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EDUCATION AT THE DITTRICK MUSEUM OF MEDICAL HISTORY, CASE WESTERN RESERVE UNIVERSITY, CLEVELAND, OHIO, USA

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SUMMARY

The Dittrick Museum of Medical History pursues an educational mission as being part of a major research university. While the Dittrick dates to 1899 as a historical committee of the Cleveland Medical Library Association, it first affiliated with Case Western Reserve University in 1966, and became a department of the College of Arts and Sciences of CWRU in 1998. The Dittrick maintains a museum exhibition gallery that is open to the public free of charge, and museum staff provide guided tours on appointment. Much of the teaching and instruction at the Dittrick is conducted by university professors; their classes meet in the museum and use museum resources in the form of artifacts, images, archives, and rare books. Class projects using Dittrick collections may take the form of research papers, exhibitions, and online presentations. Dittrick staff assist in these classes and are available to help researchers use museum resources.

Introduction

Situated within a university setting, the Dittrick Museum of Medical History is today thoroughly integrated into the intellectual life and learning experience of Case Western Reserve University (CWRU). It hasn't always been so. Despite being located on a university campus, the Dittrick was originally part of a separate body, the Cleveland

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Medical Library Association (CMLA). The Dittrick first became part of CWRU in 1966, when the CMLA affiliated with the university. But only in 1998 did the Dittrick become a department of the College of Arts and Sciences of CWRU and in the ensuing decade we have defined a new educational program for the museum. This paper will outline the evolution of the Dittrick's educational initiatives and present several current examples of the ways in which we provide educational programming within the university context.

Origins and collections

The Dittrick Museum of Medical History originated in 1899 as the *"Historical collections and decorating committee*" of the Cleveland Medical Library Association (CMLA), a separately constituted organization from its incorporation in 1894¹. The founders of the CMLA, led by surgeon Dudley Peter Allen and anatomist Carl Hamann, had a strong interest in the history of medicine and strived to build up a strong collection of rare books, historical prints, and paintings.

The very first book of the library association was a 1555 edition of Andreas Vesalius's *De humani corporis fabrica libri septem* donated by Howard A. Kelly, one of the four founders of the Johns Hopkins Medical School². They did so not only by making their own donations, but also by purchase of collections³. Artifacts came into the picture incidentally at first, a consequence of Allen's historical research⁴. Allen initially began collecting artifacts in the 1880s when he published a series of articles on "*Pioneer medicine of the Western Reserve*," and in the process amassed a growing collection of manuscripts, memorabilia, and instruments. He donated this material to the CMLA, stimulating the formation of a "Historical collections and decorating committee." Additional donations of artifacts followed, notably the extensive instrument and rare book collection of Gustav Weber, the leading surgeon of Cleveland from 1856 to 1896⁵. Under the guidance of Allen, the collection grew and in 1906

Educational tools in the Dittrik Museum



Fig. 1 - Dudley Peter Allen, M.D. (1852-1915)

the CMLA opened a *museum in which are stored many objects of professional interest* at its building on Prospect Avenue in downtown Cleveland. By 1910 the collection increased to about two thousand objects and Allen clearly longed for the day when the collection would be presented in a more formal museum setting, rather than the

occasional display at the medical library. Allen did not live to see this come to fruition. However, after Allen died in 1915 his widow, Elisabeth Severance Allen, pledged to donate monies to erect a new library in his memory, and stipulated that it would also include a museum gallery, reflecting his collecting interest⁶.

Over the next ten years the CMLA Board of Trustees visited major medical libraries in Boston, New York, Philadelphia, and Baltimore in the process of planning for their new building. Working with the architectural firm of Walker and Weeks, the Trustees drew up an ambitious plan for the Allen Memorial Medical Library that featured a museum gallery on the third floor of the building. Construction began in 1925 and was completed in 1926 on a prominent corner of the campus of Western Reserve University in University Circle⁷. The opening of the Allen Library was marked by a dedicatory address by the neurosurgeon Harvey Cushing entitled "The Doctor and His Books," reflecting the bibliophilic interests of both Cushing, a native Clevelander, and the Trustees of the CMLA. Collecting artifacts in organized fashion for the fledgling "Museum of Historical and Cultural Medicine" began in earnest with the appointment of Howard Dittrick, M.D. (1877-1952) as curator in 1926.

