




The fragility of artists' reputations from 1795 to 2020

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This study explores the longevity of artistic reputation. We empirically examine whether artists are more- or less-venerated after their death. We construct a massive historical corpus spanning 1795 to 2020 and build separate word-embedding models for each five-year period to examine how the reputations of over 3,300 famous artists—including painters, architects, composers, musicians, and writers—evolve after their death. We find that most artists gain their highest reputation right before their death, after which it declines, losing nearly one SD every century. This posthumous decline applies to artists in all domains, includes those who died young or unexpectedly, and contradicts the popular view that artists' reputations endure. Contrary to the Matthew effect, the reputational decline is the steepest for those who had the highest reputations while alive. Two mechanisms—artists' reduced visibility and the public's changing taste—are associated with much of the posthumous reputational decline. This study underscores the fragility of human reputation and shows how the collective memory of artists unfolds over time.

reputation | death | art history | collective memory | natural language processing

How are artists remembered after their death? With reverence or disdain? Reputation—whether an individual is regarded positively or negatively—is an important metric of quality assessment during and beyond an individual's lifetime (1–3). Artists' creations in the form of fine art, music, books, movies, and dance performances hold tremendous economic and cultural significance (4–8). Unsurprisingly, questions about their reputation—whether it is a matter of building up a legend during an artist's lifetime or resuscitating the reputation of an artist neglected while alive—have long fascinated scholars and the public (1, 9). While we expect artists' visibility to decline after death, it is often assumed that a reputation can grow, as with Vincent van Gogh, Franz Kafka, and Emily Dickinson.

The question of artists' posthumous reputation, rooted in our understanding of collective memory, has been studied by a wide range of disciplines (10). Scholars have examined collective memory by surveying human recall of US presidents and wars across generations of survey respondents (11, 12). Cross-national surveys have examined collective memories of a nation's contributions to world historical events such as the Allied victory in World War II (13, 14). Scholars have also examined the volume of collective memory in the form of consumption of creative products (e.g., song downloads) and attention paid to their producers over time (15). Studies have examined collective memory as visibility in the form of textual traces in books, newspapers, and—more recently—social media (1, 3, 16–19). For example, using data on newspaper and Twitter mentions of individuals a year after their death, West et al. (16) analyzed their postmortem visibility and classified it into distinct patterns.

Despite this rich literature, our understanding of collective memory is largely confined to qualitative studies and to case studies of a few individuals and events (1, 20, 21). These studies suffer from two shortcomings. First, most examine people's memory of only a handful of individuals or events. The small number of cases makes them vulnerable to idiosyncratic influences and may limit their generalizability. Second, most studies focus on a relatively short period, such as the decade after a person's death, offering no insight into long-term changes in posthumous reputation. In related literature, economists have used the selling price of visual artists' work as a proxy for reputation, but art prices are strongly shaped by supply and demand factors and do not necessarily reflect reputation (22–24). In sum, there is little systematic evidence on the changing reputation of individuals over a substantial period.

To resolve these issues, we analyze individuals' reputation over time by conducting text analyses on a large corpus of historical newspapers. The long time-span of historical newspapers enables us to use the same data source across all time periods. Previously, text analyses of cultural change had to rely on different sources for different periods. For example, the widely used Corpus of Historical American English dataset

Significance

This study uses machine-learning techniques and a historical corpus to examine the evolution of artists' reputations over time. Contrary to popular wisdom, we find that most artists' reputations peak just before their death, and then start to decline. This decline is strongest for artists who were most popular during their lifetime. We show that artists' reduced visibility and changes in the public's aesthetic taste explain much of the posthumous reputation decline. This study highlights how social perception of historical figures can shift and emphasizes the vulnerability of human reputation. Methodologically, the study illustrates an application of natural language processing to measure reputation over time.

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contains a combination of books, periodicals, magazines, and newspapers. Not only do the sources differ from period to period, but even the genre composition varies across time. This creates a major concern that any observed cultural change simply reflects differences in the underlying sources. Although newspapers also change their ownership and writers, studying the same set of newspapers provides us with at least a much more consistent data source.

