stop called the tierce, it is a major 17th to the diapason; its ratio is expressed by \( \frac{4}{5} \).

The minor 3d is expressed by \( \frac{3}{6} \).

The major 6th, composed of four tones and a semi-tone major, as \( \frac{5}{6} \) its ratio is \( \frac{3}{5} \).

The minor 6th, composed of three tones and two major semitones, as \( \frac{5}{6} \) its ratio is \( \frac{5}{8} \).

The extreme sharp, or, as the French call it, the superfluous 6th, composed of four tones, a semitone major, and a semitone minor, as \( \frac{5}{6} \) the ratio of this 6th is \( \frac{72}{125} \).

We believe that the triple progression of a series of perfect 5ths made the major 3ds so extremely harsh, that no natural good ear could admit them among the concords. And in the first attempts at counterpoint, it was a long time before a 3d was admitted in discant, in which diatessaron and quin-
toier, or a diatonic series of 4ths and 5ths, now prohibited, was preferred to 3ds and 6ths in succession. THOROUGH-Base, or accompaniment to a continued base by figures.

Thorough-base is but an awkward translation of the Italian terms basso continuo, by which accompaniment by figures, without any other guide for the right-hand on keyed instruments, was at first called.

The French term accompagnement is the shortest and most comprehensive title for the harmony expressed by figures over the base; if, as Rameau has done in his “Code de Musique,” we add “for the harpsichord or organ,” as there are several other kinds of accompaniment besides that on keyed-instruments.

Rameau defines accompagnement or thorough-base in the following manner. “Accompaniment on the harpsichord or organ, consists in the execution of a complete and regular harmony, by seeing only the notes of one part of that harmony; and this part is called the base, being in reality the bass or foundation of the whole composition. This base is played with the left-hand, and its harmony with the right.”

We shall endeavour to assist our musical reader, who has everything to learn in the art of accompaniment, more by example than precept, and shall give him a series of progressive lessons in the musical plates, which will explain the whole mystery of musical combinations from the common chord to the most extraneous harmony.

We take it for granted that he is perfectly acquainted with the musical scale or gammut, in the base and treble clefs at least, as well as with the time-table; and that the accidents of flat, sharp, and natural, are familiar to him.

The first thing, therefore, that we shall recommend to his study, is a table of intervals, both in notes and figures. See Plate II.

N° 1. presents a scale in half notes, in which all the flats occur, from the unison to the 9th; another scale expressed by sharps. 2.

Number of semitones above the base in each interval.

3. Common chords, major and minor, to all the twelve semitones, modulating by 5ths.

4. Modulation in common chords, major and minor alternately, the base falling a 3d at each change. And in order to familiarize the student to these chords in every part of the instrument, he is advised to make three voyages round the harmonical world: beginning with the 8th uppermost, then the 5th, and lastly the 3d; and if no mistake is made, the last chord in each of these circumnavigations will be an octave above the first. But all difficulty in these exercises will be removed, if it be remembered that, in going from chord to chord, only one note is to be changed by the right-hand, which note is always the octave of the new base.

5. Exercise of common chords in accompanying the hexachords in all the keys, major and minor, to their fundamental bases: in the practice of which, dots are placed on the notes in the treble, which are to be played with the little finger. And though only the first hexachord, or six notes, is written backwards, each of them is intended to be played backwards as well as forwards.

Many years ago, we tried to reduce all the rules of thorough-base to the compass of a message-card, and almost all the combinations expressed by figures to common chords. And now, if the preceding exercises of the hand in common chords have done their duty, the student will perceive, from an engraving of the two sides of this thorough-base card, that what has been explained in words and figures on one side, is illustrated with notes on the other.

The second card goes somewhat deeper into harmonical mysteries, by what the French call la règle de l'octave, or rule for accompanying with a specific chord every note of the key, ascending and descending; which, if practised well in all the 24 keys, and impressed on the memory, will enable the student to figure a base himself, or to play without figures; and by a seeming divination, without a treble part, to know the harmony that belongs to each base of a regular composition, in a diatonic ascent and descent.

After these chords are literally at the fingers'-ends the student, the following eight rules and exceptions in playing without figures must be observed.

1. An accidental sharp, note in the base is generally accompanied with a $\frac{6}{5}$, and changes the key to the half rote above such sharp.

2. An accidental flat note in the base is generally accompanied with a $\frac{4}{2}$, and changes the key to the 4th below such flat.
3. To the 5th of a key, if repeated at a close, two chords are generally played in modern music; the \( \frac{6}{4} \) and \( \frac{5}{3} \) : in old music, the \( \frac{5}{4}, \frac{6}{3}, \) and sometimes the 7th with the common chord.

4. When the base moves per saltum, a 3d, 4th, 5th, or 6th, common chords will do.

5. When the base rises a 4th, and falls a 5th alternately, and the contrary, each note may be accompanied by a 7th.

6. In syncopated or binding notes the \( \frac{6}{4}, \frac{5}{3} \) are played to the last part of the ligature, by anticipation.

7. Slow notes in the base, in old music, are generally accompanied, as on the plate, by a \( \frac{4}{3} \) and \( \frac{9}{8} \) alternately.

8. Suspensions of a whole chord, or part of a chord, are expressed by a dash (–) preceding the resolution.

The reverse of the second card contains explanations of these eight rules in notation.

It must be remembered, that whoever is ambitious of playing thorough-base without figures, must previously possess the art of accompanying readily with figures. See COMPOSITION and COUNTERPOINT, to which thorough-base is the best introduction: as what is good in playing, would be good, as far as harmony is concerned, in writing. Invention, fancy, and good taste, are necessary to break these chords into melody.

TIBICEN, in Ancient Music, a flute-player.

TIER, in Organ Building, is used to distinguish the different ranks or ranges of pipes (as a tier of guns in men of war) in the front of the instrument, and even in the interior of the case, when the compound stops have several ranks of pipes, as the sesquialter, furniture, and cornet.

TIERCE, in Music, a 3d. The highest stop in an organ, called the tierce, is a major 3d above the 15th. every sound being a 17th above the diapason. See THIRD.

TIERCE de Picardie, in French Music, and indeed all choral music of old masters in a minor key, is terminated with a sharp 3d, which the French now call tierce de Picardie, on account of the great number of cathedrals in that province, where it continues still in use.

Padre Martini (Saggio di Contrap. parte prima, 23,) recommends the terminating minor movements with a sharp 3d; a practice which Rousseau (Dict. de Mus.) censures as Gothic, and a proof of bad taste. If the first of these excellent writers wished only to preserve its use in the church, and the second to banish it elsewhere, they were both right, however their opinions may seem to clash. The learned author of the Saggio di Contrappunto, who was so perfectly acquainted with all the beauties and effects of choral music, is certainly more to be relied on in whatever concerns it, than the animated author of the Dictionnaire de Musique; who, with the most refined taste and exalted views with respect to dramatic compositions, had neither time nor opportunity sufficiently to explore the mysteries of canto fermo, or to become a very profound contrapuntist.

For our own part, though we never wish to hear a song or glee in a minor key, and with a sharp 3d: yet there is something so solemn and grateful in these terminations of ecclesiastical compositions, that we should be very sorry if the practice were not continued. And if we consider the relation and composition of the several stops in an organ, we shall find, that as every single key in the chorus of that instrument has a complete chord with a sharp 3d to it, when we dwell on a chord with a flat 3d, while the tierce, cornet, sesquialter, and sometimes the furniture, are sounding the sharp 3d, it affords an additional reason for the origin and continuance of the practice, besides the peculiar properties of tonal modulation.

TIMBREL, Tabret, or Tambour de Basque, in Music, is an instrument of very high antiquity; having been in use among the Hebrews, Greeks and Romans. To the rim were hung bells of pieces of metal.

TIME, in Music, is an affection of sound, by which we denominate it long or short, with regard to its continuance in the same degree of tune.

Time and tune are the great properties of sound, on whose difference or proportions music depends: each has its several charms: where the time or duration of the notes is equal, the differences of tune alone are capable of entertaining us with endless pleasure.

And of the power of time alone, i.e. of the pleasures arising from the various measures of long and
short, swift and slow, we have an instance in the

Time, in music, is considered either with respect
to the absolute duration of the notes, i. e. the dura-
tion considered in every note by itself, and meas-
ured by some external notion foreign to the music;
in respect to which the composition is said to be
quick or slow : or it is considered with respect to the
relative quantity or proportion of the notes com-
pared with one another. See NOTE.

The signs or characters by which the time of
notes is represented, are shewn under the article
CHARACTERS, in Music, where the names, propor-
tions, &c. are also expressed.

A semi-breve, for instance, is marked to be equal
to two minims, a minim to two crochets, a crochet to
two quavers, and soon, still in a duplicate ratio, i. e.
in the ratio of 2 : 1. Now where the notes respect
each other thus, i. e. where they are in this ratio, the
music is said to be in duple, i. e. double or common
time.

When the several notes are triple of each other, or
in the ratio 3 : 1, that is, when the semi-breve is
equal to three minims, to three crochets, &c. the mu-
sic is said to be in triple time.

To render this part as simple as possible, the pro-
portions already stated among the notes are fixed
and invariable : and to express the proportion of 3 : 1,
a point (.) is added to the right side of any note,
which is deemed equivalent to half of it; and by this
means a pointed semi-breve, O. becomes equal to
three minims, and so of the rest.

From hence arise several other ratios constituting
new kinds of triple time; as 2 : 3 and 3 : 4, &c.; but
these, Mr. Malcolm observes, are of no real service,
and are not perceived without a painful attention.
For the proportions of the times of notes, to afford
us pleasure, must be such as are not difficultly per-
ceived; on which account the only ratios fit for mu-
ic, beside that of equality, are the double and triple.

TIME, Common or Dupla, is of two species: the
first, when every bar or measure is equal to a semi-
breve, or its value in any combination of notes of a
less quantity.

The second, where every bar is equal to a minim,
or its value in less notes. The movements of this kind
of measure are various, but there are three common
distinctions; the first slow, signified at the beginning
by the mark c; the second brisk, signified by ; the
third very, quick, signified by

But what that slow, brisk, and quick is, is very
uncertain, and only to be learned by practice. The
nearest measure we know of, is to make a quaver the
length of the pulse of a good watch; then a crotchet
will be equal to two pulses, a minim to four, and the
whole measure or semi-breve to eight. This may be
reputed the measure of brisk time; as for the slow, it
is as long again, and the quick is only half as long.

Some propose to measure it by imagining the bar
as actually divided into four crotchets, in the first
kind, and so make the whole as long as one may dis-
tinctly pronounce these four words, one, two, three,
four, all of equal length: so that the first crotchet
may be applied to one, the second to two, &c. and for
other notes proportionally: and this is made the
brisk movement of common time.

The whole measure then of common time is
equal to a semi-breve, or a minim; but these are vari-
ously subdivided into notes of less quantities.

Now to keep the time equal, we make use of a
motion of the hand or foot, thus: knowing the true
time of a crotchet, we shall suppose the measure or
bar actually subdivided into four crotchets for the
first species of common time, then the half measure
will be two crotchets; therefore the hand or foot be-
ing up, if we put it down with the very beginning of
the first note or crotchet, and then raise it with the
third, and then down to begin the next measure; this
is called beating of time

By practice, they get a habit of making this mo-
tion very equal, and consequently of dividing the
measure or bar into equal parts, up and down; as
also of taking all the notes in the just proportion, so
as to begin and end them precisely with the beating.
In the measure of two crotchets, they beat down the
first, and the second up. Some call each half of the
measure in common time, a time ; and so they call
this the mode or measure of two times, or the dupla
measure.

Again, some mark the measure of two crotchets
with a 2 or 2, signifying it to be equal to two notes,
of which four make a semi-breve; and some mark it
\( \frac{4}{3} \) for quavers. Malcolm’s Music, p. 385, &c.

TIME, for Triple. See TRIPLE-Time
TIME-Table. See CHARACTERS, FRANCO, and [Music] Plate 1*

TINTINTINABULUM, among the Ancients. See Bell.

TOCCATA, Ital. from toccare, to touch: to prelude, to touch an instrument, to play a short movement extempore, previous to the performance of a regular piece.

TOCCATINA, a short prelude, or trial of an instrument.

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TONE, or Tune, in Music, a property of sound, by which it comes under the regulation of grave and acute; or, the degree of elevation any sound has, from the degree of swiftness of the vibrations of the parts of the sonorous body.

For the cause, measure, degree, difference, &c. of tones, see TUNE.

The variety of tones in human voices arises partly from the dimensions of the wind-pipe, which, like a flute, the longer and narrower it is, the sharper the tone it gives; but principally from the head of the larynx, or knot of the throat; the tone of the voice being more or less grave, as the rima, or cleft of it, is more or less open.

The word tone is taken in four different senses among the ancients: 1. For any sound. 2. For a certain interval, as when it is said the difference between the diapente and diatessaron is a tone. 3. For a certain locus or compass of the voice; in which sense they use the Dorian, Phrygian, Lydian tones. 4. For tension, as when they speak of an acute, grave, or a middle tone. Wallis’s Append. Ptolem. Harm. p. 172.

The word tone has many different applications. In the first place, a tone, distinguished from a semitone, is the characteristic of the diatonic genus, which entirely consists of tones and semitones. Of tones there are two kinds; major and minor. The tone major is in the ratio of 8 to 9, which results from the difference between the 4th and 5th: the tone minor is in the ratio of 9 to 10, and results from the difference between the minor 3d and the 4th.

The generation of the tone major and that of the tone minor is equally found at the second 5th D, beginning from C, for the quantity by which this D surpasses the octave of the first C, is precisely in the ratio of 8 to 9; and that by which this same D is surpassed by E, major 3d to the octave C, is in the ratio of 9 to 10.

2dly. Tone is used in France for the English word pitch, or degree of elevation of the whole scale; as ton d’église, cathedral pitch; ton de l’opéra, opera pitch, concert pitch, Roman pitch, &c. At present concert pitch is nearly the same everywhere in England, except in our churches, where all our old organs are nearly half a note above concert pitch. The Roman pitch used to be very low; and in organs, a high pitch saves metal. A low pitch in an orchestra may save fiddle-strings, and give ease and courage to singers fearful of high notes.

The tone of an instrument is good, bad, even, or unequal.

The tone of a voice is sweet or harsh, of a good or bad quality.

To speak with a tone, is a canting kind of speech, more resembling bad singing than good speaking.