Dittrick devoted most of his avocational energies to the Museum over the next three decades, while also maintaining an active medical career. In time, he built a substantial collection of medical and surgical artifacts, carefully documented and researched, that today is perhaps the most comprehensive collection of 19th and early 20th century medical technology in North America. To Dittrick's credit, he endeavored to implement professional standard museum practices. To that end he corresponded on museum issues with L. W. G. Malcolm at the Wellcome Historical Medical Museum, C. J. S. Thompson at the Hunterian Museum (Royal College of Surgeons), and G. A. Wehrli at the Medizingeschichtliche Sammlung der



Fig. 2 - Howard Dittrick, M.D. and students from latin class at John Hay High School, $\ensuremath{\mathsf{c.1940}}$

Universität Zürich in Switzerland. For collection subject matter classification Dittrick adopted the Wellcome's system.

By the early 1940s Howard Dittrick was offering occasional tours and lectures at the Museum, arranged by appointment. But an unexpected turn of events thwarted his hopes of implementing a regular educational program for the Museum. In 1942, fearing possible military attacks along the Atlantic coast, the Army Medical Library sought a temporary home for its rare book collection in the American heartland. Col. Harold W. Jones, librarian of the Army Medical Library, contacted medical libraries across the country in search of a haven. The Trustees of the CMLA responded that they could offer the Museum's gallery space for the duration of the conflict, obliging Dittrick to place the collections and exhibits in an adjacent room a fraction of the size of the Museum's intended gallery. Dittrick must have been greatly dismayed, but concealed his disappointment and packed everything up and transferred it to the new, and greatly confined space.

In 1944, in recognition of his untiring efforts on behalf of the Museum, and perhaps to mollify the disappointed Dittrick, the CMLA Trustees renamed it the Howard Dittrick Museum of Historical Medicine. In the ensuing decade after this renaming, the Dittrick Museum benefited from the Army Medical Library presence in an unanticipated way: a steady stream of scholars doing research in the rare book collection stimulated a considerable local interest in medical history. During this period a medical history society, the Handerson Society, came into being and provided a forum for presentation of medical history research. One of the scholars coming to Cleveland for research was Genevieve Miller, a graduate student of Henry Sigerist and the first woman to receive a Ph.D. in the history of medicine in the United States⁸. CMLA Trustees, anxious to groom a successor to Howard Dittrick, felt that Miller possessed the background and knowledge appropriate to the care and development of the Museum. In 1953 the Trustees therefore appointed Miller as Research Associate in Medical History of the CMLA and named her editor of the Bulletin of the Cleveland Medical Library Association. The Trustees also charge Miller with evaluating the professional and cultural worth of the CMLA rare book collection, and she became Assistant Professor of the History of Medicine at the School of Medicine of Western Reserve University. Howard Dittrick died the next year and Miller was subsequently named Director of the Museum. The CMLA Trustees asked Miller to develop a plan for the re-opening of the Dittrick Museum, and they sent her to the

Seminar for Historical Administrators at Colonial Williamsburg, where she became more knowledgeable about museum administration, policies, and procedures⁹.

The Dittrick as a teaching component of Case Western Reserve University

No educational programming of any great consequence took place at the Dittrick until the original museum gallery was vacated by the rare book collection of the Army Medical Library. That collection remained in Cleveland until 1960 when it returned to the nation's capital to become the Historical Division of the National Library of Medicine. Thereafter, Miller and, later, Patsy Gerstner developed guided tours at the Dittrick Museum for school groups, particularly for middle school and high school students. The educational mission of the Dittrick took a significant turn when the Cleveland Medical Library Association affiliated with Case Western Reserve University in 1966. The affiliation came about by an appeal from the University to federate; during the course of an American Association of Medical College accreditation process the School of Medicine had been informed that its library holdings were deficient in light of the school's aspirations and standards. By virtue of affiliating with the CMLA, and bringing their two separate medical libraries together to function as one administrative entity, the School of Medicine more than doubled its journal and monograph holdings and thus its accreditation standing improved markedly overnight.