We picked 20 of the most widely circulated newspapers in the United States and collected their digitized text, resulting in an enormous corpus spanning 1795 to 2020 and comprising 32 billion words (see *SI Appendix, S1.B* for more details). In comparison, the Corpus of Historical American English—the largest historical corpus until now—has 475 million words. The large size of our historical corpus ensures that a large number of artists' names will appear in our database.

To quantify each artist's reputation, we built word-embedding models in different time periods using our digitized historical corpus. Word-embedding models create high-dimensional vector representations of each word in a corpus based on the context in which the words are used (25, 26). The resulting vector space maps a semantic space: Words with similar meanings are positioned close to each other in this space. We used an embedding model (see *SI Appendix, S1.B* for more details) to represent artists' names and a validated set (see *SI Appendix, S1.D* for more details) of reputational keywords (e.g., "talented" and "mediocre"). Word-embedding models are increasingly used to capture the directional nature of constructs such as wealth (affluence or poverty) and gender (female or male) (27). In our context, we capture the valence inherent in reputation by calculating whether an artist's name is closer to the positive or negative end of the reputational dimension (see *SI Appendix, S1.D* for more details) as measured by the average difference between the vector representations of the positive and negative reputational keywords.

Across analyses, we consistently find that artists' reputations decline after their death. In other words, after their death, an artist's name is closer to the negative side of the reputation spectrum than to the positive side. A century after an artist's death, their reputation declines by one SD. Moreover, we find two mechanisms—artists' visibility and the public's changing taste—associated with the observed decline. The decline in an artists' visibility and a shift in the public's taste away from an artist's main genre are associated with the decline in an artist's reputation. Our study reveals robust patterns in artists' posthumous reputations and the relationship of reputation to visibility and public taste over a long period after an artist's death. We thus illuminate how the valence of the collective memory of artists relates to the volume of such memory.

Results

We selected over 3,300 well-known artists, including painters, architects, musicians, composers, and writers, whose reputations we could observe both during and after their life (see *SI Appendix, S1.C* for details). On average, we observe an artist for 37.5 y, but for 5% of them, we observe their reputation for almost a century. For each artist in each time period, we measured reputation by calculating the cosine distance from the reputation dimension, measured as the average difference between the vector representations of the positive and negative reputational keywords (see *SI Appendix, S1.D* for more details). We then used individual fixed-effects models to examine changes in that reputation measure for a given artist over time.

Across analyses, we consistently find that artists' reputations decline after their death. In other words, after their death, an artist's name has moved toward the negative ends of the reputation spectrum. A century after an artist's death, their reputation declines by one SD. Moreover, we find two mechanisms—artists' visibility and the public's changing taste—associated with the observed decline.

Reputational Decline after Death. In Fig. 1*A*, we find that an artist's reputation is relatively stable during the last few years of life but drops right after death. The decline is steady: One century later, the artist's reputation has dropped by as much as one SD. We conducted a battery of robustness checks, using alternative model specifications, measures of reputation, and sample sizes; results consistently show a similar significant posthumous decline. The magnitude of this decline is similar for all types of artists in our database (Fig. 1*B–E*)—painters, composers/musicians, writers, and others—suggesting an almost universal phenomenon. An artist's reputation declines by about 0.7 SDs per century in the first two centuries after death and then by about 0.5 SDs per century.

Relationship between Lifetime and Posthumous Reputation.

