Just as indentured servitude evolved from a combination of Europe's impoverished class system and the peculiar nature of labor scarcity in the New World, so American medical education emerged from an apprenticeship system designed to provide healers for a people unwilling and unable to wait for a profession of university-educated physicians. Young men aspiring to be physicians joined a doctor's household for a period of four to seven years during which time they kept casebooks, read the few medical texts available in the physician's library, and learned the art and science of medicine from close observation. The normal fee for an apprenticeship was $100, an amount that varied from region to region and from rural to urban setting. Nevertheless, the fee charged and the duties required remained relatively constant from colonial days into the first half of the nineteenth century.

By 1800, the young republic boasted a handful of university-based medical colleges to serve its growing needs. These included the College of Philadelphia (University of Pennsylvania), founded in 1765; King's College, founded in 1767; Harvard Medical School, founded in 1783; and Dartmouth College, founded in 1797. Other schools followed in quick succession but could not graduate nearly enough doctors to satisfy the needs of the youthful nation. Nevertheless, the system of apprenticeship adapted readily to the growth of these schools, allowing the term of apprenticeship to shorten to three years, with the understanding that aspiring doctors would divide their time between lectures and the oversight of a caring preceptor.

This combination, however efficient it may have been for established communities along the eastern seaboard, could not respond sufficiently to the clamor for doctors in the nation's interior and along the length of its frontier. Thus emerged the proprietary medical school model which, despite impediments, addressed the needs of the populations migrating into the trans-Appalachian West.

Proprietary Model

The proprietary model owed its origins to the College of Medicine of Maryland, chartered in 1807. The college began as a business enterprise - a corporation of stockholders - owned principally by doctors interested in augmenting their private medical practices with income derived from the purchase of lecture tickets, patient
referrals, and the heightened prestige that came from holding a chair in medicine. This model served the nation's growing pains through the nineteenth century. The proprietary system of education included both regular and sectarian schools, meaning those that taught a more metaphysically-based system such as homeopathic, eclectic, physio-medical, botanic, or hydropathic medicine.

The existence of proprietary schools reflected a nation that was fiercely laissez-faire in its commercialism and heavily populist in its conviction that in a free market environment whose intellectual spokesman was the Scottish economist Adam Smith (1723-90), every individual should be free to make his or her choices, including the choice of a physician. This meant that market forces - not a license or educational pedigree - should become the determinant of a physician's success or failure. By mid-century, most of the restrictions on medical practice had been lifted; only New Jersey and the District of Columbia required a license to practice medicine. For the rest of the nation, healing fell into the hands of an assortment of regulars, eclectics, homeopaths, physio-medicals, hydropaths, bone setters, Indian healers, oculists, medical electricians, botanics, aurists, surgeon-dentists, and patent medicine vendors who plied their trade in a distinctively free and open marketplace.

Between 1810 and 1840 twenty-six medical schools were founded, with another forty-seven between 1840 and 1875. Most were proprietary in their organization. Until the rise of the research university in the last quarter of the nineteenth century, medical education remained predominantly in the hands of these proprietary schools. In all, 457 medical schools were established between 1786 and 1910. At the time of Flexner's classic study of medical education in the United States and Canada, 155 of these schools were still operating. Of that number, only sixty were university-based. The rest were proprietary.

The curriculum of the nation's medical schools - both regular and sectarian - was surprisingly similar. Whether university-based or proprietary, it consisted of seven courses: anatomy; physiology and pathology; materia medica, therapeutics, and pharmacy; chemistry and medical jurisprudence; theory and practice of medicine; principles and practice of surgery; and obstetrics and the diseases of women and children. The standard course of instruction consisted of two-four-month terms of lectures during the winter season, with the second term identical to the first.