The newly consolidated medical library was known as the Cleveland Health Sciences Library (CHSL), and the Dittrick became the historical division of the CHSL under this new arrangement, which remained in effect until 1998. The Dittrick's director and curator also became adjunct professors in the History Department, and were expected to teach one course a semester.



Fig. 3 - Genevieve Miller, Ph.D. and museum tour, c.1975

Miller taught the history of medicine, offering courses for medical students, students in library science intending to find careers in the health sciences, and undergraduates in the College of Arts and Sciences. Gerstner later headed a museum studies program from 1978 through 1991, which offered a certificate for graduate students in the History Department. The teaching of medical history continued after Miller's retirement in 1979, particularly by James Edmonson, who joined the Dittrick as associate curator in 1981. Working with the museum collections, Edmonson carried out several research projects that have added to the literature on medical technology, particularly from a material culture perspective using artifacts as evidence, and on medical museology as well¹⁰. Edmonson also taught university courses in medical history through 1992¹¹, and continues to advise

students on research projects and serves on dissertation committees in the History Department¹².

Courses offered in the history of medicine have since been turned over to Jonathan Sadowsky, who joined the CWRU history department in 1993 and is today the History Department chair and Castele Professor of the History of Medicine. Broad and diverse educational programming continues today at the Dittrick, ranging from high school students through students from the School of Medicine of Case Western Reserve University.

One feature that distinguishes CWRU and the College of Arts and Sciences is the diversity of interest in the history of medicine by several academic departments. The Anthropology Department, for example, features an emphasis upon medical anthropology, with faculty doing research and teaching on a wide variety of topics including: the cultural constructions of race in medicine and society; human growth and development, aging, human adaptability and medical ecology; and issues related to risk, transmission, and the impact of disease¹³.

Faculty in the English Department includes scholars that study such topics as: the intersections between nineteenth-century literature and the history of psychology; medical rhetoric, especially contemporary linguistic and rhetorical constructions of (mental) health and illness; and how contemporary anatomy education incorporates and is facilitated through visual representations of the body¹⁴. History Department faculty have studied such issues as the history of electroconvulsive therapy in the United States, mental institutions in colonial Africa, and the history of organic chemistry in nineteenth century France and Germany¹⁵.

The Dittrick is able to serve the research and teaching interests of this diverse array of scholars owing to the strengths of its collections, as well as the retrospective holdings of the CMLA library. In the medical sphere, the Dittrick's great strength is its collection of instruments and medical technology from 1800 through today, with particular concentration upon the period 1850-1950. For this era, the Dittrick has a comprehensive collection of diagnostic and therapeutic instrumentation, with particular strengths in auscultation (use of the stethoscope) and sphygmomanometry (blood pressure measurement), surgical instrumentation¹⁶, and obstetrical instrumentation. These collections are supported by a distinguished collection of trade literature, catalogues of medical and surgical instrument makers, pharmaceutical producers, and makers of microscopes and scientific instrumentation.

The Dittrick also possesses internationally notable collections encompassing endoscopy (the archives and instruments of the American Society for Gastrointestinal Endoscopy¹⁷), medical images (notably the Corlett dermatology collection, the Lakeside Unit collection documenting pictorially the medical experience of World War 1, portrait images of medical students in dissection class, and photographs of medical museum and health displays from Bruno Gebhard, former curator of the Deutsches Hygiene Museum and first director of the Cleveland Health Museum), and contraception (the Skuy Collection on the History of Contraception). Strengths in our rare book collection include Freud, Darwin, dermatology, obstetrics, surgery, and anatomy, as well as the library of Nicolas Pol (c.1470-1532), Renaissance physician to the Holy Roman Emperor¹⁸. Artifact and rare book collections are further complemented by an outstanding collection of nineteenth century medical periodicals, encompassing virtually all medical journals published in the United States, as well as very strong holdings in British, French, and German medical periodicals.

The medical collections available for research and teaching at the Dittrick are complemented by extensive holdings of rare book in both the natural and physical sciences. For example, the Herbals Collection¹⁹ at the Dittrick is one of our oldest and most notable

special collections. The Herbals Collection is a consolidation of collections acquired from Jared Potter Kirtland, Edward Harvey Cushing, and George Gehring Marshall²⁰.