Next, in Fig. 2, we examine how lifetime reputation is associated with posthumous reputation. Prior work argues for a "self-confirming" process (1), which reinforces the posthumous reputation of artists who were highly regarded when alive. According to this view, such artists attract publicity and preservation efforts from peers, family, collectors, and others seeking to sustain, often for their own gain, the artist's legacy (1, 28). In the context of a qualitative study of etchers, Lang and Lang (1) suggest that etchers who attained a high reputation during their lifetime were propelled to enduring glory (1), while those without such reputation faded into oblivion. Such a Matthew effect—like process (29, 30) suggests that the artists most highly regarded during their lifetime should continue to enjoy a good reputation after death. Our data, however, reveal a different pattern. Those

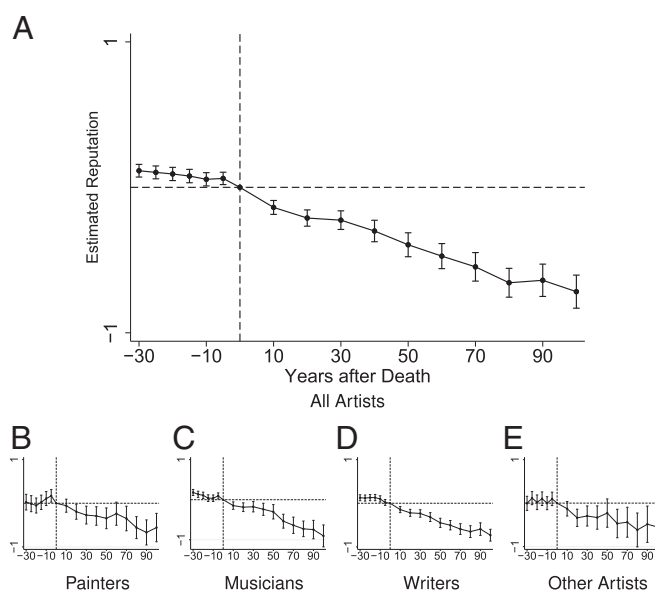


Fig. 1. Artists' reputations before and after death. Notes: The figure shows estimated change in an artist's reputation years before/after death. Fig. 1*A* and 1*B–E* show patterns of declining reputation of the artists aggregated and broken down by creative fields. All models use individual artist-fixed effects and are clustered by artist.

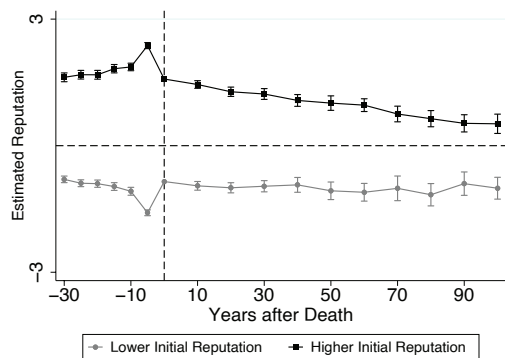


Fig. 2. Sorted by initial reputation. Notes: The figure plots estimated reputation change separately for those whose reputation is in the *Top* quartile prior to death and those whose reputation is in the *Bottom* quartile. We set the y-axis to be the group average value at the time of death. All models use individual artist-fixed effects and are clustered by artist.

artists whose reputation was in the top quartile during their lifetime experienced the steepest drop after death, while those whose reputation was in the bottom quartile barely experienced any drop. A century later, the reputation gap between the two groups had shrunk by more than half. Instead of the Matthew effect, our results suggest a pattern of regression toward the mean, albeit only for the top artists.

Unexpected or Early Death and Posthumous Reputation. We specifically examined those artists who died young and/or unexpectedly. Early demise of some types of producers, such as scientists, has been associated with increased attention to their work (30). Similarly, popular discourse often romanticizes artists who die young, suggesting that they are likely to be cherished and celebrated more after their death. However, we found little evidence of such romanticizing. Fig. 3*A* separately plots artists who died prior to age 40 and those who died after age 70. Those who died younger than 40 maintain a relatively stable reputation for about 40 y after death, after which point their reputations drop quickly. For those who die after 70, their posthumous reputation declines immediately after death. However, the difference in reputation change between the two groups is negligible after a century.

Fig. 3*B* sorts artists based on the cause of death (See *SI Appendix, S1.E* for details on coding). After their death, those who died unexpectedly tend to exhibit a slower reputation decline than those who died naturally. However, this difference in reputation decline disappears after about 70 y: Both groups at this point have experienced a similarly large decline in reputations.