**EMI**

The Eclectic Medical Institute of Cincinnati - better known as EMI and sometimes referred to as the "Mecca" of medical eclecticism - was the most renowned of the approximately fifty-five eclectic medical schools established in the United States during the nineteenth and early twentieth centuries. The term "eclectic" was coined by
Constantine Samuel Rafinesque (1784-1841), a physician who lived for a time among Native Americans, observing their use of medicinal plants. Rafinesque used the word to refer to those physicians who employed whatever means found to be beneficial to their patients.

Founded in 1842 and chartered in 1845, EMI descended from the Reform Medical College of the City of New York (1827-1838) and its mid-western affiliate, the Worthington Medical College (1830-1840) of Worthington, Ohio, the first state-chartered sectarian medical school in the United States. When Worthington lost its charter in 1840 as the result of a "resurrection riot," the faculty moved to Cincinnati where they reconstituted themselves as the Reform Medical College of Cincinnati (1842-45), receiving a charter from the state on March 10, 1845 as the Eclectic Medical Institute of Cincinnati.

Between 1842 and its last class in 1939, a period of 97 years, the school matriculated more than 7,000 students and graduated 4,668 with the degree of Doctor of Medicine. The trustees held the charter until 1942 when, through an arrangement with the American Medical Association, they relinquished it in exchange for EMI's graduates being allowed to serve as commissioned medical officers in the Army Medical Corps.

EMI's student matriculation records provide a window into the changing character of the school and of medical schools in general; the geographic distribution of its students; their educational preparation at the time of matriculation; their gender, race and ethnicity; their preceptors; and other elements drawn from the school's records. All student records for the period from 1833 to 1939 are accessible on this web site.

Perhaps the most singular distinction evident in the records is the fact that the vast majority of matriculants came from small towns, villages, crossroads, and farming regions in the United States. With the exception of Cincinnati, only a scattered few came from cities the size of Philadelphia, Boston, Pittsburgh, or St. Louis. In addition, a few students came from Canada, Nova Scotia, Jamaica, England, Ireland, Australia, and Germany. This foreign student population ended by the second half of the nineteenth century.

Over time, the states from which students originated tended to narrow rather than expand - a clear sign of the school's changing reputation and the decline as well in importance of its sectarian philosophy. By the early twentieth century, students were coming almost exclusively from the nearby states of Ohio, Indiana, Illinois, West Virginia, and Kentucky. The two exceptions were New York and New Jersey from which nearly half of the students originated in the 1920s and 1930s. The reason behind this unusual phenomenon will be explained later.
On average, fifteen out of every one hundred students were sons or daughters of eclectic physicians. This percentage increased over time to approximately a quarter to a third of matriculants. It was also not uncommon to see two brothers, a brother and sister, a husband and wife, or a father and son enrolled in the same class. In the latter instance, the father had most probably entered the profession through the apprenticeship system and was now seeking a formal medical degree. Also evident in the records are the number of male students who dropped out after a single course of lectures, went into practice, and returned years later as experienced practitioners to complete their course of lectures and receive the diploma.

During the Civil War years, the school nearly closed due to the high numbers of students and faculty who left to join the Union and Confederate armies. Among the faculty who left were George Washington Lafayette Bickley (1823-67) who served as a Confederate brigadier general; Edwin Freeman (1834-1904) who was appointed assistant surgeon in the U.S. Volunteers and saw duty at the Battle of Fredericksburg and later campaigns in Virginia and central Kentucky; and John A. Jeancon (1831-1903) who was commissioned as an assistant surgeon in the Indiana Volunteers and served as acting superintendent for several general hospitals. Not surprisingly, many students returned after the war to complete their studies.

EMI graduated some of the first women physicians in the United States. Most came from western New York and typically registered in groups of two or three. They were older than the average male student although a number of women in later decades were young and married to fellow students. A few of the women matriculants chose not to enroll in the full curriculum but in selective courses to prepare them for careers in nursing or midwifery. Between 1850 and 1857, when EMI announced that it would no longer admit female students, the college graduated twenty-six women with the degree of M.D. From the 1870s when EMI reversed itself and admitted women, until its closing, the school graduated approximately 100 women physicians. Although early estimates had the college matriculating approximately 440 women, new evidence suggests less than half that number.