TONIC, in Music. See GENUS TONS de l’Eglise, Fr.; Tuoni ecclesiastici, Ital.; the ecclesiastical modes or tones in canto fermo. See PLEIN-CHANT, CANTO FERMO, and Ecclesiastical MODES, AUTHENTIC and PLAGAL.

For the history of the establishment of the modes at Milan and at Rome, see St. AMBROSE and St. GREGORY.

The modes of the Roman church are eight: four authentic, and four plagal. The four authentic, or principal, are the odd numbers: 1st, 3d, 5th, and 7th; the plagal are the even numbers: 2d, 4th, 6th, and 8th; which answer to D and A minor, and C and D major, for the authentic; and G and A minor, and F and G major, for the plagal. These are described by Dr. Pepusch, Padre Martini, and Rousseau, and all their several scales may be seen in Burney’s General History of Music, vol. ii.

We have drawn out the scales of all the eight modes or tones ascending and descending (see Plates of Music), by which it will appear from the imperfection of these scales in most of the tones, that they are only capable of melody; and in the common service of Roman Catholic churches, when the priests perform the duty without the assistance of professed musicians, no harmony is attempted to be given to mere canto fermo. In cathedrals, the motets
and parts of the mass are sung by choirmen and children, as the anthems and services are in our cathedrals.

Notwithstanding the imperfection of the scales, and little variety of keys in the ecclesiastical chants, secular music seems for many ages to have had no other rules, but to have been strictly confined to a few keys in the diatonic genus, without the liberty of transpositions. Hence came the timorous pedantry of excluding all other keys and scales but those used in the church; which kept every kind of melody meagre and insipid, and in subjection to the rules of ecclesiastical chanting. For it appears, that the only major keys used in canto fermo are C and its two fifths F and G; and the only minor keys A, E, and D. And in four of these keys the scale is deficient, as there is no seventh or note-sensible to G, A, or D. This accounts for so small a number of the twenty-four keys which the general system and scale of modern music furnishes, having been used by the old composers; as well as for the temperament of the organs by which these modes were afterwards accompanied. And as all music in parts seems, for many ages after the first attempts at counterpoint, to have been composed for the service of religion upon canto fermo and its principles; it likewise accounts for the long infancy and childhood of the art, till it broke loose from the trammels of the church, by which it was bound in Gothic times: and by the cultivation of the musical drama sacred and secular, the ideas of composers were enlarged, and the talents of performers improved by new exertions, which brought the art nearer perfection during the two last centuries, than it had attained in seven hundred years from the time of Guido.

In implicit and religious obedience to the laws of canto fermo, no accidental flat or sharp was ever to appear; all the eight tones being rigidly in the diatonic genus in the keys of C and A natural, with no other semitones than from E to F, and B to C. When the scales of these tones are drawn out at full length, they seem nothing more than different species of octave.

All these scales descending, might, however, be made perfect by a single flat or sharp at the clef; as the first tone by a flat, the third by a sharp. The 2d is perfect, descending; the 4th wants a sharp or two at the clef to determine it to be in the key of E or B minor. A flat would make the 5th complete in the key of F; and a sharp the 7th in that of G. The 6th is in the key of C natural, ascending complete; and with a flat to B in the key of F, descending; the 8th with one sharp would be in G, and with two sharps in D major. But these were licenses which no one thought of, or at least had the courage to practise, till counterpoint began to gain ground. And even then, the musica ficta, or false music, as that in transposed keys was called, no one dared to write till lately. Even the orthodox and good Padre Martini, at length vanquished his fears of the impiety of using an accidental flat or sharp in the inward parts of canto fermo.

Lorente, author of the famous Spanish treatise called “El porque de la Musica,” without which Geminiani made Dr. Worgan believe it impossible for any one to understand counterpoint, has written the scales of the eight tones as we have done; but has not ventured to harmonize them, as accidental sharps and flats must have been expressed or understood in the additional parts.

TONTON, an African drum, which Pere Labat, in his voyage to Guinea, tom. ii. numbers among the musical instruments of the Negroes, and which is never used but upon the approach of an enemy, or on extraordinary occasions. It seems to surpass in force the Stenterophonic tube of Alexander the Great; as it is said that it can be heard at the distance of six or seven miles!

TRANSPARENT, we think, would be as useful a term in music, as in painting. We know that visibility and audibility are objects of two different senses; but clearness, chiarezza, is a favourite excellence with musicians, in speaking of counterpoint: and in compositions of many different parts carrying on different designs, that clearness in their texture and arrangement, which enables the hearer to disentangle them, and to distinguish the several parts through each other, but particularly in vocal music, and to hear the principal melody through all the accompaniments, we think might with some degree of propriety be termed transparency.

TRANPOSITION, in Music. We will venture to say, from long experience, that no musician can transpose at sight, with certainty and firmness, but by a perfect knowledge of all the clefts necessary to change any one of the seven notes in music to any
other we please. (See CLEFS.). This was Dr. Pepusch's method of teaching transposition, though not very clearly explained in his treatise; and Mr. Galliard's method, which he has made perfectly intelligible by a plate, in his translation of Tosi, Cerone, in 1614, seems to have been the inventor of this method. See CERONE.

The transposer, besides changing the notes higher of lower by imaginary clefs, without changing their original places on the staff, must likewise know what sharps and flats belong to every key. If, for instance, we wanted to transpose our national supplication of "God save great George our King!" from G natural to E, a major third lower, we have only to imagine a clef that will make the second line E, which is the soprano, or tenor clef, on the first line. If, again, a singer wished to have his favourite air a third higher than G, which is E, the base clef with two flats will render all the notes, which with the treble clef were in G, a minor third higher.

Now to render G on the fourth space in the base E♭, we have only to suppose the treble clef in the accompaniment instead of the base. And to render the fourth space B♭ instead of G natural, we have only to imagine the base clef on the third line with two flats, instead of the fourth with one sharp.

TRAVAILLER, Fr., in Music, to labour, work. In English music, a fugue is said to be well-worked, when the subject is frequently and ingeniously brought in, with new accompaniments and modulation: and an inward part of a Polyphonic composition is said to be well-worked, if some particular design is carried on in a spirited manner, while the other parts are sustaining slow notes in pure and pleasing harmony. The Italians express much the same at present by the term tirato. A subject or theme well treated, is said to be ben tirata. The old Italian masters used to call any series of notes ascending or descending, regularly tirata, in the same sense as the French tirade; which see.

TRAVERSIERE, FLUTE, commonly called the German-flute, being supposed of German invention. But it has its title of flute traversiere in France, from the different manner of holding it from that of la flute à bec, or common flute.

Its original compass was from the lowest D in the treble to a in altissimo.

Such was the extent of the scale in 1752, when Quantz published his "Methode de la Flute," who was the late Frederic king of Prussia's master on that instrument, and the first who added keys to correct and clear the bad notes.

In the folio Encyclopédie, tom. vi. there is a scale of all the tones, semitones, and shakes possible on the instrument, with an additional half-note, C♯ or D♭, below the usual lowest note of its compass, and three notes above A in altissimo, the highest note of Quantz's scale. See Music Plates.

For the history of the flute traversiere, Quantz tells us that in the year 1620 it had no key to make D♯ or E♭, and was called the Swiss flute. It was the French who added the first key; but it was not known by whom or when. Quantz himself added a second key in the year 1726, and about 1732, a third. Two more keys have since been added by subsequent performers on the instrument; but it has been thought more for parade than use: as the management of five keys in rapid performance, would be as difficult as running divisions on an organ with all the five short keys split into quartetones. See TACET.

TREBLE, in Music, the highest or acutest of the four parts in symphony, or that which is heard the clearest and shrillest in a concert.

In the like sense we say, a treble violin, treble hautboy, &c.

In vocal music, the treble is usually committed to boys and girls. Their part is the treble.

The treble is divided into first or highest treble, and second or base treble. The half treble is the same with the counter-tenor.

TREMBLANT, in Music, the name of a very disagreeable stop in large church-organs on the continent. Its name describes its effect. In general, a steady
**TONE** in a voice or wind instrument capable of sustaining a note, is the most essential requisite; but in the tremblant stop there is a perpetual quivering, such as we sometimes hear in the streets by the vielle and barrel-organ. See ORGAN.

**TREMBLEMENT**, in French Music, is equal to *trillo* in Italian, and *cadence* in old French music: they all mean the same thing, which in English is a shake.

**TRIANGHAMNICA**, lat.; **Triade Harmonique**, Fr.; **Harmonical Triad**, Eng.; in Music. This term has two different senses. In calculation, it is the harmonical proportion; in practice, it is the perfect major chord resulting from the same proportion, and which is composed of the fundamental sound, its major or sharp 5th, and its 5th. It is called a triad, because composed of three sounds; and harmonic, because in harmonical proportion; and is the sense of all harmony.

**TRICORD**, an ancient musical instrument with three strings. The first lyre of Mercury is supposed by many to have had but three strings. Most of the writers on music among the ancients, have supposed that the three sounds of this primitive lyre, were E, F, G.

Julius Pollux called the *pandora*, or *pandura*, the instrument with three strings.

The emperor Heliogabalus, says Lampridius, sung, danced, recited, or declaimed to the sound of the flute, sounded the trumpet; played on the pandura and the organ.

Here is work for ingenious conjectures: what was meant by reciting to the flute? What music could an instrument without a neck produce with only three strings? And what kind of instrument was the organ upon which Heliogabalus played, before organs were supposed to have been invented?

**TRIGONIUM**, *Trigonum*, was also a musical instrument, used among the ancients.

The trigon was a kind of triangular lyre, or harp, and was invented by Ibycus.

It was used at feasts, and played on by women; who struck it either with a quill, or beat it with small rods of different lengths and weights, to occasion a diversity in the sounds. See TRIGONUM.

**TRILL**, in Music, a plain shake upon a single note, formed by a beating in the throat on the vowel o, or by the shaking of the palate on the throat in one sound upon a note: this grace is usually made in closes or cadences, and when on a long note exclamation or passion is expressed, the trill is made in the latter part of such note; but most commonly on binding notes and such as precede the closing note. See TRILLO.

**TRILLETTO**, in the Italian Music, a little short shake or quaver; it differs from trillo only in point of continuance, being its diminutive. TRITRIL

TRILLO, Ital. a shake, in Music. Tosi has devoted his third chapter (in Galliard’s Translation, p. 41.) to the importance, use, and acquisition of a shake. He advises the vocal student, with the assistance of the master, to strive at attaining one that is “equal, distinctly marked, easy, and moderately quick, which are its most beautiful qualifications.” The student will find the shake on the semitone or half-note much easier to acquire than that on the whole tone; which it will be necessary to practise first, and most frequently ever, as it includes the other. Tosi describes seven different kinds of shake, but none are worth the study but those on the tone and half-tone, which must at first be practised slow, and its rapidity increased by minute degrees. The beat, or trillo mordente, differs little from the shake; in fact it is the shake reversed, ending upon the upper of two notes, instead of the lower. This grace was much used by singers in the former part of the last century, particularly in recitatives, and after the appogiatura from the note below. Mingotti was the last great singer whom we remember to have frequently used the trillo mordente, or beat. Mancini, however, gave a chapter to it in 1774. But he was of the Bernacchi school, which would now be called antica.

TRIO, in Italian Terzetto, a vocal composition in three principal parts, exclusive of the accompaniments. In chamber duets and trios, such as those of Steffani and Clari, in which each part repeats the same words, the great merit was pure harmony, and ingenious subjects of fugue and imitation. But in the dramatic duets and trios of modern times, the several parts have different words and different passions to express. In an opera trio, the several characters are dialogued, and seldom sing together; and in each solo part a beautiful, interesting, and characteristic melody is required. But in moments of passion, where the three parts are united, and expressing with energy and passion their several complaints...
TRIPLE, in Music, is one of the species of measure, or time.

Triple time consists of many different species, of which there are in general four, each of which has its varieties. The common name of triple is taken hence, that the whole, or half measure, is divisible into three equal parts, and is beaten accordingly.

The first species is called the simple triple, in which the measure is equal to three semi-breves, three minims, three crotchets, three quavers, or three semi-quavers, which are marked thus, \( \frac{3}{1} \), or \( \frac{6}{2} \), \( \frac{3}{4} \) \( \frac{3}{8} \) \( \frac{3}{16} \); but the last is not much used, except in church music.

In all these the measure is divided into three equal parts, or times, called thence triple times, or the measure of three times; of which two are beat down, and the third up.

The second species is the mixt triple; its measure is equal to six crotchets, or six quavers, or six semi-quavers, and accordingly it is marked \( \frac{6}{2} \), or \( \frac{6}{8} \), or \( \frac{6}{16} \); but the last is seldom used. Some authors add other two; viz. six semi-breves and six minims, marked \( \frac{6}{1} \), or \( \frac{6}{2} \) but these are not in use.

The measure here is usually divided into two equal parts, or times, of which one is beat down and one up: but it may also be divided into six times; of which the first two are beat down, and the third up; then the next two down, and the last up; i.e. each half of the measure is beat like the simple triple (on which account it may be called compound triple), and because it may be thus divided either into two or six times (i.e. two triples), it is called mixed; and, by some, the measure of six times.

The third species is the compound triple, consisting of nine crotchets, or quavers, or semi-quavers, and marked \( \frac{9}{2} \), \( \frac{9}{4} \), \( \frac{9}{8} \); the first and last are little used; and also add \( \frac{9}{1} \), \( \frac{9}{2} \), which are never used.

This measure is divided into three equal parts, or times, of which two are beat down, and one up; or each third part may be divided into three times, and beat like the simple triple; on which account it is called the measure of nine times.

The fourth species is a compound of the second species, containing twelve crotchets or quavers, or semiquavers, marked \( \frac{12}{4} \), \( \frac{12}{8} \); to which some add \( \frac{12}{1} \) and \( \frac{12}{2} \), which are never used; nor are the first and third much used, especially the latter.

The measure here may be divided into two times, and beat one down, and one up; or each half may be divided and beat as the second species, either by two or three; in which case it will make in all twelve times, and hence is called the measure of twelve times.

The French and Italian authors make a great many more species and divisions of triple time, unknown, or at least unregarded by our English musicians, and therefore not so necessary to be dwelt upon here.

