

Original Article

Maude Abbott and the “Atlas of Congenital Cardiac Disease”

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The *Atlas of Congenital Cardiac Disease*, which was first published by Maude Abbott in 1936, is a landmark in the field. To commemorate the book, as well as Abbott herself, the republication of the atlas has been undertaken as part of the celebration of the 100th anniversary of the International Association of Medical Museums (currently known as the International Academy of Pathology), which she cofounded in 1906. This article gives a brief history of Abbott’s professional life and reviews the background behind the development of her most famous publication.

Maude Abbott was born in St. Andrew’s East, a small town in western Quebec, in 1869 [1,2]. She had sufficient ambition and a good fortune to enable her to attend McGill University, where she was one of the first women to obtain a bachelor’s degree in arts. After being refused admission to the McGill Medical School, she decided to attend Bishop’s College, from which she received her medical degree in 1894, taking the Senior Prize in anatomy and the Chancellor’s Prize for the best examination in the final sessions. Following postgraduate studies in Europe, she returned to Montreal where she met the Chair of Pathology at McGill University, Dr. George Adami. He invited her to study a case of hemochromatosis and was so impressed with this and her other works that he appointed her Assistant Curator of the McGill Medical Museum in 1898. The museum curatorship, which she took over completely in 1901, proved to be the central point of her academic life, with the development and cataloging of its collection, the founding and running of the Association of Medical Museums, and the study of congenital heart disease all having their basis in this function.

The McGill Medical Museum was in a state of disarray at the end of the 19th century. Adami suggested to Abbott that she visit some of the museums at teaching centers in the

United States in order to learn how they were organized. During her trip, she met William Osler, who inspired her to take a special interest in the museum. Shortly after starting her review of museum specimens, she found an unusual heart labeled “ulcerative endocarditis” for which she could find no additional clinical or pathological information. Osler informed her that the heart (which was characterized by a single left ventricle) had been given to McGill University by Andrew Holmes, one of the four founders of the McGill Medical School, in 1823. Abbott published an article on the case in the *Montreal Medical Journal* in 1901. Her work on this project was an important step in her lifelong interest in congenital cardiovascular disease.

Abbott’s plan for the medical museum was to group specimens according to what she called the “Osler Catalogue,” in which materials displayed in the museum would be organized according to organ systems and associated with clinical information derived from physicians knowledgeable on the subject. Specimen descriptions, as well as corresponding case histories and medical discussions, were to be published in a series of books, which students would use as guides for study in the museum. Abbott sent a draft of the endocardial section to Osler in 1905. He was so impressed with the work that he invited her to contribute a chapter on congenital heart disease to his 1908 edition of the *Principles and Practice of Medicine*. Following his advice to treat the subject “statistically,” she undertook a review of the literature, summarizing all clinical and pathological information related to cardiac anomalies of approximately 400 cases. She continued to add to this list over the years, with the final tally of over 1000 cases being published in a chart in the 1936 atlas.

Abbott’s museum work also involved teaching of medical students. This began informally in 1901, when Adami suggested that those students who wished to have specimens demonstrated “should arrange to meet with (Abbott) at hours mutually suitable” at her museum in the

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Strathcona Building. These sessions proved so popular that a letter of appreciation for Abbott's service was sent to the faculty from the graduating class of 1904. Following this, "museum demonstrations" became part of the medical school curriculum. In the early years, students visited the museum on weekday mornings in groups of 20, with each group attending 1 day during the week. The important points related to a particular specimen were demonstrated to each student in turn, with the method being described by Abbott as "descriptive and quizzing." Written descriptions of the specimens were required and, when possible, microscopic examination of a related slide was carried out.

Although Abbott's teaching, publications, and specimen accessioning continued throughout the early 1900s, changes in the practice of pathology that began at this time proved to be a significant problem for her and her work. Horst Oertel was appointed acting Chair of Pathology in 1918 as a result of Adami's activity in the European war; his support of the museum was significantly less than what Abbott had been used to. Over her objections, Oertel proceeded to reorganize the Pathology Department and its museum in time to coincide with their transfer from the Strathcona Building to the newly constructed Pathological Institute in 1924. The day-to-day management of the "pathological museum" it contained, including the accessioning and preparation of specimens, was taken over by Oertel and Abbott's former technician, Lionel Judah, leaving Abbott effectively isolated in the Strathcona Building. This "demotion" incited her to move to Philadelphia, where she was professor of pathology and bacteriology at the Woman's Medical College of Pennsylvania from 1923 to 1925. However, her heart was still at McGill University, and she returned to Montreal to take up a position of assistant professor of research medicine and curator of the newly named "Central" Medical Museum.