It is interesting to note that EMI was one of the schools to which Elizabeth Blackwell had sought admission. Although accepted, her reason for not attending was due to the school's lack of hospital privileges for its students. Nevertheless, the list of women graduates is impressive and included Caroline Brown (1854) from Utica, New York, the first woman medical graduate west of the Allegheny Mountains. She later moved to Washington, D.C., where she trained as a homeopath and helped organize the Homeopathic Free Dispensary and the National Homeopathic Hospital. In 1873, she became vice president of the National American Woman Suffrage Association.
There is also evidence that EMI graduated some of the first African-American physicians in the United States. John Uri Lloyd, one of the early patrons and teacher at the school, said as much in a letter he wrote to Booker T. Washington in 1900. Unfortunately the library lacks a copy of Lloyd's letter. What it does have in its files is the response from Washington to Lloyd, dated May 2, 1900, thanking Lloyd for sharing his information. Although not clearly identifiable through alumni records, three individuals could have been the ones referenced by Lloyd. The first was William R. Reynolds of Illinois who graduated in the class of 1868. Another was James T. Broadnax from Augusta, Georgia, who at age 25, transferred from Meharry Medical College in 1892 and supported his education by working as a janitor's assistant at the college. Broadnax graduated in 1904. The third was Charles W. Beaman from Jefferson, Missouri, who transferred from Howard University Medical School in 1898 and started at EMI on December 1, 1899; he graduated in the spring of 1903. After years in private practice, Beaman returned to EMI where he served as the school's treasurer, faculty mentor, and as a secretary to the Board of Trustees. Except for the registrar's records, none of the bibliographical sources on Beaman accounts for his time at Howard Medical School. One suspects that he chose to "pass" into white society and did so without challenge. There were at least two other African-American graduates: John R. Moore of Philadelphia, who graduated in 1906, and Charles E. Horner of New Park, Kentucky, who graduated in 1907. Beside each of their names in the registrar's records is the word "colored."

During the years immediately before and after the Civil War, matriculation, tuition, and a demonstrator's ticket cost $70; the graduation fee was $25, and board was available through the YMCA or a nearby boarding house for about $4-5 per week. Alternatively, students could purchase a "certificate of scholarship" for $125, entitling them to attend as many courses of lectures as they wished prior to graduation. When it became clear that students were matriculating without the benefit of preceptorships, the college provided for the student's entire medical education. For a small additional cost, the college offered students the option of attending the two-year course of study while simultaneously working in a local physician's office. This became the norm by the early 1900s.

Medical Trends

From 1845 to the 1880s, the requirements for graduation at most schools included three years of reading with two sessions of lectures, or four years practice and only one course of lectures. In addition, students were required to pass a brief set of oral questions and prepare a thesis that amounted to little more than an essay. During this period there were no written examinations and no grades.
Student thesis topics in order of popularity at EMI were remittent and intermittent fever; typhoid fever; diphtheria; gastritis; pneumonia; and inflammation. One suspects that these topics were popular at all medical schools and not just at EMI or other sectarian colleges. Popular thesis topics specific to EMI (and perhaps other eclectic colleges) included the mental influence on disease; the importance of "specific" medication; animal magnetism (as late as 1889); and the body-mind relationship.

Beginning in the 1880s, American medical education entered a new era where the lecture, recitation and textbook competed with the laboratory and the student's active participation in learning by doing. No longer was scientific knowledge something esoteric; it had become an essential ingredient in the education of a modern practitioner. The acceptance of germ theory brought with it broad implications for the acceptance of a laboratory-based medical education. The discovery of the microorganism served as a catalyst for that change in thinking.

One telling indicator of this change was the forming in 1889 of the Association of American Medical Colleges (AAMC) which restricted membership to schools requiring a three-year graded curriculum of six-month terms and specified entrance requirements. At the time, about one-fourth of the medical schools qualified for membership. EMI was not among them. In 1891, the National Conference of State Medical Examining and Licensing Boards was established. It, too, set benchmarks for what was to be expected in a modern medical education system.