While the modes or moods were in use, triple time was the most difficult part of a musician's study; and, indeed, seems not to have been well understood by the masters themselves, as no two writers of elementary acts on the subject seen to agree. But at present, by the use of bars and points, with the Italian technical terms for the degrees of quick and slow, triple time is so simplified, that young students find it easier, and feel it sooner than common time. (See Plate Time-Table, and the article NOTATION.) When every gentleman's child learned to dance a minuet, young musicians found it easier to beat and to keep triple time, though it seems to limp, than common, which is the most simple, natural, and equable of all measures and motions. See MINUET.

TRIPLE Progression, in Harmonics, supposed to have been the invention, or rather to have been first applied to musical ratios by Pythagoras. To speak practically of this division of the monochord, or general system of music, it was the guide not only of Pythagoras, but Euclid and all the Greek and Roman writers on harmonics, except Aristoxenus. It precluded all idea of temperament, by a series of perfect 5ths; nor was a temperament thought of by any of the ancients, except Didymus and Ptolemy; but they seem never to have been implicitly followed.

Nothing but mere melody being in question, and the major 3rd being so harsh as to be ranked among discords; temperament was not much wanted till
counterpoint had made some progress; and then it
was as much opposed by the adherents to the prac-
tice of the ancients, as the Copernican system was by
the adherents to the Ptolemean. These prejudices,
however, had been nearly annihilated, and the tem-
perament of keyed and wind instruments became so
habitual, that the triple progression had had no
champion for a long time, till the abbe Roussier, a
Pythagorean arose, and treated all musicians as ig-
norant and absurd, who had not opposed tempera-
ment, and regarded all music as dissonance which
had been composed on tempered scales. But we
have heard nothing to be no more true believers left
in Pythagoras’s doctrine of the triple progression, in
Europe at least, than in that of the transmigration of
souls.

TRITE, τρίτη in Music, the third musical chord in
the system of the ancients.

There are three strings under this denomination in
the ancient diagramma, viz. the trite hyperbolacon,
trite diezeugmenon, and trite synemmenon.

This chord of the ancient tetrachord was so
named from its being the third from the note; and
hence we might call it the anti-penultimate. It was
otherwise, in some tetrachords, called parypate. See
DIAGRAM and INTERVAL.

TRITE Diezeugmenon, in the Greek Music, was the
antipenultimate note of the diezeugmenon tetrach-
ord, and answers to Guido’s c, sol, fa, ut.

TRITE Hyperbolacon, was the anti-penultimate note
of the hyperbolacon tetrachord, and answers to
Guido’s f, fa, ut.

TRITE Synemmenon, was the anti-penultimate note
of the synemmenon tetrachord, and answers to
See DIAGRAM.

TRITONUS, in Music, a dissonant interval, com-
posed of three tones, two major and one minor; and
which is, in practice, called the sharp 4th. This in-
terval on keyed instruments is equal in nominal
semitones to the false 5th: the numerical ratios, how-
ever, are not equal; that of the tritonus being only 32
to 45; which is occasioned by the tritonus having
only one tone major instead of two semitones major,
which the false 5th contains. See FIFTH.

But the most considerable difference between the
false 5th and the sharp 4th is, that the latter is a ma-
jor discord, and that the parts are resolved by separ-
atation; and whereas the other is a minor discord, and
resolved by approximation of the two parts. The
chord of the sharp 4th is only an inversion of the
chord of the 5\frac{4}{5} to the sharp 7th of the key, by giving
the discord to the base.

TROMBA, in the Italian Music, either denotes the
common trumpet, the buccina of the ancients, or the
modern sacbut, but more properly our trumpet,

TROMBETTA, in the Italian Music, a small trump-
pet, being the diminutive of tromba.

TROMBONE, a wind-instrument blown by the
mouth, and resembling in form the military trumpet,
of which it is the base, the name implying the great
trumpet. It differs, however, from the trumpet in be-
ing divided into two branches or parts fitted to sock-
ets, giving, the performer power to lengthen and
shorten the general tube at his pleasure, according to
the different tones which he wishes to produce. On
which account it is called in Latin, tuba ductilis. The
Germans call it pausaune, and the French sacque-
boute.

Zarlini has described this instrument under the
title of trombone amovibile, and the quantity and qual-
ity of the sounds it is capable of producing, very ex-
actly.

“The trombone,” says he, Supplementi Musicaeli,
lib. iii. cap. 5. “is an instrument truly worthy of con-
sideration, which I have seen and often heard by
good performers, beginning at the lowest sound
which it is capable of producing; when, being closed
in all the joints, it can produce no sound less than
the octave; then from the octave to the 5th; nor from
that can it produce a less interval than the 4th; and
from the 4th to the 3d major, then the 3d minor, after
which another 4th, the key-note, from which it can
form a complete series of eight notes. No other
sounds than these can be produced without altering,
moving, and lengthening the instrument.”

Père Mersenne, in his experiments on this instru-
ment (Harmon. Instrum. lib. ii.) found it capable, by
lengthening or shortening the lower part of the in-
strument, of forming a regular series of fifteen
sounds, from double C in the base, to C on the sixth
line.
The instrument is made of brass, of which there are five sorts: canto, alto, tenor, base, and double-base. It is much used in the large churches of Germany. They can produce all the tones and semitones in gradation. The manner of writing for them is the same as for different voices, and on the same staff of five lines.

The double-base of this instrument goes a 5th lower than any other base. It has the finest effect in funeral processions, and in general in melancholy strains. We never hear it with more pleasure in England than in Handel’s dead march in Saul. Its use should be rare, and its effects would be more striking. But tromboni and double-drums are now so frequently used at the opera, oratories, and in symphonies, that they have become a nuisance to lovers of pure harmony and refined tones: for, in fact, the vibrations of these instruments, produce noise, not musical sounds.

TRONCO, in the Italian Music, by the French called coup de grace, is used to intimate to the voices as well as instruments, that they are not to draw out the sound to its natural length, but cut it short; that is, only continue it long enough to be heard, by which means there is a small silence between each sound; which has a very good effect in expressions of grief, to make signs; and also in expressions of wonder and surprize, &c.

TROUBADOURS, a name given to the ancient poets of Provence, who wrote, set, and sung their own verses. See PROVENÇAL poets.

Some will have the word borrowed from trouver, to find, by reason of their inventions, whence they are called trouveres; though others take them to have been called trombadours; by reason they sung their poems to an instrument called a trompe or trumpe.

The poetry of the troubadours consisted in sonnets, pastorals, songs, syrventes, or satires, which were much to their taste; and in tensons, which were love-disputes.

Jean De Notre Dame, commonly called Nostradamus, a procureur in the parliament of Provence, wrote an ample discourse of these poets. He makes their number seventy-six.

Pasquier tells us, he had an extract of an ancient book, belonging to cardinal Bembo, entitled “Los Noms daquels qui firent Tensons & Syrventes,” which made their number ninety-six; among which was an emperor, viz. Frederic I. and two kings, viz. Richard I. of England, and a king of Arragen; with a dauphin, several counts, &c.: not that all these had composed entire works in Provençal; some of them had not brought forth any thing beyond epigrams.

Petrarch speaks, with applause, of several troubadours in the fourth chapter of the Triumph of Love. The Italian poets are said to have borrowed their best pieces from the troubadours. Pasquier declares expressly, that Dante and Petrarch are, indeed, the fountains of Italian poetry; but fountains which have their sources in the Provençal poetry.

Bouche, in his History of Provence, relates that, about the middle of the twelfth century, the troubadours began to be esteemed throughout Europe; and that their credit and poetry were at the highest about the middle of the fourteenth. So that they flourished in Europe about two hundred and fifty years, viz. from 1120 or 1130 till the year 1382.

He adds, that it was in Provence that Petrarch learned the art of rhyming, which he afterwards practised, and taught in Italy.

Strolling musicians, under the appellation of Jongleurs, (which see,) abounded in France so early as the time of Charlemaigne, who forbids their admission into convents; and in the first capitulary of Aix-la-Chapelle, this prince speaks of them as persons branded with infamy. They continued, however, to amuse the great in private, as well as the people in public, as a distinct body of men, till the troubadours introduced poetry into France, in the dialect of that country. Their licentiousness was frequently repressed, and their conduct regulated, by the police; and during the reign of Philip Augustus, the troubadours and minstrels, or jongleurs, were involved in the same disgrace, and for some time banished the kingdom; which left such a stigma upon their order, as no efforts of genius, or austerity of manners, could entirely efface, though they were af-
Clelia. Fontenelle does not scruple to acknowledge, way to the spiritual conversations of Cyrus and parties into verse, in a style that afterwards led the who threw the claims and arguments of the different institution furnished ample matter for the poets, at which questions in gallantry were decided. This “Love,” was instituted both in Provence and Picardy, early as the year 1180, a tribunal called the “Court of moral fables, allegories, and sentimental sonnets. So consisted, as we have already intimated, in satires, if it is not from them we derive our virtues, they at from other people, was the fruit of their songs; and That urbanity, continues he, which distinguishes us civilization, the progress of virtue is generally pro- portioned to the cultivation of arts and literature, he would have inflicted a less ignominious punishment on the objects of his displeasure; for such is the empire of prejudice, that the anathema it pronounces against the abuse of a profession remains in full force, even after the reformation of those who exercise it. This author ventures to pronounce the jongleurs, or troubadours and minstrels, notwithstanding the contempt with which they are named at present, to have been the fathers of literature in France: they, says he, banished scholastic quarrels and ill-breeding, and polished the manners, established the rules of politeness, enlivened the conversation, and purified the gallantry of its inhabitants. That urbanity, continues he, which distinguishes us from other people, was the fruit of their songs; and if it is not from them we derive our virtues, they at last taught us how to render them amiable. Tableau Historique de Gens des Lettres, par l’Abbé de Longchamps, tom. v. cited by Dr. Burney in his History of Music, vol. ii. p. 267.

Mr. T. Warton, (Hist. of English poetry) is of opinion that there were two sorts of French troubadours who have not been sufficiently distinguished. If we diligently examine their history, we shall find that the poetry of the first troubadours consisted, as we have already intimated, in satires, moral fables, allegories, and sentimental sonnets. So early as the year 1180, a tribunal called the “Court of Love,” was instituted both in Provence and Picardy, at which questions in gallantry were decided. This institution furnished ample matter for the poets, who threw the claims and arguments of the different parties into verse, in a style that afterwards led the way to the spiritual conversations of Cyrus and Clelia. Fontenelle does not scruple to acknowledge, that gallantry was the parent of French poetry. But to sing romantic and chivalrous adventures was a very different task, and required very different talents. The troubadours, therefore, who composed metrical romances form a different species, and ought always to be considered separately. And this latter class seems to have commenced at a later period, not till after the crusades had effected a great change in the manners and ideas of the western world. In the mean time, as Warton conjectures, the art of the troubadours, commonly called the “Gay Science,” was first communicated from France to the Italians, and afterwards to the Spaniards. If this be true, it is at the same time highly probable, as the Spaniards had their “Juglares,” or convivial bards, very early, because from long connexion they were intimately acquainted with the fictions of the Arabians, and were naturally fond of chivalry, that the troubadours of Provence in great measure caught this turn of fabling from Spain. The communication, without mentioning any other obvious means of intercourse, in an affair of this nature, was easy through the ports of Toulon and Marseilles, by which the two nations carried on from early times a constant commerce. Even the French critics themselves universally allow, that the Spaniards, having learned rhyme from the Arabians, through this very channel conveyed it to Provence. Tasso preferred “Amadis de Gaul,” a romance originally written in Spain by Vasco Lobeyra, before the year 1300, to the most celebrated pieces of the Provençal poets. The early universality of the French language very much contributed to facilitate the circulation of the poetry of the troubadours in other countries; and thus they contributed in a very considerable degree to the revival and diffusion of literature in Europe. See JONGLEURS, MINSTREL, MYSTERY, PROVENÇAL POETS, ROMANCE.

TRUMPET, a musical instrument, the most noble of all portable ones of the wind-kind; used chiefly in war, among the cavalry, to direct them in the service. Each troop of cavalry has one. The cords of the trumpet are of crimson, mixed with the colours of the facings of the regiment.

The word is formed from the French trompette. Menage derives it from the Greek τρομπή, turbo, a shell anciently used for a trumpet. Du-Cange derives it from the corrupt Latin trumpa, or the Italian
tromba, or trombetta; others from the Celtic trompill, which signifies the same. It is usually made of brass, sometimes of silver, iron, tin, and even wood. Moses, we read, made two of silver, to be used by the priests (Numb. x.); and Solomon made two hundred like those of Moses, as we are informed by Josephus (lib. viii.); which shows abundantly the antiquity of that instrument.

As to the invention of the trumpet, some Greek historians ascribe it to the Tyrrhenians; but others, with greater probability, to the Egyptians, from whom it might have been transmitted to the Israelites. The trumpet was not in use among the Greeks at the time of the Trojan war; though it was in common use in the time of Homer. According to Potter (Arch. Græc. vol. ii. cap. 9.), before the invention of trumpets, the first signals of battle in primitive wars were lighted torches; to these succeeded shells of fishes, which were sounded like trumpets. And when the trumpet became common in military use, it may well be imagined to have served at first only as a rough and noisy signal of battle, like that at present in Abyssinia and New Zealand, and perhaps with only one sound. But even when more notes were produced from it, so noisy an instrument must have been an unfit accompaniment for the voice and poetry; so that it is probable the trumpet was the first solo instrument in use among the ancients.

In the 96th Olympiad, before Christ 396, a prize was instituted at the Olympic games for the best performer on the trumpet; and the first person who gained the prize was Timæus of Elis; and Herodotus of Megara, a famous trumpeter, who lived about the 120th Olympiad, or 300 years before Christ, was victor at the different games of Greece no less than ten, or, as some say, fifteen several times. These performers on the trumpet appear to have been herals and public criers, who not only gave the signals at the games for the combatants to engage, and announced their success, but proclaimed peace and war, and sounded signals of sacrifice and silence, at religious ceremonies. Burney’s Hist. of Mus. vol. i. p. 376.

Among the Romans, there were various instruments of the trumpet kind; as the tuba, cornua, bucchina, and lituus. The tuba is supposed to have been exactly like our trumpet, widening gradually in a direct line to the orifice; the cornua was bended almost round; and the buccina was somewhat less; the lituus, which was almost straight, but crooked at the extremity, in the form of the augural staff, whence its name, was a species of clarion, or octave trumpet made of metal, and extremely loud and shrill, used for horse, as the straight trumpet was for foot. Horace distinguishes it from the tuba or trumpet. See LITUUS.