While the Herbals collection is of focused interest to students of botany, it is also of interest for students of history and art, as the works in this area document the development of printing and book illustration. In the 1990s the Dittrick published a collaborative bibliographic study of herbals collections in Cleveland²¹, together with the Holden Arboretum and the Cleveland Botanical Garden, and produced a 'coffee table book' presenting the visual beauty and historical importance of these three Cleveland collections²².

The Dittrick became home to the Biology Department's rare book collection, chiefly 19th century works covering all aspects of flora and fauna, ranging from mollusks to insects to mammals. This has particular strength in ornithology, including the archive collection of S. Prentiss Baldwin, who pioneered a method of bird banding adopted by the U. S. Biological Survey. Like the Herbals Collection, it is the artwork found in this natural history collection that may prove of greatest interest. There are also considerable strengths in evolutionary biology in this collection.

Evolutionary biology and related fields are also strongly represented in The Robert M. Stecher Collection of Charles Darwin Books and Manuscripts, a nationally important collection. This collection of Darwiniana, including 180 Darwin letters²³, monographs ranging from Darwin's report following the voyage of the Beagle, *Narrative of the surveying voyages of His Majesty's ships Adventure and Beagle* (1839), to the *Origin of Species* (1859), and a comprehensive collection of Darwin's publications, in foreign languages as well as in English. The Stecher Collection also encompasses writings of naturalists and scientists whose work influenced Darwin, and thus includes publications by Louis Agassiz, Charles Lyell, T. H. Huxley, T. R. Malthus, Francis Galton, Alfred Russell Wallace, and many others.

In the physical sciences, the Dittrick rare book collection includes such landmark works as the Philosophical Transactions of the Royal Society (1664+), Georgius Agricola's De re metallica (1556), the pioneering work in metallurgy and geology by Georg Bauer, and G. L. L. Comte de Buffon's Dictionnaire des sciences naturelles (1781), which encompasses physical as well as natural sciences. The Dittrick also has very extensive holdings relating to the physics of radiology in the collections of Otto Glasser (1895-1964), inventor of the condenser dosimeter and Roentgen biographer. In microscopy, which spans virtually all the sciences, the Dittrick also has considerable holdings of instruments (over 250 microscopes from c.1700 through electron microscope c.1960) and related literature, including Robert Hooke's Micrographia (1665) and Antony van Leeuwenhoek's Ontledingen en ontdekkingen... [Discoveries and dissection...]²⁴, and Alfred Donné's *Cours de microscopie* (1844), the first work featuring photographic (daguerreotype) images made with the microscope. Biochemistry is well represented in our collections, as would be expected of a medical library. An area of particular strength is the chemistry of toxins, which is documented in the personal archives and rare books collection of John G. Spenzer (1864-1932), Cleveland's first toxicologist and forensics specialist.

The Dittrick and the College of Arts and Sciences of Case Western Reserve University

In the remainder of this paper I will highlight some examples of the educational programming that the Dittrick offers. As noted above the Dittrick became an interdisciplinary study center of the College of Arts and Sciences of Case Western Reserve University in 1998.

The chief curator of the Dittrick now answers directly to the Dean of the College of Arts and Sciences, the reasoning being that we were more properly history than medicine. Technically, we became the Dittrick Medical History Center and Museum, reflecting the variety of collections, research, scholarship, and teaching that we undertake, as well as the ongoing presentation of a publicly accessible museum gallery. It has proved to be a change for the better, bringing the Dittrick staff into more regular and engaging contact with students and faculty at CWRU. Each of the four Deans serving over the past decade has taken an abiding interest in facilitating use of the Dittrick's resources in the undergraduate learning experience. To this end, we renovated a room for seminars, the Zverina Room²⁵, adjacent to the museum galleries and classes are regularly held in that space during the academic year.