Demographics and Posthumous Reputation. We explored differences in posthumous reputation across demographic groups (*SI Appendix, S2.A*). Artists belonging to a racial minority experience little posthumous decline in reputation, which could be a result of previous cultural bias against them and society's increasing appreciation of minority cultures. We find no significant difference between male and female artists: Both experience significant reputational decline after death.

Artists Who Became Famous Only after Death. We examined the reputational longevity of artists, such as Vincent van Gogh, Franz Kafka, and Johannes Vermeer, who received publicity after their death but none while alive. There are 494 artists who did



Fig. 3. Dying young or unexpectedly. Notes: (A) plots estimated reputation change separately for those who died prior to age 40 and those who died after age 70. (B) plots estimated reputation change separately for those who died unexpectedly and those who due to long-term illness or old age. In both figures, we set the y-axis to be zero at the time of death. All models use individual artist fixed effects and are clustered by artist.

not appear in our embedding models during their lifetime (due to lack of newspaper mentions) but did appear later. Fig. 4 includes those artists. Their reputations rose for the first half-century after their deaths but started to decline soon after that. After about two centuries, their reputations dropped by almost one SD. These analyses show that over a long time-span, the process of declining reputation applies to almost all artists.

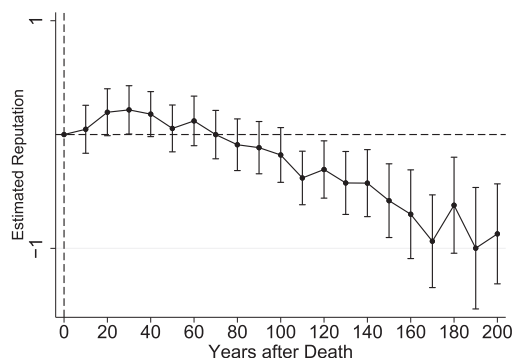


Fig. 4. Artists who became famous only after death. Notes: The figure focuses on the 284 artists who appeared in our newspaper sample only after their death. We set the y-axis to zero at the time of death. Both figures use individual artist fixed effects and are clustered by artist.

Drivers of Reputational Change: Visibility and Taste. To shed light on mechanisms, we first examine an artist's visibility, operationalized by the number of appearances in newspapers and books. Artists can lose visibility after death, which could lead to fewer opportunities for recognition and acclaim. We find that the amount of newspaper coverage increases over time as an artist ages, a pattern that differs from that of reputation, which tends to stay relatively unchanged during an artist's last years. Consistent with our intuition, after an artist's death, newspaper coverage drops precipitously. This pattern applies to painters, writers, musicians, composers, and other types of artists (see *SI Appendix, S1.F* for more details).

Next, we find that controlling for visibility reduces the posthumous decline in reputation by about a third, suggesting that lowered visibility after death is associated with a decline in posthumous reputation. This result is suggestive of the "mere exposure" effect found in laboratory settings, in which increased exposure is associated with greater liking (31–33). Note that our measure of reputation—the extent to which an artist's name is closer to the negative or positive end of the reputation dimension—does not depend on the actual number of words devoted to that artist or his or her reputation. Hence, the resulting relationship between reputation and visibility does not follow mechanically from our construction of the variables.

Finally, we analyzed how much of the reputational decline is a result of the public's changing taste (see *SI Appendix, S1.G* for more details). Focusing on painters, we categorized them into detailed genres and measured each genre's appeal in each period. We then conducted analyses to show that accounting for changing taste in genres is associated with a 30-percent decline in a painter's posthumous reputation. Together, these analyses suggest that both reduced visibility and changing cultural taste could be important drivers of reputational decline (see *SI Appendix, S2.B* and *S2.C* for more details).