The tuba, or long trumpet, called by the Hebrews the trumpet of the jubilee, may be seen in several pieces of ancient sculpture at Rome, particularly on the arch of Titus, on Trajan’s pillar, and in a bassorelievo at the Capitol, representing the triumph of Marcus Aurelius.

The modern trumpet consists of a mouth piece, near an inch broad, though the bottom be only one third so much. The pieces which convey the wind are called the branches; the two places where it is bent, potences; and the canal between the second bend and the extremity, the pavilion: the places where the branches take asunder, or are soldered, the knots; which are five in number, and cover the joints.

If an ellipsis (says Dr. Young, Lecture xxxi.) be prolonged without limit, it will become a parabola; hence a parabola is the proper form of the section of a tube, calculated for collecting a sound which proceeds from a great distance, into a single point, or for carrying a sound nearly in parallel directions to a very distant place. It appears, therefore, that a parabolic conoid is the best form for a hearing-trumpet, and for a speaking-trumpet; but for both purposes the parabola ought to be much elongated, and to consist of a portion of the conoid remote from the vertex; for it is requisite, in order to avoid confusion, that the sound should enter the ear in directions confined within certain limits: the voice proceeds also from the mouth without any very considerable divergence, so that the parts of the curve behind the focus would in both cases be wholly useless. A trumpet of such a shape does not very materially differ from a part of a cone; and conical instruments are found to answer sufficiently well for practice. It appears, however, unnecessary, to suppose, as Mr. Lambert has done, that they differ essentially in principle from parabolic trumpets. It is not yet perfectly decided whether or not a speaking-trumpet
has any immediate effect in strengthening the voice, independently of the reflection of sound.

When the sound of the trumpet is well managed, it is of a great compass. Indeed its extent is not strictly determinable; since it reaches as high as the strength of the breath can force it. A good breath will carry it beyond four octaves, which is the limit of the usual keys of spinets and organs.

The usual sounds of the trumpet are represented by the following musical notes.

Here the loudest sound being denoted by 1, the pitch of the rest, or the number of their respective vibrations, during the time that C vibrates once, will be expressed by the numbers denoting the order of their sounds, 2, 3, 4, 5, &c. The sounds expressed by the musical numbers, that is, by 2, 3, 5, and their composites, which are 4, 6, 8, 9, 10, 12, 15, 16, are all perfectly in tune; but the sounds expressed by numbers not musical, as 7, 1 1, 13, 14, are false. Three of these, viz. B♭, its octave, and A, distinguished by f placed over them, are too flat; and the remaining note F, marked with an S, is too sharp. See MUSICAL Numbers.

The reason of which is, that B♭ bought to be a flat tone major below C: that is, its pitch to that of C will be as 8 to 9; but the proportion given by the trumpet is as 7 to 8; which being a less proportion than that of 8 to 9, it follows that B♭ will be too flat. The same holds true of its octave. And A being a tone minor above G, it ought to be to G as 10 to 9; but in the trumpet it is to G as 13 to 12; which being less than the proportion of 10 to 9, it follows that A will be too flat. On the other hand, Fought to be a semitone major above E; that is, Fought to be to E as 16 to 15; but in the trumpet, F is to E as 11 to 10; which being a greater proportion than that of 16 to 15, it follows that F is too high or too sharp.

This system of trumpet-notes is an effectual continuation of those who are for introducing 7, 11, 13, and other primes into music.

In war there are eight principal manners of sounding the trumpet: the first, called the cavalguet, used when an army approaches a city, or passes through it in a march. The second the bout-selle, used when the army is to decamp, or march; at which time the drums beat a general, when the troopers boot, saddle, and get ready. The third is when they sound to horse, when the assembly begins to beat, on which the troopers mount; and then to the standard. The fourth is the charge, in the day of battle. The fifth the watch. The sixth is called the double cavalguet. The seventh the chamade: and the eighth the retreat. Besides these, there are various flourishes, voluntaries, &c. used in rejoicings.

There are also people who blow the trumpet so softly, and draw so delicate a sound from it, that it is used not only in church-music, but even in chamber-music; and it is on this account, that, in the Italian and German music, we frequently find parts entitled tromba prima, or 1a, first trumpet; tromba IIa, segonda IIIa, terza, second, third trumpet, &c. as being intended to be played with trumpets.

There are two very great defects in the trumpet, observed by Mr. Roberts, in the Philosophical Transactions for 1692, N° 195. The first is, that it will only perform certain notes within its compass, commonly called trumpet-notes; the second, that though its ordinary compass is from double C-fa-ut to C-sol-fa in alt., yet there are four notes, the 7th, 11th, 13th, and 14th, in this progression, viz. B♭, f, a a, and b b, which are not exact in tune. The same defects are found in the trumpet-marine; and the reason is the same in both. Phil. Trans. Abr. vol. i. p. 607.

TRUMPET-Marine, is a musical instrument, consisting of three tables, which form its triangular body. It has a very long neck with one single string, very thick, mounted on a bridge, which is firm on one side, but tremulous on the other. It is struck by a bow with one hand, and with the other the string is pressed or stopped on the neck by the thumb. Plate XXIV. Miscellany, fig. 4.

It is the trembling of the bridge, when struck, that makes it imitate the sound of a trumpet, which it does to that perfection, that it is scarcely possible to distinguish the one from the other. And this is what has given it the denomination of a trumpet-marine, though, in propriety, it be a kind of mono-
chord. Of the six divisions marked in the neck of the instrument; the first makes a fifth with the open chord, the second an octave, and so on for the rest, corresponding with the intervals of the military trumpet. The trumpet-marine has the same defects with the trumpet, viz. that it performs none but trumpet-notes, and some of those either too flat or too sharp.

This Mr. Fr. Roberts (ubi supra) accounts for, only premising the common observation of two unison strings; that if one be struck, the other will move: the impulses made on the air by one string setting another in motion, which lies in a disposition to have its vibrations synchronous to them; to which it may be added, that a string will move, not only at the striking of an unison, but also of that of an 8th or 12th; there being no contrariety in the motions to hinder each other.

Now in the trumpet-marine you do not stop close, as in other instruments, but touch the string gently with your thumb, by which there is a mutual concurrence of the upper and lower part of the string to produce the sound. Hence it is concluded, that the trumpet-marine yields no musical sound, but when the stop makes the upper part of the string an aliquot part of the remainder, and consequently of the whole; otherwise the vibrations of the parts will stop one another, and make a sound suitable to their motion, altogether confused. Now the aliquot parts, he shows, are the very stops which produce the trumpet-notes.

TRUMPET, Harmonical, is an instrument which imitates the sound of a trumpet, and which resembles it in every thing, excepting that it is longer, and consists of more branches. It is usually called a sackbut.

Editorial note. The next two articles are TRUMPET, Listening or Hearing, and TRUMPET, Speaking. The latter is long and includes much on the acoustics of the sound produced. It is not likely that Burney or Farey Sr were involved.

TUNE, the title of a short melody, or series of notes, in some specific measure. If vocal, it is a ballad; if merely instrumental, it is a country-dance, a jig, or a hornpipe. Our parochial psalmody consists of psalm tunes. The music of the “Beggar’s Opera” is a medley of tunes selected from the streets of all nations, that are never honoured with the name of airs. See BALLAD.

Scotch, Irish, and Welsh songs and dances, are called national tunes. The touadillas and sequidillas of Spain are likewise national tunes; as are the elegant little street-songs of Venice, called Venetian ballads; and such are the pleasing and popular Provençal and Languedocian melodies, very different from the Vaudevilles and ballad tunes of the Pont-neuf and streets of Paris.

Thus far concerns tune as a substantive: as a verb, to tune, is a preparation for the performance of music. A sound may be sweet, clear, and very perfect in itself, yet agree with none of its relatives on any instrument, or in any key: it is then said to be out of tune. The regulator of all sounds in a musical composition is the key note of a diatonic scale, in which every sound must be in tune with all the intervals. “Tune your harps to cheerful strains;” that is, render your harps fit for tune or song. This belongs to intonation, sound, musical tones. Intonazioni perfidi, in Italian, is an expression for false intonation, out of tune, in singing or playing. So in French, intonation vraie, intonation fausse, are musical expressions for true or false intonation. Entonner, in Romish cathedrals, is to give the tone of an anthem, a hymn, with the organ; and in our cathedrals, of the responses.

Our great lexicographer, though no musician himself, has defined the expression, to tune, with true technical accuracy, in saying that it is “to put instruments into such a state, as that the proper sounds may be produced.” Dr. Holder well defines the word tunable, when he says, “all tunable sounds, of which the human voice is one, are made by a regular vibration of the sonorous body, and undulation of the air, proportionable to the acuteness or gravity of the tone.”

Cause and Measure of Tone, or that on which a Tone of a Sound depends. —Sonorous bodies, we find, differ in tone: 1. According to the different kinds of matter; thus the sound of a piece of gold is much graver, than that of a piece of silver of the same shape and dimensions; in which case, the tones are proportional to the specific gravities.

2. According to the different quantities of the same matter in bodies of the same figure; as a solid sphere of brass, one foot in diameter, sounds acuter
than a sphere of brass two feet in diameter; in which case the tones §, proportional to the quantities of matter. See GRAVITY.

Here then are different tones connected with different specific gravities, and different quantities of matter: yet cannot the different degrees of tone be referred to those quantities, &c. as the immediate cause. In effect, the measures of tone are only to be sought in the relations of the motions that are the cause of sound, which are no where so discernible as in the vibrations of chords.

Sounds, we know, are produced in chords by their vibratory motions; not, indeed, by those sensible vibrations of the whole chord, but by the insensible ones, which are influenced by the sensible, and, in all probability, are proportional to them. So that sounds may be as justly measured in the latter, as they could be in the former, did they fall under our senses: but even the sensible vibrations are too small and quick to be immediately measured. The only resource we have, is to find what proportion they have with some other thing: which is effected by the different tensions, or thickness, or lengths of chords, which, in all other respects, excepting some one of these mentioned, are the same.

Now, in the general, we find that in two chords, all things being equal, excepting the tension, or the thickness, or the length, the tones are different; there must, therefore, be a difference in the vibrations owing to those different tensions, &c. which difference could only be in the velocity of the courses and recourses of the chords, through the spaces in which they move to and again. Now, upon examining the proportion between that velocity, and the things just mentioned, on which it depends, it is found to a demonstration, that all the vibrations of the same chords are performed in equal times.

Hence, as the tone of a sound depends on the nature of those vibrations, whose differences we can conceive no otherwise than as having different velocities; and as the small vibrations of the same chord are all performed in equal time; and as it is found true in fact, that the sound of any body arising from one individual stroke, though it grows gradually weaker, yet continues in the same tone from first to last; it follows that the tone is necessarily connected with a certain quantity of time in making every single vibration; or that a certain number of vibrations, accomplished in a given time, constitutes a certain and determinate tone: for the frequenter those vibrations are, the more acute is the tone; and the slower and fewer they are in the same space of time, by so much the more grave is the tone; so that any given note of a tone is made by one certain measure of velocity or vibration, i.e. such a certain number of courses and recourses of a chord or string, in such a certain space of time, constitutes a determinate tone. See SOUND.

This theory is strongly supported by our best and latest writers on music, Dr. Holder, Mr. Malcolm, &c. both from reason and experience. Dr. Wallis, who owns it very reasonable, adds, that it is evident the degrees of acuteness are reciprocally as the lengths of the chords; though, he says, he will not positively affirm, that the degrees of acuteness answer the number of vibrations, as their only true cause: but his diffidence arises hence, that he doubts whether the thing has been sufficiently confirmed by experiment. Indeed, whether the different number of vibrations in a given time be the true cause, on the part of the object, of our perceiving a difference of tone, is a thing which we conceive does not come within the reach of experiment; it is sufficient the hypothesis is reasonable.

TUNE by Water, To. See LASUS, HYPPASUS and WATER

TYMBALES, Fr. kettle drums, instruments of percussion, consisting of two metalline globes covered with parchment; beaten with two drum-sticks, in the form of round hammers or mallets, from eight to nine inches long. The tone is short and dull. They are tuned 4ths to each other. The smallest drum produces the keynote of the compositions in which they are employed, and the largest, the 4th below; as in the key of C the tones are these:

There are braces, by which the pitch can be raised or lowered at pleasure. See DRUM, and KETTLE-Drum.

TYMBRE, Fr. in Music, is a term used to express that quality of tone or sound which renders a voice or instrument rough or smooth, harsh or sweet, coarse or mellow in tone. Sweet-toned instruments seem always feeble, and harsh-toned too loud. A perfect voice or instrument would be that which
united force with sweetness. The quality of tone generally determines our idea of its force. The voice of Manzoli, at once extremely powerful and extremely sweet, was miraculous.

There are perhaps no instruments that can be at once loud and sweet, except those of the violin family, played with a bow; as the violin, tenor, and violoncello.

TYMPANUM, Lat. a drum, in Antiquity; but in modern Music, it is equivalent with tymbales, or a pair of kettle-drums; which see. See Likewise TIMPANO, Ital. for a kettle-drum.

VALEUR des notes; Fr.; Value of Notes, in Music. Besides the position of the notes on the staff, which fix the tone with respect to gravity and acuteness, they have all some peculiarity of figure, which marks their duration as to time, or comparative value as to length. In the ancient primitive time-table, in which all the notes are black or full, except the semibreve and minim, which are white and open, the shortest notes then in use are the longest now, and all that are open. The breve, indeed, equal to two semi-breves, is still to be found in church-music of some antiquity, known by the titles à la breve, or à capella; but in all secular music, the semibreve is placed at the head of the other characters for time; and that note, divided into its aliquot parts, furnishes all the fractions in the most rapid compositions.

The dual measure, or common time, is governed by even numbers; as 2 minims, 4 crotchets, 8 quavers, 16 semiquavers, 32 demisemiquavers, all which only amount to a semibreve.

Triple time, or ternary measure, is governed by the number 3: as \( \frac{3}{2} \), \( \frac{3}{4} \), \( \frac{3}{8} \). In these numbers, the upper figure tel's how many notes there are in each bar, and the under, of what kind in the time-table; as \( \frac{3}{2} \) implies 3 minims, \( \frac{3}{4} \) three crotchets, \( \frac{3}{8} \) three quavers.