Use of the Zverina Room is reserved for classes making particular use of Dittrick collections for study and research. The Dittrick has thus become the venue for several classes employing its collections in a variety of ways. Our experience has been that one must be somewhat entrepreneurial in making this happen; one must look across the



Fig. 4 - SAGES seminar in Zverina Room, 2007

campus and in each department to find professors that might make interesting use of images, artifacts, and manuscripts from the Dittrick collections. Some are admittedly more adept at doing this than others, and it requires thinking somewhat "outside the box" for academics accustomed to teaching students via the traditional lecture format. It is more hands-on and involves an experiential learning component that must be woven creatively into the fabric of teaching.

Despite these potential obstacles, several professors at CWRU have succeeded admirably in using the Dittrick Museum and its resources in the context of their teaching. Past examples of such collection use includes the SAGES²⁶ seminar "Darwin's view of life," using our Darwin correspondence (180 letters to and from Charles Darwin).

In this seminar, taught by Patricia Princehouse (History and Philosophy of Science), students read, transcribed, and interpreted the letters as an exercise in the use of primary historical materials. For these students, using Darwin's own correspondence was a singular experience, bringing them tangibly close to such an important and consequential scientist. It also probably comprised the first time that they had ever tried to work with original 19th century letters and manuscripts. For them, the challenge lay in contextualizing and analyzing the correspondence in light of other historical readings about Darwin's life and his contribution to science.

In another SAGES course, "*Women and medicine in America*," taught by Renée Sentilles' (History) class, students studied and analyzed Dittrick artifacts and images relating to women's health. The result of this investigation was not only a paper for class, but also an exhibition. As a group, the class fashioned a temporary display of their findings in exhibition cases in the Allen Memorial Medical Library. The course of Anne Helmreich (Art History), "History of photography," visited the Dittrick to examine and discuss medical images, particularly the collection of dissection class portraits. Professor Helmreich also taught "Visual Arts and Museums," a graduate level museum studies seminar offered each year by the Art History Department. In 2007 this course included an exhibition of rare books, entitled *The History of the Book- Always in Transition*, curated by the students in the class.

The exhibition featured rare books from the Special Collections of the Kelvin Smith Library (where the exhibition was presented), the Cleveland Institute of Art, and the Dittick. In addition to the intellectual content of the project, students developed a new appreciation of what goes into mounting an exhibition, from the background research, to the writing of museum labels, to the logistics of handling rare and precious historical material. As is increasingly customary, this temporary exhibit was complemented by an online digital version, so that the work done lives on despite the transitory character of the display²⁷.



Fig. 5 - Students in art history museum studies class preparing exhibition of rare books, 2007

The Dittrick and the Cleveland Institute of Art

Dittrick staff have also collaborated creatively in educational projects with faculty and students at the adjacent Cleveland Institute of Art (CIA). In particular, we have worked with students and faculty in the Department of Biomedical Art in mounting past exhibits and associated programming. For example, in 2004, when the Association of Medical Illustrators (AMI) met in Cleveland, James Edmonson gave two presentations in the conference regular program, delivering papers on behalf of Mütter Museum Curator Gretchen Worden. He also was co-presenter of a special workshop at the Dittrick entitled *Anatomy by the Artist*, which showcased classic anatomical atlases from Vesalius' *Fabrica* to Grey's *Anatomy*. This program was co-presented with AMI past president William Andrews (Education Program Coordinator, Dept. of Medical Illustration, Medical College of Georgia).

In Spring 2005 James Edmonson co-curated an exhibit entitled Perceptual Anatomy: Visual Communications Past and Present, with David Aldrich, MFA, CIM, then head of the CIA program in medical illustration (Aldrich is today Vice-President, Research & Academic Affairs, Alberta College of Art and Design). This exhibit featured anatomical classics from the Dittrick collection as well as contemporary work by CIA students, and was featured as part of the programming for CWRU's Baker-Nord Center for the Humanities. We envision similar exhibits and programming in collaboration with CIA faculty and students, and indeed the CIA/Dittrick relationship will take on new importance with the pending acquisition of the Aitken Collection, the archive of Hamlet Frederick Aitken (1872-1939), a medical illustrator from the Boston area long associated with Harvard Medical School and its distinguished medical and surgical faculty. When this collection arrives at the Dittrick in the coming year, it will be the subject of study, exhibition, lectures, and associated programming, particularly in collaboration with Amanda Almon, head of Biomedical Art.