As a result of these pressure points, the basic sciences and clinical specialties were brought into the curriculum making the medical course longer and more rigorous. Schools started to compete for academic respectability rather than for large enrollments as before. This, in turn, resulted in schools facing the challenge of rising expenses and falling revenues. Problems of insufficient funds and inadequate laboratory and hospital facilities plagued even the best schools. Stronger ties emerged between the medical school and its parent university, provided there was one. As a consequence of those ties, medical schools gained badly needed financial assistance, and the university, for its part, gained in educational stature.

In 1890, EMI added two new laboratories in chemistry and histology, and for the first time, advertised two need-based scholarships awarded on the basis of competitive examinations. In 1892, EMI scheduled its first three-year course of study. Two years after EMI had implemented its program, the AAMC announced its endorsement of a four-year course of study as a membership requirement. EMI was unable to make this change until 1900.

By the 1890s, university-based schools were pulling away from the proprietary schools. Drawing upon state tax monies in the public universities and endowments in
the private universities, the more fortunate medical colleges were able to field the necessary equipment, staff, books, and space to address the increased demands of medical education. By contrast, proprietary schools were forced to take out loans to furnish and equip their schools and faculty had to forego dividends to make ends meet. Not surprisingly, proprietary schools began to lose their relevance, falling further and further behind.

Beginning with the class of 1894, EMI students started taking entrance exams; nevertheless, students were still being admitted without proper qualifications. This included students with subject area deficiencies who were admitted on condition that they take the college's entrance exam within a year following their admittance. In other words, students could embark on a medical program while promising to fulfill their deficiencies at a convenient time afterward. The registrar's ledger also makes reference to students qualifying for admittance as the result of a teacher's or superintendent's certification; attendance at a liberal arts college or pharmacy school; and the occasional student who had been awarded a "B.A." or "B.S." degree, or the "Ph.G." in pharmacy. These later cases were the exceptions, not the rule. Also among the changes evident in the registrar's files are the first recorded instances of a student being dropped for poor scholarship; before, when students left, the reasons given were sickness, death, or incomplete attendance.

Over the course of its history, the average size of the graduating class at EMI was fifty-three. Its largest graduating class occurred in 1878 with one hundred and twenty-two students earning their degree; its smallest was in 1900 after the school moved to a four-year curriculum and graduated a class of only eight. The youngest students at EMI entered at the age of sixteen; the oldest in their late fifties. Although most of the younger students matriculated before the 1870s, William Choate of Tulsa, Oklahoma, was sixteen when he entered the freshman class of EMI in 1900 and graduated four years later with the M.D. degree.

In 1907 the AMA's Council on Medical Education began rating schools A, B, and C. This resulted in schools looking more alike, with similar courses and hours, and comparable texts and pedagogy. Medical faculties also grew in size, acquiring staffs of a dozen or more. At the same time, it became increasingly difficult for professors to teach and remain engaged in private practice. This resulted in a decided move to full time instructors and lab technicians. Although slow to develop, medical research won a secure place in American medical schools but also created an increasingly heavy financial burden on the schools, adding greatly to the expense of medical education. As late as 1909, EMI reported a "working library" of 500 volumes, available to students and faculty two afternoons a week. Despite its efforts, E.M.I. never succeeded in obtaining better than a "B" rating from the Council.
In 1910, Abraham Flexner published his *Medical Education in the United States and Canada* calling for higher standards, tougher licensing laws, and an end to sectarianism and to the proprietary school. Indicating that modern medicine demanded facts, not dogma, he argued that sectarian medicine was no longer defensible. The placing of medicine on a scientific basis had precluded once and for all the metaphysical systems of the past. Among the eight eclectic schools that remained, none possessed adequate laboratory or clinical opportunities for their students. Flexner considered their financial future to be hopeless.