One-third is added to the value of a note by a point or dot: as a semibreve equal to two minims, by a point is equal to three; a minim equal to two crotchets, the point makes equal to three, &c. See Musical CHARACTERS, TIME, and Plate Time-table.

It was to John de Muris, who flourished about the year 1330, that the characters for time in music were long ascribed; but on examining and collating MSS. in the several great libraries of Europe, it has been clearly proved that it was not John de Muris who invented these characters, as he himself owns in one of his tracts, but Magister Franco of Colong, author of a treatise “De Musica Mensurabili,” written in the eleventh century, long before De Muris was born; in which the form of the notes is given, and their relative value explained. This very scarce treatise is preserved in the Bodleian library, 842, f. 49. See FRANCO and DE MURIS.

VAUXHALL GARDENS, a well-known place of public amusement in the parish at Lambeth and county of Surrey, which belonged, in 1615, to Jane, widow of John Vaux, between whose two daughters the estate was divided, and passed through various hands, till both moieties were purchased, about the middle of the last century, by Jonathan Tyers, esq. It does not appear at what time this place was first opened for public resort; but we are led to conclude from a paper in the Spectator (No. 388.) and another in the Connoisseur (No. 38.), that it must have been so appropriated in or before the time of queen Anne. Mr. Tyers, who held the premises on lease many years before he bought the estate, opened the Spring Gardens, as they were then denominated, in 1730, and expended large sums in embellishing them. After his death they fell into the possession of several proprietors, of whom the principal is Mr. Barrett. The gardens were, till of late years, opened every evening during a great part of the summer, for the reception of company; but they are now admitted only three times a week. The entertainments consist of music, vocal and instrumental, illuminations, and fire-works, and other exhibitions. See LAMBETH and TYERS.

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VIBRATION

Editorial note: This is part of a longer article discussing the vibration of pendulums.

The vibrations of a stretched chord, or string, arise from its elasticity; which power being of the same kind with that of gravity, the vibrations of a chord follow the same laws as those of pendulums; consequently, the vibrations of the same chord
equally stretched, though they be unequal in length, are equidiurnal, or are performed in equal times: and the squares of the times of the vibrations are among themselves, inversely, as the powers by which they are equally bent and inflected. (See Chord and STRING.) On this subject, see Young’s Philos. vol. ii. p. 546. The sounding body in action quits its tranquil state by slight, but sensible and frequent undulations, each of which is called a vibration. These vibrations, communicated to the air, convey to the ear, by that vehicle, the sensation of sound; and this sound is grave or acute, in proportion as the vibrations are more or less frequent in the same time. See SOUND. - The vibrations of a string (which see), too, are proportionable to the powers by which it is bent: these follow the same laws as those of the chord, or pendulum; and, consequently, are equidiurnal; which is the foundation of spring watches. For Pythagoras’s account of the doctrine of vibrations, see PYTHAGORAS.

VIDE, in Fr. Music, is equivalent to open, in English: as corde à vide, an open string, on instruments with a neck, such as a violin or violoncello; or the sound produced by the whole length of a string from the nut to the bridge, without the pressure of a finger. The sound of open strings is not only more grave or lower in tone than when pressed by the finger, but more sonorous and full; which arises from the softness of the finger which impedes its vibrations: on which account good players on the violin avoid using often strings as much as possible, in order to preserve an equality of tone. But to do this, the performer must know all the shifts, and be well acquainted with the finger-board. See SHIFT and FINGER-BOARD.

VIELLE, a musical instrument, often confounded with the viole, or viol. It is not, indeed, a bowed instrument, like the viol, but its tone is produced by the friction of a wheel, which performs the part of a bow. The strings are pressed on the wheel by the fingers, and sometimes by keys. It is at present a mere street instrument every where but at Paris, where it is much in use with other instruments at the Boulevards and Guinguettes; and even ladies sometimes condescend to learn to play upon it. Kircher gives it no better title than that of lyra mendicorum, the beggar’s lyre. It is so loud in the open air, that it seems impossible to bear it in a room. The itinerant performers on this instrument are generally Savoyards.

The name of the instrument seems a corruption of viole, if it is not the eldest of the two. The Dict. Etymol. says; Viole, Violon, from the Spanish biola and bioline. The Spaniards also say biuela, whence we (the French) have Vielle. It has a neck or finger-board fretted, and two strings, always sounding as drones, tuned fifths or eighths.

VIOL, Viola, a musical instrument, of the same form with the violin, but larger, and having six strings; and struck, like that, with a bow.

The viol played with a bow was very early in favour with the inhabitants of France, and is very different from the vielle (which see), whose tones are produced by the friction of a wheel, which performs the part of a bow.

There are viols of divers kinds. The first and principal among us is the base-viol, called by the Italians viola di gamba, or the leg-viol; because held between the legs. (See GAMBA.) It is the largest of all, and is mounted with six strings. Its neck is divided in half-notes, by seven frets fixed thereon. Its sound is very deep, soft, and agreeable. The tablature, or music for the base-viol, is laid down on six lines, or rules.

What the Italians call alto viola, is the counter-tenor of this; and their tenore viola, the tenor. They sometimes call it, simply, the viol: some authors will have it the lyra, others the cithara, others the chelys, and others the testudo, of the ancients. See VIOLA.

2. The love viol, viola d’amore, which is a kind of triple viol, or violin; having six brass or steel strings, like those of the harpsichord. This yields a kind of silver sound, which has something in it very agreeable. See VIOL D’AMOUR.

3. A large viol, with forty-four strings, called by the Italians viola di bardone; but little known among us.

4. Viola bastardo, or bastard viol of the Italians; not used among us. Brossard takes it to be a kind of base-viol, mounted with six or seven strings, and tuned as the common one.

5. What the Italians call viola di braccio, arm viol; or, simply, braccio, arm; is an instrument answering to our counter-tenor, treble, and fifth violin. See VIOLA.

6. Their viola prima, or first viol, is really the counter-tenor violin; at least, they commonly use the
clef $c\text{-}sol\text{-}ut$ on the first line, to denote the piece intended for this instrument.

7. *Viola secunda* is much the same with our tenor violin; having the clef of $c\text{-}sol\text{-}ut$ on the second line.

8. *Viola terza* is nearly our fifth violin; the clef $c\text{-}sol\text{-}ut$ on the third line.

9. *Viola quarta*, or fourth viol, is not known in England, or France; though we frequently find it mentioned in the Italian compositions; the clef on the fourth line.

Lastly, their *violetta*, or little viol, is, in reality, our triple viol; though strangers frequently confound the term with what we have said of the *viola prima*, *secunda*, *terza*, &c.

**VIOL d’Amour**, an instrument played with a bow, like the violin, of which it has the form. The only one we ever examined was many years ago in the hands of Giardini. It had but four strings, tuned fifths like those of the violin; but underneath these there were four metalline strings of small brass or iron wire, which were called sympathetic strings. These were never touched by the bow, but were caused to vibrate by the sound of the strings over them, when played upon by the bow.

In the Supplement to the first Encyclopædia in folio, another viol d’amour is mentioned with twelve strings, six upon the great bridge, and six upon a smaller bridge below. The six inferior strings are of metal, and tuned octaves to the superior.

**VIOL**, *d’Amour* is also an instrument with seven strings, in the shape of a violin, but larger; it is played with a bow, but the finger-board is fretted. Its tone is sweet, but more feeble than the violin.

**VIOLA**, and **Alto Viola**, the tenor violin. What the contralto is in vocal music, the alto viola is in instrumental. The same clef is used for both: the tenor on the third line. The instrumental tenor, or viol da braccio, as it is often called by the Italians, from its resting on the arm or shoulder, to distinguish it from the viol da gamba, which rests on the leg, is an octave above the violoncello, and five notes below the violin.

These, with the semitones, are all the notes that were given to the tenor during the first fifty years of the last century, in the concertos of Corelli, Gemmiani, and Handel; and the tenor was the instrument to which great violinists retreated, when the hand, and perhaps the eyes, failed. But during the last fifty years of the preceding century, when quartets, *à parti equali*, came into favour, the tenor was made an important instrument; and when played by a Hindmarsh, a Shields, a Stamitz, and by Giardini himself, was as much and as deservedly applauded as the violins and violoncello.

**VIOLIN**, an instrument of four strings, tuned fifths, and played by a bow. It has a neck like the treble viol, but the finger-board has no frets. This may be pronounced the most powerful, the most perfect, and the most useful instrument that has ever been invented. It is in the power of the performer on this sovereign of the orchestra, to make the intonation of all keys equally perfect. We have not been able to trace its antiquity higher than the 16th century. In the beginning of the 17th century it was hardly known to the English in shape or name; and, therefore, that superior power of expressing almost all that a human voice can produce, except the articulation of words, seemed at this time so utterly impossible, that it was not thought a gentleman’s instrument, or one that should be admitted into good company. Viols of various sizes, with six strings, and fretted like the guitar, began indeed to be admitted into chamber-concerts: for when the performance was public, these instruments were too feeble for the obtuse organs of our Gothic ancestors; and the low state of our regal music in the time of Henry VIII. 1530, may be gathered from the accounts given in Hall’s and Hollingshead’s Chronicles, of a masque at cardinal Wolsey’s palace, Whitehall, where the king was entertained with “a concert of drums and fifes.” But this was soft music compared with that of his heroic daughter Elizabeth, who, according to Henxner, used to be regaled during dinner “with twelve trumpets and two kettle-drums; which, together with fifes, cornets, and side-drums, made the hall ring for half an hour together.” Itinerarium, edit. 1757, Strawberry-Hill.

It has long been a dispute among the learned, whether the violin, or any instrument of that kind, as now played with a bow, was known to the an-
cients. The little figure of Apollo, playing on a kind of violin, with something like a bow, in the grand duke's tribuna at Florence, which Mr. Addison and others supposed to be antique, has been proved to be modern by the abbé Winckelmann and Mr. Mings. So that as this was the only piece of sculpture reputed ancient, in which anything like a bow could be found, nothing more remains to be discussed relative to that point. With respect to an instrument with a double neck, besides that on the broken obelisk at Rome, and one from a sepulchral grotto in the ancient city of Tarquinia, there is an antique painting in the collection of William Locke, esq. which consists of a single figure, supposed to be a muse, with an instrument nearly in the form of a modern violin, but the neck is much longer, and neither bow nor plectrum are discoverable near it. This, as Dr. Burney apprehends, may have been a chelys, which was a species of guitar, either thummbred by the fingers, or twanged with a quill. The ancients had, indeed, instead of a bow, the plectrum; but in all the representations which painting and sculpture have preserved of this implement, it appears too clumsy to produce from the strings tones that had either the sweetness or brilliancy of such as are drawn from them by means of the bow or quill. Dr. Burney supposes, though it is represented so massive, that it was a quill, or piece of ivory in imitation of one, rather than a stick or blunt piece of wood or ivory 3 and, indeed, virgil tells us, En. vi. 647, that it was made of ivory. Burney's Hist. Mus. vol. i.

The origin of the violin, according to the French account, is unknown. It is only supposed to have been invented about the ninth or tenth century, to which opinion we should have subscribed, had not some ancient monuments remained with an exact representation of its form. In the pictures of Philostratus, p. 85, in an ancient grotto, may be seen many violins which are represented much like those of the present times, except that the neck is shorter.

Amphion is there represented, p. 76, playing upon a kind of viol or violin with five strings, and with a bow like ours, and quite different from the plectrum of the ancients. It is believed that Athenæus means the bow, when he says, "the sceptre is one thing and the plectrum another." It is imagined that by the sceptre he means the bow, which is very probable, especially after the ancient monuments of which we have preserved the figure. The pit or grotto, on the walls of which we see violins like the present, is found on silver medals which were struck by order of Scribonius Libo, a very considerable personage at Rome. An account of these may be seen in Pierre Valerien, author of the Hieroglyphics, book 47.

This is all that antiquity has preserved concerning the violin, and, says the author, it is so little, that we learn nothing from it.

The rebec is the most ancient violin in France; it had but three strings, and the romancers and troubadours frequently mention it. A figure of the minstrel Colin Muset, is still preserved at the entrance of the church of St. Julien des Menestriers, at Paris, playing on the rebec.

The time is not known when a fourth string was added to this instrument. It is still used in its primitive state as a trichord in Turkey and other Eastern countries; the oldest violins we have in France are not more ancient than the time of Charles IX. made at Cremona by the famous Amati, which are still of the best model possible. Laborde, tom. i.

The violin seems to have been brought into favour at the court of France before any honourable mention is made of it elsewhere, by the arrival of Baltazarini, a great performer on that instrument; who, at the head of a band of violin-players, was sent from Piedmont by marshal Brissac to Catherine de Medicis, and appointed by that princess her first valet de chambre and superintendent of her music. Galilei (Dial. p. 147.) says, that "both the violin and base, or violincello, were invented by the Italians, perhaps by the Neapolitans;" and we are unable to confute that opinion. Corelli's violin, long in the possession of Giardini, was made in 1578, and the case painted by Annibal Caracci, probably several years after the violin was finished, at which time Anib. Carach was but eight years old. Montagne, who was at Verona in 1580, says that there were organs and violins to accompany the mass in the great church. Journ. du Voyage.

The restoration of monarchy and episcopacy seems to have been not only favourable to sacred music, but secular; for it may be ascribed to the particular pleasure which king Charles II. received from the gay and sprightly sound of the violin, that this
During the last century, almost all the great violinists of Europe, except Somis and Tartini, have visited this country; but Giardini, at one time perhaps the best performer in Europe, residing here so many years, formed a school which furnished our orchestras with a greater number of able performers on that instrument, than can be found in the capital of any other kingdom in Europe. And we may venture to assert from our own knowledge, that the lowest ripieno in the opera orchestra at present, has more hand, and is a better sight's-man, than the leader of that band in Festing’s time.

The violin consists, like most other instruments, of three parts; the neck, the table, and the soundboard. At the side are two apertures, and sometimes a third towards the top, shaped like a heart.

Its bridge, which is below the apertures, bears up the strings, which are fastened to the two extremes of the instrument; at one of them by a screw, which stretches or loosens them at pleasure.

The style and sound of the violin are the gayest and most sprightly of all other instruments; and hence it is, of all instruments, the fittest for dancing. Yet there are ways of touching it, which render it grave, soft, languishing, and fit for church or chamber music.