Popular View of Artistic Reputation. Popular culture and media are replete with stories of misunderstood artists who were neglected during their lifetime but gained enduring reverence after their death. The same notion also appears in scholarly work (1, 2). To examine its prevalence, we undertook a systematic survey of the public's perception of artists' reputations. We asked 500 participants to indicate their perception of the evolution of 50 artists' reputations over a 100-y period. These artists were among the 51 to 500 most-mentioned artists in our newspaper corpus between 2016 and 2020. Importantly, in our data, they had a declining reputation (see *SI Appendix, Fig. S8A*). Survey participants held a contrary view, however—one that is consistent with the notion of enduring artistic reputation. Over 63% of the survey participants saw the artists' reputations as either remaining stable or rising (see *SI Appendix, Fig. S8B*). Other iterations of this survey with different samples of artists confirmed that result.

Where does the notion of an enduring artistic reputation come from? We explored whether it might result from a selection bias: Those exceptional artists whose reputations rose after death are more likely to be noticed by today's audience than those whose reputations faded. In Fig. 5, we specifically examined the top 50 most widely mentioned dead artists today, based on their total appearance in newspapers in 2016 to 2020. Unlike the pattern for most artists, we do not see a posthumous reputation decline for this group. Rather, their reputations slightly improved after death (see *SI Appendix, S2.D* for more details). However, when we expand this group to the top 500, the posthumous reputational

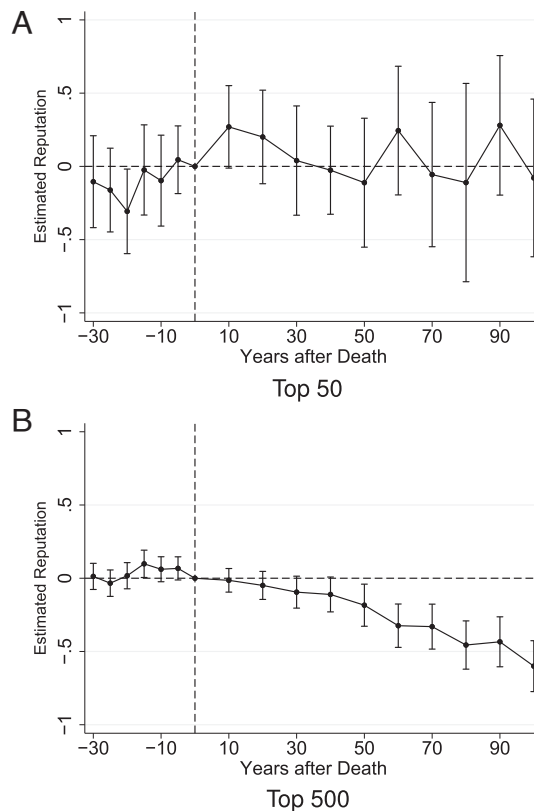


Fig. 5. The most popular dead artists today. Notes: (A) plots reputation change for the top 50 most popular dead artists today. (B) plots reputation change for the top 500 most popular dead artists today. Artists' reputation today is derived from newspaper corpus 2016 to 2020. In both figures, we set the y-axis to zero at the time of death. All models use individual artist fixed effects and are clustered by artist.

decline becomes highly salient. Although far from representative, the high visibility of these top 50 artists likely supports the false impression that artists gain glory after death.

Discussion

The question of how we remember artists has been confined to qualitative studies (1) or single-case studies (3). Few studies have examined reputational shifts over decades and centuries. Using machine-learning tools and historical text data spanning two centuries, we quantitatively explored collective memory. Our analysis provides insight into the longevity of artists' reputations. Commonly held beliefs about reputation—such as the Matthew effect—suggest that reputation could reinforce itself over time, so that good reputations, once achieved, will be maintained (1, 29, 30). However, we show that reputation is in fact quite fragile over the long run and could regress toward the mean when not actively maintained, as those artists with the highest reputation during their lifetime experienced the steepest reputational decline. Posthumous publicity and unexpected or early death can sustain the reputations of some artists. However, such sustaining lasts only a few decades, after which reputation declines. Our results reveal two factors associated with the valence of collective memory of an artist: the volume of such memory and the audience's tastes. As an artist's visibility wanes and our aesthetic taste changes, we appreciate that artist less.