Cleveland School of Science and Medicine at the Dittrick

In October 2006 the Dittrick welcomed a new group of museum visitors: students from the John Hay High School's recently-developed Cleveland School of Science and Medicine (CSSM). Headed by Principal Edward Weber, this program is open to students throughout the Cleveland Public School District. The school is focused on the fields of science and medicine within a rigorous academic framework. CSSM offers a unique college preparatory education for motivated, high-achieving students interested in entering science or health-related professions. Students take two science courses in each of their first two years, completing all of the state science requirements in that time period. In their third and fourth years, students take higher level advanced placement courses in Biology, Chemistry or Physics, or engage in postsecondary educational opportunities. Throughout a student's time at CSSM, opportunities for supplemental learning outside of the classroom are provided. Such activities include viewing live surgeries at world-renowned medical institutions, tours of medical and science museums in the area, and semester-long research projects with Case Western Reserve University medical students. Since its inception small class groups have visited the Dittrick early in the academic year to learn more about Cleveland's medical heritage and to identify key historical figures responsible for important medical advances.

In the summer of 2008 the CSSM initiated a "shadowing" program in which student spend several days following a professional during the course of their work day to gain insights into the nature and character of a career in medicine and the sciences. Several students spent a two weeks at the Dittrick and our medical library more generally to learn about medical informatics. It is hoped that our collaboration

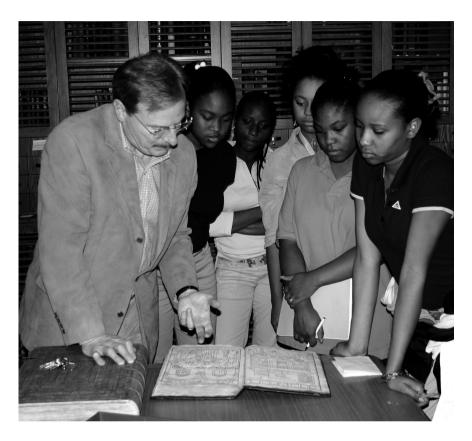


Fig. 6 - Students from Cleveland School of Science and Medicine visiting the Dittrick, 2007

with CSSM is the beginning of a long and fruitful partnership with Cleveland schools. Additionally, owing to the presence of the Skuy Collection on the History of Contraception, we have an ongoing collaboration with the Sexually Responsible Behavior Coordinator who over sees the comprehensive sexual education program, which displaced the abstinence only program in 2006 in the Cleveland Municipal School District.

The Dittrick welcomes students from the Cleveland Clinic Lerner College of Medicine

Just recently the Dittrick has been included as a core element in the curriculum of the Cleveland Clinic Lerner College of Medicine (CCLCM). This school was established in 2002 to educate a limited number of highly qualified persons who seek to become physician investigators and scientists committed to the advancement of biomedical research and clinical practice. Each incoming class is composed of just 32 students who are expected to develop a passion for scientific inquiry and cultivate skills for critical thinking coupled with broad-based clinical expertise that will optimally position the M.D. graduate to pursue a career as a physician investigator. Upon graduation CCLCM students are awarded a special medical degree by Case Western Reserve University: MD with Special Qualification in Biomedical Research. Beginning this year, students in their first year will tour of the Dittrick Museum of Medical History as part of their first module on professional identity. This is being offered as a component of their Foundations of Clinical Medicine Seminars course, and is intended, according to CCLCM professor Constance Jennings, to "help the students to better relativize the medical culture and to realize that what is standard of care today may be viewed differently in the future"²⁸.