Although Abbott continued to acquire specimens related to congenital cardiac disease from both inside and outside McGill University, her teaching responsibilities were essentially nil. In 1932, the Central Museum was renamed the "Museum of Medical History"; it contained only the collection of autopsy specimens left by Osler when he went to Philadelphia, Abbott's specimens of congenital cardiovascular disease, a display of wax models of skin disease, and a collection of drug and medicine containers. Abbott remained in charge of this museum until her retirement in 1936.

In addition to her work at the McGill Medical Museum, Abbott became well known and respected throughout the world as secretary-treasurer of the International Association of Medical Museums, which she cofounded in 1906 with James Carroll (of the Army Medical Museum in Washington, DC) and John McCallum (of Johns Hopkins Hospital). She worked tirelessly at this executive position until 1940 and functioned as editor of the association's bulletin until 1938. She also developed an interest in history, publishing articles and books on the McGill Medical Faculty, on the city of Montreal, and on medicine and

nursing in Quebec. She was active in the development of the Canadian War Museum and the Argenteuil Museum of local history, which was near her birthplace.

Over the years, Abbott collected many specimens illustrating cardiovascular anomalies—most from McGill teaching hospitals and some from colleagues around the world. In 1932, she sent a collection of diagrams, photographs, and drawings of pathologic specimens and clinical materials associated with them for display at the Centenary Meeting of the British Medical Association in London, England. Following her return from London, Dr. David Seecof of the Jewish General Hospital suggested that the exhibit materials form the basis for an atlas, to which Abbott quickly agreed. The London exhibit posters were thus dissembled, combined with additional cases and descriptive materials, and organized in a series of 25 plates, which included sections on normal development, comparative anatomy, and clinical disease.

The atlas was published by the American Heart Association in 1936 and proved to be a critical success. In 1937, a reviewer for the *American Heart Journal* wrote [3]:

"In this atlas, Dr. Abbott has epitomized her monumental knowledge of congenital cardiac disease and has presented it clearly and simply in the combination of text and superb illustrations. The book is recommended to all with any interest in the subject of heart disease and should be in the library of the general practitioner as well as the specialist. It is destined to become a medical classic."

Abbott's work, as exemplified in the atlas, laid the groundwork for understanding the morphology and pathogenesis of congenital cardiac abnormalities and, ultimately, for their treatment in the latter part of the 20th century. It is likely that she foresaw some of these developments, since



Fig. 1. Maude Abbott, circa 1936.

she had plans for the atlas to be followed by a more extensive textbook, which was to include sections on treatment and prognosis. She hoped to complete this project by 1942. However, in July 1940, before she could begin serious work, she suffered a cerebral hemorrhage, from which she eventually died in September of the same year.

The republication of the atlas in 2006 has been carried out to commemorate the 100th anniversary of the founding of the International Association of Medical Museums. Following the decline of the medical museum as a teaching aid in the middle of the 20th century, the association changed its name to the International Academy of Pathology in 1955. This group has grown remarkably since then and, at the time of this writing, includes approximately 45 divisions around the world and a membership of approximately 18,000 pathologists. The republication of the atlas at this time is meant to serve as a testimony to a great Canadian physician, as well as a memorial to the two most important legacies of her professional life—the

medical museum and the organization she cofounded to promote its principles, and the study of congenital cardiovascular disease.

In 2003–2004, digital images were taken of the 80 specimens that remained in Abbott's cardiac collection in the Pathology Department at McGill University. These were enhanced by “removing” their glass cases, as well as accumulated sediments and debris within the preservative fluid (Fig. 1). A selection of these images is included in the memorial publication. The atlas can be ordered from McGill-Queens University Press at marketing.mqup@mcgill.ca.

References

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- [3] Anonymous. Book review. *Am Heart J* 1937;13:254.