How we remember the past is as much a reflection of that past as of our relationship with the past (13, 20, 21, 34). Our study suggests that our memory of artists becomes less celebratory.

Death seems to erode the good name of even those with vaunted reputations during their lifetime. This pattern was hardly a given. Our survey revealed that most people perceive artists' reputations as stable or rising. Qualitative studies and those examining posthumous visibility over a shorter duration have similarly suggested the endurance of artists' reputations (1, 16). In fact, both intuition and past qualitative work have taken the endurance of artistic reputation over decades and centuries as a sign of genius. The results of our study raise the question of whether we should revise such a notion of genius or admit only a handful of artists as geniuses. This is a debate which we hope will be taken up by future research. However, our results suggest that keeping artists' collective memory alive over a truly long period might require sustained investment. The artifacts that survive many artists might sustain our memory (35), but not without active investment. The mechanisms accounting for artists' reputations suggest that such investment must sustain not only the artist's visibility but also a public taste for the type of work that artist created. Absent such investment, the deceased creators of beauty may inexorably become less venerated. This is at odds with our deep need for permanence and beauty but also reflects our impulse to celebrate the new and the present.

Materials and Methods

Data Construction. To identify a list of artists, we used the Pantheon 2.0 database—covering all individuals with a Wikipedia page—to create a list of well-known artists from around the world. Our final list contains 3,394 artists in the Pantheon dataset who satisfy the following criteria: a) They are mostly known for their achievement in art, music, film, or writing; b) as of 2020, they had been dead for at least 10 y; c) their full name is mentioned at least five times in at least one of our embedding models (see *SI Appendix, S.1.C* for further details on the sample).

To examine their reputation, we collected digitized historical newspapers and built separate word-embedding models for each 5-y period (see *SI Appendix, S.1.B* for further details).

Measuring Artists' Reputation. We measured artists' reputations in each period using our trained embedding models. First, we use a survey to identify a list of keywords—such as “successful,” “gifted,” and “accomplished”—that

represent an artist's reputation. We then calculated the average geometric distance between the vector of an artist's name and the vector of each of these reputation keywords.

The closer an artist's name is to a positive (negative) reputation word in the vector space, the more (less) accomplished the artist is perceived to be. We calculated the cosine distances between an artist's name and each positive reputation keyword and took the average, then subtracted the average cosine distance between an artist's name and each negative reputation word. We treated each reputation keyword in an equal manner and, by taking the average across all of them, we minimized the impact of any unexpected connections between an artist and a particular word. (See *SI Appendix, S1.A, S1.B, and S1.D* for more details).

To ensure the robustness of this method, we tried numerous combinations of keywords to make sure that they produced consistent results (see *SI Appendix, Fig. S1*). The resulting reputation score was then standardized within each period to account for temporal variation in word use. To validate it, we compared our measure with a survey measure of artist reputation, finding a high correlation of 0.75 (see *SI Appendix, S1.D* for details on validation).

Analytical Model. We conducted several analyses. The main model uses individual fixed effects to predict an artist's reputation in different periods:

$$Reputation_{it} = YearsAfterDeath_{it} + Artist_i + \epsilon_{it}, \quad [1]$$

where $Reputation_{it}$ is the reputation score for artist i at time t ; $YearsAfterDeath_{it}$ is the number of years after death for artist i ; and $Artist_i$ is artist fixed effects. Since we already standardized $Reputation_{it}$ by year, we did not include additional year fixed effects. Nonetheless, including year fixed effects in our models does not change the results. For most artists, $YearsAfterDeath_{it}$ ranges from negative to positive values, as we observe an artist's reputation both before and after death. Since our embedding models group together every 5 y of text, our unit of analysis is artist-year at 5-y intervals. All models use ordinary least squares (OLS) approaches and are clustered by artist.

Data, Materials, and Software Availability. All study data are included in the article and/or *SI Appendix*.

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