It generally makes the treble, or highes’ parts in concerts. Its harmony is from 5th to 8th. Its play is composed of base, counter-tenor, chor, and treble i to which may be added a fifth part: each part has four 5ths, which rise to a greater 17th.

In compositions of music, violin is expressed by V: two VV denote two violins.

The word violin, alone, stands for treble violin: when the Italians prefix alto, tenore, or basso, it then expresses the counter tenor, tenor, or base violin.

In compositions where there are two, three, or more different violins, they make use of primo, secondo, terzo, or of the characters I° II° III°, or 1° 2° 3°, &c. to denote the difference.

The violin has only four strings, each of a different thickness, the smallest of which makes the e si mi of the highest octave of the organ; the second, a fifth below the first, makes the a mi la; the third, a fifth below the second, is d la re; lastly, the fourth, a fifth below the third, is ge re sol. Most nations, ordinarily, use the clef ge re sol on the second line, to denote the music for the violin; only, in France, they use the same clef as the first line at bottom: the first of these methods is best, where the song goes very low; the second where it goes very high.

Mersennus speaks of the tenor and contra-tenor violin, which, he says, differ only in magnitude from the treble violin. But we have at present no such instrument in use as the contra-tenor violin; the part proper to it being with ease performed on the violin; and accordingly in concertos, overtures, and other instrumental compositions of many parts, the second violin is in reality the counter-tenor part. It is much to be doubted, says sir John Hawkins (Hist. Mus. vol. iv. p. 115) whether the counter-tenor violin ever came into England. Anth. Wood, speaking of
the band of Charles II, makes no mention of the contra-tenor violin. Before the restoration of Charles II, says he, and especially after, viols begun to be out of fashion, and only violins used, as treble violin, tenor and base violin; and the king, according to the French mode, would have twenty four violins playing before him while he was at meals, as being more airy and brisk than viols.

VIOLINI Piccolo, Ital, a kit, or the pocket-violin of dancing-masters.

VIOLINO Scordato, Ital., a fiddle out of tune.

VIOLONCELLO, the diminutive of violone, contra-basso, or double-base. The violoncello is the natural base to the violin and tenor, and has been very much cultivated throughout Europe, and no where more successfully than in England, during the last century, in proportion as the base-viol or six stringed base lost its favour. The last English performer on the viol di gamba, who was favourably noticed, was Miss Ford, afterwards Mrs. Thickness; but she made little more use of it than in accompanying her voice, which she did with great expression and effect. But Abel, in spite of the natural defects of the instrument, the tone of which every one disliked, by his exquisite taste, prodigious execution when he pleased, genius, and profound knowledge of composition, delighted all hearers, and made them forget, or at least forgive, its querulous and nasal quality of tone. The instrument now is as dead as this great musician, and seems to have departed this life at the same time.

The first performer on the violoncello in our memory, who was always heard with pleasure, was Caporale, whose chief excellence was his fine tone. Gordon and Paxton had considerable merit of that kind. The elder Cervetto and Pasqualino, both defective in tone, had what was then thought considerable execution and knowledge of the finger-board; but Crosdi and the younger Cervetto became in all respects the most complete and delightful performers on the violoncello, which not only England but all Europe can boast. So equally perfect in all things else are these admirable artists, that the fire of the one, and the vocal tone of the other, can alone distinguish them. But, to the great regret of the public, they have retired from all professional exercise of their talents. We have however many performers on the violoncello for general business, who would have been thought wonderful players formerly; and to console us a little for the loss of Cervetto and Crosdil, a Linley, who in every requisite of a great player, may be pronounced wonderful at present (1804.)

VIOLONE, a double-base almost twice as big as the common base-violin, and the strings bigger and longer, in proportion; and, consequently, its sound an octave lower than that of our base-violin; which has a noble effect in great concertos; but this depends upon the number of strings, and the manner of taking then; some performers using four strings, and other three; and in the tuning of these there is a considerable difference. The true use of the violone is to sustain the harmony, and in this respect it has a noble effect: divided bases are improper for it, the strings not answering immediately to the percussion of the bow: these can only be executed with a good effect on the violence lio, the sounds of which are more articulate and distinct.

VIOLONISTA, Ital., a performer on the violin.

VIRGINAL is a keyed musical instrument of one string, jack, and quill to each note, like a spinet; but in shape resembling the present small piano-forte. It has been imagined to have been invented in England during the reign of queen Elizabeth, and to have been thus denominated in honour of that virgin princess; but we have here not only a proof of its use in this kingdom before she was queen, but a drawing and description of it appeared in Luscinius’s Musurgia, before she was born. Dr. Johnson imagines that this instrument had its name from being chiefly cultivated by young ladies.

VIRGINAL-Book of Queen Elizabeth. See Queen ELIZABETH, and BIRD.

VIRGINAL-Book of Lady Nevil. See BIRD.

For the first music that was printed for the virginal, see PARTHENIA.
UMBRELLA, in *Rural Economy*, a well-known shade or guard from the sun or rain, formed by stretching silk, canvas, or any other linen or woollen stuff, over elastic strips of whalebone, so disposed as to diverge from a central point and make a circular covering, which may by means of a rod or staff passing through the centre be held over the head, when occasion requires it, or which may be drawn up round this rod and conveniently carried in the hand. These temporary guards from heat or wet have not long been introduced into our country, but they have been found so convenient and useful that they are now become very common. They seem to have been of much more ancient use in the East. M. de la Loubere, who was envoy extraordinary for the French king to the king of Siam, in the years 1687 and 1688, informs us in his "New Historical Relation of the Kingdom of Siam," a translation of which into English was printed at London in 1693, that the use of umbrellas, in Siamese Roum, was a favour which the king of Siam did not grant to all his subjects, although the umbrella be permitted to all the Europeans. Those which are like to ours, or which have only one round, were the least honourable, and were used by most of the Mandarins. Those that had more rounds about the same handle, as if they were several umbrellas fixed one upon another, were for the king alone. Those which the Siamese called "clot," and which had only one round, having two or three painted cloths suspended from them, one lower than the other, were granted by the king of Siam to tie "Sancrats," or superiors of the Talapoins." Those which he gave to the king's ambassadors were of this last sort, and had three cloth hangings. The Talapoins had umbrellas in the form of a screen, which they carried in their hands. They were formed of a kind of palmetto leaf cut round and folded, and the folds were tied with a thread near the stem, and the stem was made crooked like an S, and served for a handle. In the Siamese language they called them u Talapat," and it is probable, says Loubere, that from hence comes the name of "Talapoi" or "Talapoin," which is in use only among foreigners, and which is unknown to the Talapoins themselves, whose Siamese name is "Tchaou-cou."

An umbrella held in a proper position over the head, may serve to collect the force of a distant sound by reflection, in the manner of a hearing-trumpet; but its substance is too slight to reflect any sound very perfectly, unless the sound fall upon it in a very oblique direction. The whispering gallery at St. Paul's produces an effect nearly similar, by a continual repetition of reflections. Mr. Charles's paradoxical exhibition of the invisible girl has also been said to depend on the reflection of sound; but the deception is really performed by conveying the sound though pipes, artfully concealed and opening opposite to the mouth of the trumpet from which it seems to proceed. Young's Philosophy.

**UNDULATION,** or **Beat,** in *Music,*

*Editorial note: A scientific article by John Farey Sr.*

[This] is used for that rattling or jarring of sounds, which is observed, chiefly, when discordant notes are sounded together. See BEATS.

The phenomenon is more fully described thus, by Dr. Smith. In tuning musical instruments, especially organs, it is a known thing, that while a consonance is imperfect, it is not smooth and uniform, as when perfect, but interrupted with very sensible undulations or beats; which, while the two sounds continue at the same pitch, succeed one another in equal times, and in longer and longer times, while either of the sounds approach gradually to a perfect consonance with the other, till at last the undulations vanish, and leave smooth uniform consonance.

Smith's Harmonics, p. 107. See HARMONICS.

This learned author observes farther, that quicker undulations are beats, and are remarkably disagreeable in a concert of strong, treble voices, when some of them are out of tune; or in a ring of bells ill tuned, the hearer being near the steeple; or in a full organ badly tuned. Nor can the best tuning wholly prevent that disagreeable battering of the ears with a constant rattling noise of beats, quite different from all musical sounds, and destructive of them, and chiefly caused by the compound stops called the cornet and sesqui-alter, and by all other loud stops of a high pitch, when mixed with the rest. But if we be content with compositions of unisons and octaves to the diapason, whatever be the quality of their sounds, the best manner of tuning will render the noise of their beats inoffensive, if not imperceptible.

The doctor has with great ingenuity deduced the theory of these undulations from his principles, and
has applied his doctrine to the tuning of instruments; by which he has shewn, that a person of no ear at all for music may soon learn to tune an organ, according to any proposed temperament of the scale, and to any desired degree of exactness, far beyond what the nicest ear, unassisted by theory, can possibly attain to. This may be done by counting the number of undulations in a certain time, such as fifteen seconds. See the treatise before cited, prop. xv. p. 215. and the Table, p. 244. plate 20.

From this ingenious theory the learned author has demonstrated several errors in what monsieur Sauveur has delivered concerning these undulations or beats. See Harmonics, Scholium 2. p. 115.

In the same treatise we find some curious observations relating to the analogy of audible and visible undulations. See p. 128. 273.

UNISON, in Music,

[This] is the effect of two sounds, which are equal, in degree of tune, or in point of gravity and acuteness.

Unison may be defined a consonance of two sounds, produced by two strings, or other bodies of the same matter, length, thickness, and tension, equally struck and at the same time; so that they yield the same lone or note.

Or it is the union of two sounds so like each other, that the ear, perceiving no difference, receives them as one and the same sound. See SOUND.

What constitutes unisonance is the equally of the number of vibrations of the two sonorous bodies in equal times; where there is an inequality in that respect, and, of consequence, an inequality in degree of tune, the unequal sounds constitute an interval.

Since isochronous vibrations produce sounds that are musical, and that are said to continue at the same pitch, and slower vibrations produce graver, flatter, or lower sounds, and quicker vibrations produce sounds that are acuter, sharper, or higher; it follows, that if several strings, however different in length, thickness, density, and tension, or other sounding bodies, vibrate all together in equal times, their sounds will have one and the same pitch, however they may differ in loudness, or other qualities, and are, therefore, called unisons; and, on the contrary, the vibrations of unisons are isochronous. This observation reduces the theory of all sorts of musical sounds to that of the sounds of a single string, with respect to gravity or acuteness. Consequently, the wider and narrower vibrations of a musical string, or of any other body sounding musically, are all isochronous very nearly: otherwise, while the vibrations decrease in breadth till they cease, the pitch of the sound could not continue the same as we perceive it does, if the first vibrations be not too large; in which case, the sound is a little acuter at the beginning than afterwards. In like manner, since the pitch of the sound of a string or bell, or other vibrating body, does not sensibly alter, while the hearer varies his distance from it; it follows, that the larger and lesser vibrations of the particles of air, at smaller and greater distances from the sounding body, are all isochronous; and consequently, that the little spaces described by the vibrating particles are every when proportional to the celerity and force of their motions, as in a pendulum; and this difference of force, at different distances from the sounding body, causes a difference in the loudness of the sound, but not in its pitch. It follows also, that the harmony of two or more sounds, according as it is perfect or imperfect at any one distance, will also be perfect or imperfect at any other distance; and this is a known fact, e. gr. in a ring of bells. It two musical strings (see String) have the same thickness, density, and tension, and differ in length only, mathematicians have demonstrated, that the times of their single vibrations are proportional to their lengths. Hence, if a string of a musical instrument be stopped in the middle, and the sound of the hall be compared with that of the whole, we may acquire the idea of the interval of two sounds, whose single vibrations (the times) are in the ratio of 1 to 2; and by comparing the sounds of $\frac{2}{3}, \frac{3}{4}, \frac{3}{4}, \frac{4}{5}, \frac{4}{5}, \frac{5}{6}, \frac{5}{6}, \frac{6}{7}, \frac{6}{7}, \frac{9}{8}, \frac{9}{8}, \frac{10}{9}$, &c. of the string with the sound of the whole, we may acquire the ideas of the intervals of two sounds, whose single vibrations are in the ratio of 2 to 3, 3 to 4, 3 to 4, 4 to 5, 4 to 5, 5 to 6, 8 to 9, and 9 to 10, &c. See CHORD. Smith's Harmonics, p. 2, &c.

Unison is the first and greatest of concords, and the foundation, or, as some call it, the mother of all the rest; yet others deny it to be any concord at all, maintaining it to be only that in sounds, which unity is in numbers.
These restrain the word concord to intervals, and make it include a difference of tune; but this is precarious; for as the word concord signifies an agreement of sounds, it is certainly applicable to unisons in the first degree.

But though unisonance, or an equality of tune, makes the most perfect agreement of sound, it is not true that the nearer any two sounds come to an equality of tune, they are the more agreeable. The mind is delighted with variety; and the reason of the agreeableness or disagreeableness of two sounds must be ascribed to some other cause than the equality or inequality of the number of their vibrations.

It is a famed phenomenon in music, that an intense sound being raised, either with the voice, or a sonorous body, another sonorous body near it whose tune is either unison, or octave, to that sound, will sound its proper note unison, or octave, to the given note.

The experiment is easily tried by the strings of two instruments; or by a voice and an harpsichord; or a bell, or even a drinking glass.

This our philosophers account for thus: one string being struck, and the air put in motion thereby; every other string, within the reach of that motion, will receive some impression therefrom: but each string can only move with a determinate velocity of recourses or vibrations; and all unisons proceed from equal, or equidiurnal vibrations; and other concords from other proportions. The unison string, then, keeping equal pace with the sounding string, as having the same measure of vibrations, must have its motion continued, and so still improved, till its motion become sensible, and it give a distinct sound. Other concording strings have their motions propagated in different degrees, according to the frequency of the coincidence of their vibrations with those of the sounded string: the octave, therefore, most sensibly; then the fifth; after which, the crossing of the motions prevents any effect.

This they illustrate (as Galileo first suggested) by the pendulum, which being set a moving, the motion may be continued and augmented, by making frequent, light, coincident impulses; as blowing on it when the vibration is just finished: but if it be touched by any cross or opposite motion, and this, too, frequently, the motion will be interrupted, and cease altogether. So of two unison strings, if the one be forcibly struck, it communicates motion, by the air, to the other; and both being equidiurnal in their vibrations, that is, finishing them precisely together, the motion of that other will be improved and heightened, by the frequent impulses received from the vibrations of the first, because given precisely when that other has finished its vibration, and is ready to return: but if the vibration of the chords be unequal in duration, there will be a crossing of motions, less or more, according to the proportion of the inequality; by which the motion of the untouched string will be so checked, as never to be sensible. And this we find to be the case in all concordances, except unison, octave, and the fifth. See Chord.