During these years, an EMI student could purchase a ticket for $250 and attend all four years, including any necessary repeats. There was an additional $25 for graduation; book purchases averaged about $20; and room and board, $100. Thus the total cost of a full four years of medical education ranged from $722 to $1,074. With EMI's tuition receipts barely reaching $7,000 in 1909-10 there was little with which to finance research, support scholarships, purchase needed equipment, and cover lecture stipends. In fact, the college's financial condition was such that it could only support one fulltime instructor in 1912 who received $675 for teaching histology, pathology and bacteriology. The remainder of the teaching faculty received amounts ranging from $25 to $200. Unable to build a strong teaching staff and clinical relationships with the city's larger hospitals, the school was forced to remain impoverished in both its standards and its aspirations.

By 1908, fifty-seven medical schools announced their intention to require at least one year of college study beginning no later than 1910. By 1914, eighty-four medical colleges required one or more years of pre-med college work before admission. EMI was not among this group. While 24% of graduates of regular medical schools held BA or BS degrees by 1914, only 5% of the homeopathic and 9% of the eclectic graduates claimed similar credentials. This percentage was even smaller for EMI graduates. In 1914, EMI was still admitting students with only fifteen units from an accredited high school and with no obligatory premedical courses. Not until 1920 were its students required to produce both a high school certificate or diploma and proof of some premedical education. As late as 1925 only seven out of EMI's class of thirty-eight held baccalaureate degrees.

Lacking an acceptable credential, prospective students could request certification by the State Entrance Examiner. These examinations, held once each year, tested students in English, Latin, history, mathematics, and science. Admittance into EMI required a general average of 75 percent, with no grade below 60 percent. In time, state certification became the norm, led not surprisingly by the New York Regent's Exam established in 1865 for those wishing to attend high school.
During the 1910s and 1920s, an increasing numbers of students were transferring into EMI from both regular and sectarian schools. As noted earlier, a significant number came from schools that had closed as a result of the increased demands placed upon them by licensing agencies, the AMA's Council of Medical Education, and the AAMC. Others because of marginal or failing grades, were looking for a more accommodating school in which to complete their degree requirements. The registrar records for this period note numerous students who transferred with "conditions" attached to their name; there were also many who repeated a year or more once they transferred. Interestingly, too, were a number of students who either dropped out of EMI because of poor scholarship, who quit and transferred to another school, or who left for reasons unknown except for the occasional remark by the registrar such as "Good!" "Good riddance!" or "Thank God." One can only wonder what the student had done to merit these comments.

By 1920, the number of medical schools had fallen to 131, with most of the attrition occurring in the ranks of the proprietary schools of which only six remained, including EMI. As part of the transformation from proprietary to state-supported public or endowed private medical schools, almost every major public or private university acquired its medical school by building one de novo or, more typically, by affiliation, purchase, or union with an older proprietary school which could no longer afford the rising costs of education. Thus in Chicago, a city that Abraham Flexner named the "Plague Spot" of American medical education, where a total of eighteen medical schools operated in 1904, the stronger proprietary schools begin seeking affiliations with both private and public research universities. Among them was Rush Medical College which affiliated with the University of Chicago; Chicago Medical College which affiliated with Northwestern University; Bennett College of Eclectic Medicine which affiliated with Loyola University Medical School; and the College of Physicians and Surgeons of Chicago which eventually became the University of Illinois Medical School. EMI never affiliated although there were negotiations in that direction - first with Xavier University and the University of Cincinnati, and later with the YMCA. None of these negotiations matured beyond the talking stage.