Conclusion

The Dittrick Museum of Medical History fulfilled a modest educational mission while under the auspices of the Cleveland Medical Library Association, as physician/curator Howard Dittrick managed the museum as an avocation, opening its galleries to the public and offering tours on demand. The Dittrick's educational mission broadened when the Cleveland Medical Library affiliated with Case Western Reserve University in 1966 to form the Cleveland Health

Sciences Library and the Dittrick constituted its historical division, and its collections of artifacts, images, manuscripts, and rare books became a resource for scholars and students alike, from the age of middle school through medical school. By 1998 the Dittrick morphed again into the Dittrick Medical History Center (and Museum) and today functions as an interdisciplinary study center of the College of Arts and Sciences of CWRU. While our principal focus of attention has become the undergraduates of the College, the Dittrick still serves students younger (Cleveland School of Medicine and Science) or more advanced (Cleveland Clinic Lerner College of Medicine) or more specialized (Cleveland Institute of Art). We engage students al all levels through tours, lectures, exhibits, and research projects. Sometimes, when I reflect that we do not have a staff position as museum educator, per se, I grow concerned that we could be doing a more effective job in this area. But after more measured consideration, reviewing the range and variety of work that is done on the educational front. I can affirm that the state of education under the auspices of the Dittrick is at a high level, with anticipation of further improvement. We are privileged to care for such rich historical collections, embodied in many media and incarnations, and it is always a pleasure to share them with others and see the learning process take flight.

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- Kelly's Cleveland connection was Hunter Robb, his assistant and colleague at Johns Hopkins, who became professor of gynecology at Western Reserve University and spouse of Isabella Hampton Robb, founder of Johns Hopkins School for Nurses in Baltimore (1889), and first president of the American Nurses Association (1897).
- 3. Most notable was the purchase of the library of surgeon Reuben A. Vance, who had over 2,000 rare medical works.

Educational tools in the Dittrik Museum

- 4. HUDSON C., *The life and times of Dudley Peter Allen*. Cleveland, Ohio, CMLA, 1992.
- EDMONSON J., Nineteenth Century Surgical Instruments: A catalogue of the Gustav Weber collection at the Howard Dittrick Museum of Historical Medicine. Cleveland, Ohio, Cleveland Health Sciences Library, 1986.
- 6. The Severance wealth came from oil; Elizabeth Severance's father Louis served as vice president of the fledgling Standard Oil Co. (Ohio) organized in Cleveland in 1870 by John D. Rockefeller and thus became a multimillionaire.
- 7. University Circle is home to a remarkable group of cultural institutions including the Cleveland Museum of Art, the Cleveland Museum of Natural History, the Western Reserve Historical Society (including the Crawford Auto- Aviation Museum), Severance Hall (home to the Cleveland Orchestra), the Cleveland Institute of Music, the Cleveland Institute of Art, and much more, in addition to Case Western Reserve University, and nearby, the Cleveland Clinic.
- 8. Miller's dissertation was subsequently published as *The adoption of inoculation for smallpox in England and France*. Philadelphia, University of Pennsylvania Press, 1957. Other notable Miller publications include *Bibliography of the history of medicine of the United States and Canada, 1939-1960*. With a historical introd. by W. B. McDaniel, 2d. Baltimore, Johns Hopkins Press, 1964; *A bibliography of the writings of Henry E. Sigerist.* Montreal, McGill University Press, 1966; and the landmark survey *Education in the history of medicine;* report of a Macy conference, Bethesda, Md., June 22-24, 1966. New York, Hafner, 1968.
- 9. The field of historical and museum administration was just emerging when Dr. Edward Alexander, thenVice President and Director of Interpretation at Colonial Williamsburg, created the Seminar for Historical Administration in 1958. The course was initially aligned with academia, with the intent of training a new breed of professionals who would become leaders in the field. Doctoral students in American Studies and related disciplines were recruited from prestigious universities to learn about practicing history outside the walls of academia. The Seminar celebrates its 50th year in 2008; for information visit http://www.aaslh.org/histadmin.htm
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Transactions and Studies of the College of Physicians of Philadelphia 1991; (Ser. 5) 13: 75-91; EDMONSON J., *The American surgical instrument industry, 1880-1916: the impact of asepsis and European importation.* In: *Proceedings of the Sixth Symposium of the European Association of Museums of History of Medical Sciences.* 1992, 69-79; and EDMONSON J., *Learning from the artifact: surgical instruments as resources in the history of medicine and medical technology.* Caduceus 1993; 9: 87-98.