UNISSONI, Ital. This word written at full length, or abridged over an empty stuff in a score, if over the second violin, implies that it is to play unison with the first; if over the first violin in vocal music, that it is to play in unison with the voice.

UNITY of Melody. This is an ingenious idea, which we think merits a place among musical desiderata: it was first suggested and recommended by Rousseau, in his Letter on French Music, 1751, and afterwards enforced in his Musical Dictionary, in the following manner. "There is in all the fine arts some object of unity, or symmetry, the source of intellectual pleasure: for attention divided by two different objects, has no repose; and when two objects occupy us at once, it is a proof that the mind is satisfied with neither. (Baretti used to say that two misfortunes were better than one, because they divided the attention.) There is in music a successive unity with respect to the subject, by which all the parts well combined constitute a whole, whence we perceive the ensemble and all its relations.

"But there is another more refined and more simultaneous object of unity, whence there insensibly arises the energy of music and force of its expressions.

"When I hear our psalms sung in four parts, I begin to listen with great delight at the full and nervous harmony; and the first chords, when they are perfectly in tune, affect me even to shivering; but before I have listened many minutes to the rest, my attention diminishes, till by degrees I am stunned with the noise; I become indifferent, and, at length, tired with hearing nothing but chords.
"This does not happen when I hear good modern music, though the harmony is not so vigorous, and I remember at the opera in Venice, a beautiful air well executed never tired me. Whatever was its length; and if repeated, my attention was renewed, and I heard it with more interest the second time than the first.

"This difference arises from the character of the two musics, of which one is only a succession of chords, and the other a series of single sounds in melody. Now the pleasure which we receive from harmony, is only that of pure sensation, and the enjoyment of the senses is always short. Satiety and fatigue follow each other very closely; but the pleasure from melody, is an interesting pleasure of sentiment which speaks to the heart, and which an artist may always sustain and renew by force of genius.

"Music ought therefore necessarily to sing, in order to interest, please, and support the attention. But in our systems of chords and mere harmony, can music sing, or have any interesting melody? If each part has its own melody, all these melodies heard at once, mutually destroy each other, and annihilate all melody: if all the parts perform the same melody, we shall have no harmony, and the concert will be wholly in unison.

"The manner in which a musical instinct, a certain impulse of genius, has vanquished this difficulty without seeing it, and at the same time turned it to advantage, is very remarkable. Harmony, which, abused, would suffocate melody, animates, enforces, and gives it a character: the different parts, judiciously arranged, concur in producing the same effect, and though each seems to have a melody of its own, from all these parts united, we hear only one and the same melody. This is what I call unity of melody.

"Let us now explain how harmony itself, far from injuring, concurs in supporting this unity. Our melodies are characterized by our keys and measures, and our keys are governed by harmony. Whenever the harmony enforces and determines the sentiment of the mode or key and the modulation, it adds to the expression of the melody, provided it does not cover and render it insignificant.

"The composer's art, therefore, after rendering himself a master of harmony and modulation, should be principally pointed to the unity of melody. 1. When the key is not sufficiently determined in the melody, to render it more certain by the harmony. 2. To select and use his chords in such a manner, that the most interesting sound should be always in the principal melody, and that its interest should arise from the base. 3. To add to the energy of each passage by harsh chords, if the expression is harsh, and by pleasing chords, if the expression is sweet. 4. To pay attention in the style of the accompaniment to the piano and forte of the melody: and 5. To contrive that the melody of the parts of accompaniment do not counteract the principal, out sustain, second, and give it a more lively and marked accent.

"The unity of melody particularly requires that two melodies equally interesting should not be heard at the same time, but not that the melody should never pass from one part to another. (In the quartets of Haydn, Mozart and Pleyel, there is nothing more amusing to the bearers, or more flattering to the performers, than giving the melody alternately to the different parts, in the way of dialogue.) But a treatise would be necessary to show in detail the application of this principle to duos, trios, quartets, choruses, and symphonies. Men of genius will discover its extent and use, and their works will instruct others. I therefore conclude by asserting, upon the principle which I have been trying to establish; first, that all music which does not sing is tiresome, in whatever harmony it may be clothed; secondly, that all music in which many different simultaneous parts are distinguished, is bad, and that there results from it the same effect as from two or more people speaking upon different subjects at the same time. From this opinion, which admits of no exception, will be pointed out what we ought to think of those wonderful compositions, where one air serves for an accompaniment to another.

"It is from this principle of the unity of melody, which the Italians have felt and followed without knowing it, but which the French have neither known nor followed; it is, I repeat it, from this grand principle, that the essential difference of the two musics arises; and it is, I believe, what every impartial judge will allow, who shall listen to both with equal attention, if however that is possible."

UNIVOQUE, Fr., in Music. Univocal concords are the octave, and its recurrences or repetitions above
or below, as they never change their name or effect. Ptolemy was the first who gave them this appellation.

VOCAL Music, is music set to words, especially verses, and to be performed with the voice: in contradistinction to instrumental music, composed only for instruments, without singing.

poetry then makes a necessary part of vocal music; and this appears to have been the chief, if not the only practice of the ancients, from the definitions which they give us of music.

Their vocal music seems to have had some advantage over ours, in that the Greek and Latin languages were better contrived to please the ear than the modern ones. In effect, Vossius taxest all the later languages as unfit for music; and says, "We shall never have any good vocal music till our poets learn to, make verses on the model of the ancients;" i. e. till the ancient metrical feet and qualities are restored.

But it is to be observed, that the rhythmus of their vocal music was only that of their poetry, and had no other forms and mutations than what the metrical art afforded.

Their changes were no other than from one kind of metrum or verse to another, as from iambic to choracic. See MEASURE and RHYTHMUS.

Their vocal music, then, consisted of verses set to musical tunes, and sung by one or more voices, in chorus, or alternately; sometimes with, and sometimes without the accompaniments of instruments. As for instrumental music, in the manner we have defined it, there is not very clear that they ever had any. See SYNAULIA, &c.

VOCE SOLA, in the Italian Music, denotes a piece composed for a single voice, generally accompanied with a thorough-base on the harpsichord or organ, without other instruments. But if, besides that it is to be accompanied by other instruments, they add, con violini, with violins; duo violini, e violoncello, e basso per l’organo, i. e. with two violins, a base violin, and a thorough base on the organ; con violini o strumenti, i. e. with violins or instruments; parti con, parti senza violini, i. e. part with, part without violins, &c.

VOICE, VOX in Physiology

Editorial note: Concluded with passages by Burney.
present marquis. The ode is in Dodsley’s Collection, and in Thomson’s Works. Oswald, the celebrated player of old Scots tunes on the violoncello, and composer of many new, passed for the inventor of the Æolian harp; but as he was unable to read the account of it in the Musurgia, written in Latin, Thomson gave him the description of it in English, and let it pass for his invention, in order to give him a better title to the sale of the instrument at his musics hop in St. Martin’s Church-yard.

M. Ferrein was of opinion, that there are strings in the lips of the glottis, capable of lengthening and shortening, and vibrating and sounding, like those of stringed instruments. His opinion surprises at first, and seems paradoxical; but he has supported it by experiments, which cannot easily be eluded. According to him, the organ of voice is at once a stringed and a wind-instrument. The air which comes from the lungs, and which passes through the glottis, performing the office of a bow upon the tendinous fibres of its lips, M. Ferrein calls vocal strings or ribands of the glottis. By the violent collision of the air against these vocal strings, they are put in motion; and it is by their quick and slow vibrations that they produce tones differing in gravity and acuteness, in proportion as they are more or less extended, according to the common and well-known laws of stringed instruments.

Mr Ferrein has made a thousand experiments before the before the Academy, and individuals in confirmation of his doctrine, as well upon the human subject as upon different animals. He took the trachea arteria from the dead body of a man destined for dissection, with his larynx, and blew into the trachea, holding at the same time the ribands, as he calls them, of the glottis lengthened or shortened, and the human voice was heard to rise or fall in cone, or remain stationary, in proportion to these circumstances.

And it is very remarkable, that, contrary to the expectation of Ferrein, the different voices produced, in the course of these experiments, were so like those of the particular animals upon whose organs they were made, that they were always to be discovered and distinguished one from the other. The roaring of a bull, the cry of a dog in pain &c. were constantly discoverable, notwithstanding the want of innumerable parts used in modifying these sounds in living animals, such as the palate, the teeth, lips, &c. The larynx torn from the animal was usually mutilated, and sometimes without the epiglottis, as well as all the bits of cartilages surrounding or covering the glottis and vocal strings, which were removed in order to exhibit more plainly the visible play and vibrations of these strings; and notwithstanding all these defects, the voice of each animal preserved almost every peculiarity of sound which distinguishes it from that of other animals.

M. Ferrein says, that the necessary tension, or lengthening and shortening of the vocal strings, for the purpose of forming the whole extent of the human voice, is not above two or three lines, or twelfth parts of an inch.

In common stringed instruments, lengthening a string makes it flatter, or of a tone more grave; and shortening it has a contrary effect: but with respect to these vocal strings it is quite different; for they are rendered more acute by being lengthened, as at the same time their tension is increased.

Many have gone through M. Ferrein’s experiments with success; though Haller says that he himself was not so happy, not having been able to produce different voices of animals, as others had done, by blowing on the ribands. (See Eloge de M. Ferrein, in the Hist, de l’Acad. Royal des Sciences for the year 1769, published 1772, p. 15.) M. Ferrein was a physician and professor of anatomy and surgery, who died at Paris in 1769.

If a pipe could be formed to resemble the vocal organ, as described by M. Ferrein, we might hope for a true and exact imitation of the human voice, which has never yet been attained, owing perhaps to the mistaken notion of the voice being a kind of flute or mere wind instrument.

**VOICE, Part of the, in Music. See PART.**

**VOICE of a Singer, Accidents and Disorders to which it is liable.** The air received in the lungs, and expelled by compression of the chest, passing through the aperture of the larynx gently closed, produces a sound, which afterwards, by the modulation of the tongue and other parts of the mouth, form the voice of a singer; and as many things concur in this formation, such as the breast, the diaphragm, the lungs, the wind-pipe, the uvula, or palate, the tongue, the teeth, and the mucosity which lubricates the several parts, all subject to a number of acute and chronical
disorders, which, though it may not be necessary to specify here, it seems expedient that vocal performers should be apprized of the accidents to which the voice is liable, to put them on their guard; and the public, to incline them to pity and tolerate what the utmost care cannot always avoid.

Natural defects in the voice are incurable, such as being of a coarse quality, husky, inflexible, and out of tune.

VOLTA, in the Italian Music, shews that the part is to be repeated one, two, or more times, according to the numeral adjective joined with it: thus, *si replica una volta*, intimates to play that part once over again.

VOLTA is also a sort of dance of Italian origin, in which the man turns the woman several times, and then assists her to make a leap or jump. It is a species of galliard.

VOLTARE, Ital. in Music-books, to turn over; whence *volti*, turn, *volti subito*, turn quick, and often only the initials of these words V. S. *Si volti*, at the end of a movement, denote, the leaf is to be turned over to another movement. And, in courtesy, it is sometimes said, *volti se place*, turn over if you please.

VOLUME de Voix, in French Music, is the compass or extent of a voice from its lowest, or most grave sound, to the most acute. According to Rousseau, the common compass of voices is only eight or nine notes. There have been voices that have extended to the common compass of voices is only eight or nine notes. There have been voices that have extended to the most acute. According to Rousseau, or extent of a voice from its lowest, or most grave sound, to the most acute. According to Rousseau, sometimes said, *volti se place*, turn over if you please.

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VOLUME de Voix, in French Music, is the compass or extent of a voice from its lowest, or most grave sound, to the most acute. According to Rousseau, the common compass of voices is only eight or nine notes. There have been voices that have extended to two octaves of real voice, *voce dì petto*; and Agujari, with the addition of two or three notes in falset, had a compass of three octaves.

There is another expressive acceptance of the word *volume* in speaking of a great voice: as it was justly said of Manzoli’s vocal organ, that it was a volume of voice.

VOLUNTARY, in Music, a piece played by a musician, extempore, according to his fancy. This is often used before he begins to set himself to play any particular composition, to try the instrument, and to lead him into the key of the piece he intends to perform. See RESEARCH.

In these performances, we have frequently heard great players produce passages and effects in fits of enthusiasm and inspiration, that have never appeared on paper. In these happy moments

"Such sounds escape the daring artist's hand
As meditation never could command;

And though the slaves to frigid rules may start,
They penetrate and charm the feeling heart."

In the Philosophical Transactions, N°. 483, sect. 2, we have a method of writing down extemporary voluntaries, or other pieces of music, as fast as any master can play them on the organ, or harpsichord; and that in a manner expressive of all the varieties those instruments are capable of. This is performed by a cylinder, turning equally upon its axis, under the keys of an organ, and by having points under the heads of the keys. Hence, when they are pressed down, they will make a scratch or mark on the cylinder, which may shew the duration of the note; and the situation of this mark on the cylinder will shew what note was touched. For farther particulars we refer the curious to the Transaction itself.

VOX Humana, Lat., Voix Humaine, Ft., a stop in the organ; thus named from its being an imitation of the human voice. It is a reed stop, in unison with the open diapason: it is a short metal pipe, of a wide globular form at the top, resembling a human mouth. This is a celebrated slop in the famous organ at Hærlem; in hearing which we were somewhat disappointed, as it does not at all resemble a human voice, though a very good stop of the kind. But the world is very apt to be imposed upon by names. The instant a common hearer is told that an organist is playing upon a stop that resembles a human voice, he supposes it to be very fine, and never inquires into the propriety of the name, or exactness of the imitation. However, with respect to our own feelings, we must confess, that of all the stops which we have yet heard, that have been honoured with the appellation of *vox humana*, no one, in the treble part, has ever reminded us of any thing human, so much as the cracked voice of an old woman of ninety; or, in the lower notes, of Punch singing through a comb.

WAITS, in Music, attendant musicians on great personages, mayors, and bodies corporate, generally furnished with superb dresses, or splendid cloaks. We have an account in Rymer’s Fœdera, (tom. ix. “De Ministrielles propter Solatium Regis providendis,”) and in the “Liber niger Domus Regis,” of the establishment of the minstrels and waits, in the service of the court during the reign of Edward IV. The account of the allowances to the waits at this early period is curious.
"A wayte, that nightelye from Mychelmas to Shreve Thorsdaye pipe thee the watche withen this courte fower tymes; in the somere nyghtes ij tymes, and make the bon gayte at every chamber-doare and office, as well for feare of pyckeres and pillers. He eateth in the halle with mynstrielles, and taketh ly verey at nighte a loffe, a galone of ale, and for somere nightes ij candles pich, a bushel of coles; and for wintere nightes half a loaf of bread, a galone of ale, iiiij candles piche, a bushel of coles, a daylye whilste he is presente in courte for his wages in cheque roale allowed iiiij d. ob. or else iiiij d. by the discresahon of the steuarde and tressorere, and that, after his comings and diseruinge; also cloathinge with the houshold yeo-
- men or mynstrielles lyke to the wages that he taketh; and he be syke he taketh twoe loves, ij mesee of great inete, one gallon of ale. Also he partethe with the housholde of general gyfts, and hathe his beddinge carried by the comptrollers as-
- symt; and under this yeoman to be a groome watere. Yf he can excuse the yeoman in his absence, then he take the rewardre, clotheinge, meate, and all other things lyke to other grooms of houshold. Also this yeoman-waighte, at the makinge of knightes of the bathe, for his attendance upon them by night-
tyme, hathe to bia fee all the watchinge-clothing that the knight Shall wear upon him."

WALSINGHAM, a tune in queen Elizabeth's Vir-
ginal Book, with thirty variations by Dr. Bull; so difficult that the famous singer, Margarita, after she had quitted the stage, and was married to Dr. Pe-
pusch, though she became a great harpsichord player, could never entirely conquer them. See VIR-
GINAL Book of queen Elizabeth and Dr. BULL. We at first imagined that this tune might have had its name of Walsingham, from the composer of whom we have been speaking in the preceding ar-
ticle; but find that in Ward's Lives of the Prof, of Gres. Coll. it is said to have been first composed by Birde, with twenty variations and that Bull com-
posed his variations at different times. Afterwards, we thought then that the name might have been a compliment to Sir Francis Walsingham, the queen's minister; but that idea was relinquished on finding that it was the tune of an old song, beginning, "As I went to Walsingham," in queen Elizabeth's book; and "Have with you to Walsingham," in lady Nevil's Virginal book) where it is inserted with twenty-two variations by Birde. Now it is well known by tradi-
tion, in Norfolk, that Henry VIII., previous to the suppresstion of the monasteries, visited that of our lady of Walsingham, so rich in votive gifts from those who had been cured of diseases, or imagined themselves cured, by the waters of the holy well, that it has been supposed that Henry, tempted by the riches and splendour of the religious houses at Walsingham, precipitated their fall; and it is prob-
able, that the words to the tune called Walsingham were written about this time.

WALTZ, the name of a riotous German dance, of modern invention; of which the definition has not yet had admission in any musical lexicon. The tune is gay, and always in triple time. All our great per-
formers on keyed instruments have composed and published tunes of this kind. The verb wallzen, whence this word is derived, implies to roll, wallow, welter, tumble down, or roll in the dirt or mire. What analogy there may be between these ac-
ceptations and the dance, we pretend not to say: but having seen it performed by a select party of for-
eigners, we could not help reflecting how uneasy an English mother would be to see her daughter so fa-
miliarly treated, and still more to witness the obli-
ging manner in which the freedom is returned by the females.

Vol 38 Water-Wzetin

WATER-Organ – See ORGAN

WIND-Instruments, in Music, are instruments played by wind, chiefly by the breath; in contradis-
- tinction to stringed-instruments, and instruments of the pulsative kind.

The wind-instruments known to the ancients were, the tibia, or syringa of Pan, consisting of seven reeds, joined sidewise; also, organs, tuba. Cornua, and the titute. Those of the moderns are, the flute, bag-
- pipe, hautboy, trumpet, &c. See INSTRUMENT, and MUSIC.

Vol 39 X-Zytomiers with Addenda

ZAMPOGNA, in the Italian Music, is used to de-
- note any instrument that sounds like a flute; and particularly a bagpipe, being an assemblage of
divers pipes of different sizes. It is also taken for a common flute.

ZOPPO, in the Italian Music, is applied to all those counterpoints described under the article OB-LIGATO, &c. Thus they say, contra-punto alla zoppa, a lame or hopping counterpoint; because, in these, a note is placed between two others, each of half its value in time. When this comes to be played or sung, the voice or instrument seems to proceed by unequal leaps or steps, like those of a lame person. See the example here annexed.

There are contra punto alla zoppa sopra il soggetto, as well as sotto il soggetto, i. e. above and below the subject. See SOGETTO.

ZYGIA, in the Instrumental Music of the Ancients, a flute peculiar to weddings, according to Apulcius. (Metam. lib. iv.) The word xygia is a Greek adjective, which implies nuptial. The zygia was probably a double flute; for Julius Pollux (Onomast. lib. iv. c. 10.) says, “there was also a flute air for the wedding; executed on two flutes, one longer than the other.”

ADDENDA AND CORRIGENDA

PANDEANS, a title given to itinerant companies of Italian musicians, who perform on the Syrinx or Pan’s pipes of different pitches with their mouths, and themselves on different instruments with their hands and feet.

The lowest set of reeds (the septem discrimina vocum of Virgil) is called the contra-basso, or double-base; the next fagotto, or bassoon; the third, septen-ary, is the tenor or second treble; and the fourth, or highest range of pipes, the first treble; so that in the aggregate there is a complete scale of four octaves, and they never play in less than three or four parts. The instruments with which they accompany themselves with their hands are the cymbals, the triangles, the double drum beat at both ends, the mezza luna, a Turkish instrument, and the tambour de basque.

The reeds or pipes are fastened under the chin of the performer, and the lip of the player runs from one to the other with seeming facility, without moving the instrument by manual assistance. (Et supra calamos unco percurrere labro, Lucretius.) The music which these people perform is very gay and pleasing. One of the company with whom we conversed told us that they were Milanese peasants and villagers, not allowed to stroll into great cities; which accounts for our never having heard them in their own country, nor any of our friends who have made the tour of Italy, and remained there some years.

The use which these ingenious people have made of Pan’s pipes, by playing in troops and in different parts, is beating the ancients at their own weapons. The Grecian shepherds of Theocritus, and the Roman of Virgil, contend in dialogue, but never perform in parts.

It will be observed, that some of the performers, particularly the first treble, have more than seven pipes, which enables them to extend the melody beyond the septenary.

VIOLIN. Additional

The art of holding the bow, and of placing and moving it on the strings, is the most difficult and important to incipient practitioners on the violin, which they have to encounter; as upon that depend the force, sweetness, and penetrating power of the tone. They must pay great attention not to press too hard upon the string, so as to make it curve and deviate from a right line; for then the tone would be harsh and coarse. Neither must the bow be laid too lightly on the strings, as the tone would then whistle and be too feeble. The just point of accuracy in this particular is, to place the hair on the strings in such a manner, that every part of it is in contact with whichever may be wanted. The bow must not act too near the bridge, nor too distant from it, as only dull and unpleasing sounds would be produced.

WATER-Organ. See HYDRAULICON.

WATER, Vases and glasses tuned by. See ARMONICA, LASUS and HYPPASUS

WELSH MUSIC. If incredulity could be vanquished with with respect to the account which Giraldus Cambrensis gives of the state of music in Wales during the 12th century, (see GIRALDUS CAMBRENSIS,) it would be by a Welsh MS. formerly in the possession of Richard Morris, esq. of
the Tower, which contains pieces for the harp that are in full harmony or counterpoint; they are written in a peculiar notation, and supposed to be as old as the year 1100; at least such is the known antiquity of many of the songs mentioned in the collection. But whether the tunes and their notation are coeval with the words, cannot easily be proved; nor is the counterpoint, though far from correct or elegant, of so rude a kind as to fortify such an opinion.

Some part of “this MS.,” according to a memorandum which we found in it, “was transcribed in the time of Charles I., by Robert ap Huw, of Bodwigen, in the isle of Anglesea, from William Penlyn’s Book.” The name of William Penlyn is recorded among the successful candidates on the harp, at the eisteddfod, or session of the bards and minstrels, appointed in the ninth year of queen Elizabeth, at Caerwys in North Wales, where he was elected one of the “chief bards and teachers of instrumental song. The title given to these pieces is “Musica neu Beroriaeth;” and a note in English informs us, that the manuscript contains “the music of the Britons, as settled by a congress, or meeting of masters of music, by order of Gryffydd ap Cynan, prince of Wales, about the year 1100, with some of the most ancient pieces of the Britons, supposed to have been handed down to us from the British bards.”

This music is written in a notation by letters of the alphabet, somewhat resembling the tablature for the lute; but without lines, except a single line to separate the treble from the base.

In the notation, double $\text{ff}$ seems the lowest note; then the first seven letters of the alphabet are written thus, $g$, $a$, $b$, $\Gamma$, $\delta$, $\vartheta$, $\varphi$; and the next septenary thus, with a dash over each letter, If these letters $f$, $g$, $\delta$, $\varphi$, $a$, $\vartheta$, $\Gamma$, represent the same sounds as at present, we find some such chords as are admitted in modern harmony; but others frequently occur that are mere jargon.

Many of the bases, or accompaniments to the melodies, begin with the chord of C inverted, $\frac{\vartheta}{\varphi}$.

These & chords and melodies are lessons for young practitioners on the harp, and are said to be the exercises and trial-pieces which were required to be performed by the candidates for musical degrees, and for the silver harp. Among the first twenty-four lessons of this kind, some few are easy to decypher, as N° XI. and XVII., which we shall give here as specimens of this notation, explained in modern musical characters.

This counterpoint, however artless it may seem, is too modern for such remote antiquity as is given to it. The false 5th, from B to F, in the first example, has not been long allowed in harmony; and the unprepared 7th, from B to A, in the second example, is a crudity that has been but very lately tolerated. That the ancient inhabitants of Wales were great encouragers of poetry and music, cannot be dis-
puted, as many specimens of Cambro-British versification of undoubted antiquity still subsist; and that these poems, as well as those of ancient Greece and Rome, were originally sung and accompanied with instruments, is very natural and reasonable to believe; but that a rude and uncivilized people, driven into a mountainous and barren country, without commerce or communication with the rest of Europe, should invent counterpoint, and cultivate harmony, at a period when it was unknown to the most polished and refined inhabitants of the earth, still remains a problem of difficult solution.

Dr. Burney gives a further account of this curious MS. in speaking of national music, and the establishment of musical games or contests in Wales, before any other music seems to have been much cultivated in the rest of the island, except the ecclesiastical or Gregorian chant, which the Britons, driven into the mountains of Wales by the Saxons, seem to have been very unwilling to receive from the Roman missionaries that were sent over to convert their conquerors. The British annals and songs ascribe with great resentment the slaughter of the monks at Bangor, by Ethelbert, king of Kent, to the instigation of Austin the monk, on account of their having refused to submit to the jurisdiction of pope Gregory, and the regulations he proposed.

WESTMINSTER ABBEY. Its happy construction for music at the commemoration of Handel in 1784, appeared to be such as not only to overset all the predictions of ignorance and sarcasm, but the conjectures of theory and experience. By some it was predicted that an orchestra so numerous could never be in tune; but even tuning to so noble an organ was for once grand, and productive of pleasing sensations. By some it was thought that, from their number and distance, they would never play in time; which, however, they did most accurately, and without the measure being beaten in the usual clumsy manner. By others it was prophesied that the band would be so loud, that whoever heard this performance would never hear again; however the sound of these multiplied tones arrived as mild and benign at the ears of the audience as they could from the feeble efforts of a few violins in a common concert-room. And, lastly, that from the immense size of the building, no single voice had the least chance of being heard by those who had places remote from the orchestra; but luckily this was so far from being true, that not a vocal breathing, however feeble by nature, or softened by art, was inaudible in any part of the wide-extended space, through which it diffused itself in all directions.

There was, doubtless, great propriety in saluting their majesties at their entrance with the Coronation Anthem, yet we could not help wishing that this performance, so different from all others, had opened with some piece in which every voice and every instrument might have been heard at the same instant: as such an effect might then have been produced as can never be obtained by gradation. Indeed the most sudden and surprising effect of this stupendous band was, perhaps, produced by simultaneous tuning; as all the stringed-instruments performed this task à double corde, and these strings being all open, their force was more than equal to that of two stopt-strings upon two different instruments.

It is but justice to Madame Mara, in speaking of the effects of a single voice in this immense building, to record that she had not only the power of conveying to the remotest corner of this expanded structure, the softest and most artificial inflexions of her sweet and brilliant voice, but of articulating every syllable of the words with such neatness, precision, and purity, that it was rendered as audible and intelligible as it could possibly have been in a small theatre by mere declamation.

The happy construction of Westminster Abbey for cherishing and preserving musical tones, by a general augmentation without echo or repetition, was demonstrated by no part of the commemoration performance more clearly than in that of Miss Abrams, whose voice, though sweet, of perfect intonation, and good quality, was not regarded as theatrical, but such as the Italians denominate bella voce de camera, yet in the solo air, which she sung with her usual taste and expression, her voice was rendered more audible in every part of that immense building, than it had ever been in any concert-room in London.

Giardini, envious of the powerful tone of Fischer’s hautbois, which could even rival that of his own violin with all its force and sweetness, used to say that Fischer had an impudence of tone, but it never produced a more full, rich, and sweet effect than in the solo parts of Handel’s fourth hautbois concerto, which he performed with such taste and propriety,
as must have convinced all those who heard him that his excellence was not confined to his own very original and ingenious productions. Indeed, one of the Commemoration wonders seems to have been the perfect manner with which the sweet and grateful tone of his single instrument filled the stupendous temple of our holy religion, in the performance of this concerto.

List of the General musical articles.

They are not in true alphabetical order, since in the original publication, topics beginning I, J and U, W, were conflated, so here they are in the order they appeared in the published volumes.

IMPORTANT NOTE 08/08/20

The page numbers are not accurate due to minor formatting changes, made when preparing the online-version. They should be read by deducting 2. APW.

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