- 11. Courses taught by Edmonson included a survey of medical history offered through the History Department, as well as electives on medicine and technology in the School of Medicine, with artifact-based case studies. The Dittrick also offered for several years an orientation to incoming medical students, hosting small preceptoral groups (twelve students and their preceptor) for a luncheon seminar throughout their first semester. This ended in 1992 when the School of Medicine reduced the school week from six to five days; elements deemed non-essential, like the history of medicine, were dropped. It has also been our experience that if the Dean of the School of Medicine cares about medical history, neither does the faculty. Additionally, it seldom holds that both medical history and biomedical ethics seem to flourish at most schools of medicine in the United States; only one tends to thrive and triumph, much to the detriment of the other.
- 12. Students did research reports on objects in the Dittrick Museum, which become part of the accession record in the museum's reference files. Some reports ended up as published papers, such as GELFAND C., *Diphtheria: Dr. Joseph O'Dwyer and his intubation tubes*. Caduceus 1987; 3:1–34 and BERGER M., *Revisiting Abner Webb, Jr., M.D.: Use of Alternative Sources for Writing the History of Medicine*. Caduceus 1991; 6: 42-61.
- 13. http://www.case.edu/artsci/anth/
- 14. http://www.case.edu/artsci/engl/
- 15. http://www.case.edu/artsci/hsty/
- See EDMONSON J., American Surgical Instruments: An Illustrated History of Their Manufacture and a Directory of Instrument Makers to 1900. San Francisco, Norman Publishing, 1997. On medical technology more generally, see EDMONSON J., Medicine and technology. In: PURSELL C., A Companion to American Technology. Malden, Mass. And Oxford (UK), Blackwell Publishing, 2005, pp. 156-176.
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- 18. FISCH M. H., *Nicolaus Pol, Doctor, 1494; With a Critical Text of His Guaiac Tract.* New York, Herbert Reichner, 1947.
- 19. http://www.case.edu/artsci/dittrick/site2/books/herbals.htm
- 20. Kirtland, a founder of the School of Medicine in the 1840s, was an avid naturalist, while Edward Harvey Cushing was a physician who served as "curator of incunabula" for the CMLA, and purchased the library of Nicolas Pol, Renaissance physician. George G. Marshall (Pharmacy, WRU,1915) and Pres. of Marshall Drug Company, collected herbals, garden books, and pharmacopoeias; his collection came to the Dittrick in 1946.
- 21. JOHNSTON S., The Cleveland herbal, botanical, and horticultural collections. A descriptive bibliography of pre-1830 works from the libraries of the Holden Arboretum, the Cleveland Medical Library Association, and the Garden Center of Greater Cleveland. Kent, Ohio, Kent State University Press, c. 1992.
- 22. JOHNSTON S., *Cleveland's treasures from the world of botanical literature*. Wilmington, Ohio, Orange Frazer Press, 1998.
- 23. The Darwin letters feature correspondence with several naturalists and scientists, and are documented in *A Calendar of the Correspondence of Charles Darwin, 1821-1882.* (New York & London, Garland Publishing Inc., 1985.) the effort to locate and register the extant correspondence of Charles Darwin. (http://darwin.lib.cam.ac.uk/) See the Dittrick website: http://www.case. edu/artsci/dittrick/site2/archives/darwin.html
- 24. Ontledingen en ontdekkingen van levende dierkens in de teel-deelen van verscheyde dieren, vogelen en visschen: van het hout met der selver menigvuldige vaaten: van hair, vlees, en vis: als mede van de groote menigte der dierkens in de excrementen (1686). Leeuwenhoek discovered (1673-83) red bloodcells, infusoria, spermatozoa, and bacteria.
- 25. This room is named for members of the Zverina family, particular Rose, Anton, and Justin Zverina, long-time benefactors of the Dittrick Museum. The family also endowed a medical history lecture held each Fall.
- 26. The class is part of the Seminar Approach to General Education and Scholarship (SAGES) program inaugurated in 2000. The program features classes that focus on the "Life of the Mind," taught in small seminars of 15 students. SAGES pilots an innovative curriculum and direction for education at Case Western Reserve University that strengthens and enhances the

culture of inquiry, exposes students to a breadth of learning experiences, and sets the students on the path of what the University hopes is a life-long zest for learning.

- 27. http://fc.case.edu/newmedia/pachy/book/
- 28. Personal communication, 28 May 2008.

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