**Immigrant Quotas**

Despite the waves of immigrants that poured through New York harbor and other ports of entry in the nineteenth century, most colleges and universities remained the private reserve of white, Anglo-Saxon, Protestant America. By the early twentieth century, however, academic administrators were voicing alarm at the changing ethnic and religious composition of their student applicants. As New York's newest immigrant population took advantage of the secondary school system and low college tuition, the universities were inundated with matriculants, many of whom were Orthodox Jews from Southern and Eastern Europe. Eventually they comprised
upwards of half the entering classes at Columbia, Fordham, New York University, New York Homeopathic, Long Island College and Hospital, Syracuse, and other schools in the Northeast by 1918. This situation precipitated a spate of new admissions materials requiring place of birth; religious affiliation; father's name and occupation; mother's maiden name and place of birth; any name changes of family members; a photograph; and a personal interview. Using this additional information, the schools instituted quotas intended to control admissions. By 1924, the percentage of Jewish matriculants had declined to twenty percent and continued to decline to approximately twelve percent by the outbreak of the Second World War.

EMI's response to these changes is most interesting in that it recounts a very special story that carries into the school's final days. After 1920, its files are more complete, including a new admission form that required the full name, address, class applied for, race, nationality, religion, date and place of birth, name and occupation of father or guardian, names of high schools and colleges attended with dates, names of medical colleges to which applications for admission had been made, identification of any previous enrollment in a medical school, two character certificates, and a photograph. The results are revealing.

Students of native-born parents were typically sons of eclectic physicians, ministers, merchants, shop foremen, and insurance salesmen. Many had transferred from colleges and universities such as the University of Cincinnati, Xavier College, Notre Dame, and Ohio State University where they had enrolled in two-year premedical programs. In instances where brothers enrolled, they usually came from a medical family; and women students were almost always daughters of eclectic physicians.

What is surprising in EMI's records is the high number of young men of Jewish heritage who were admitted during the 1920s and 1930s. The majority of them, sons of immigrant clothiers, furriers, produce dealers, merchants, tailors, and dye workers living in New York and New Jersey, were outstanding students, hard workers and anxious that the quota system not stand in the way of their professional opportunities. Their families had come from Italy, Romania, Poland, Russia, and Yugoslavia, and observed a more traditional orthodoxy. They were poorer and more culturally distinct from the Reform Jews who had migrated from Germany in the 1840s and 1850s. Between 1925 and 1939, these students averaged 44.2% of each of EMI's graduating classes. Two principal sources from which these students transferred were New York Homeopathic and Rhode Island College and Hospital.

Notwithstanding the large numbers of Jewish men who chose EMI as their portal into medicine, they continued to face mounting challenges when it came to finding A-rated hospitals to fulfill their residency requirements. EMI records are filled with letters indicative of discriminatory policies carried out by both public and private hospitals
against the school's Jewish graduates. Many of these letters are threatening in tone, with hospital directors warning EMI's dean that the school's access to their hospital residency programs would be eliminated if it sent to them another Jewish physician. Anti-Semitism was rampant in the United States during the 1920s and 30s and the consequences of it are clearly evident in the school's records.

One final comment is perhaps merited. EMI experienced transfers from both regular and sectarian schools. Every indication suggests that ideology had little to do with the decision to transfer. Mostly it was due to the closing or merging of schools, poor scholarship, or issues of religion and/or ethnicity. Although there is ample evidence in the literature of rivalries and hard feelings between and among regular and sectarian medical colleges, it would appear that these issues were secondary to the fact that both granted the "M.D." degree. In other words, it was access plus the degree - not the philosophy - that determined choice. There are, for example, instances in EMI's matriculation records showing students who enrolled originally at Johns Hopkins, Columbia, or other first-tier schools, transferring in sophomore or junior year to a second-tier regular or homeopathic college, and completing their work at EMI. One can easily extrapolate the whys and wherefores of those transfers. Clearly, EMI had become a school "of second chance" to which students could transfer, earn their degree, and move on. Since EMI's degree was the "M.D.,” the sectarian nature of the school did not play a deciding factor in student choice.

Ultimately, that proved to be the Achilles heel for EMI. Having received the degree of "M.D.", the majority of its graduates for whom the philosophy of eclecticism was of little consequence, "mainstreamed" back into regular medicine and deliberately cut their ties with the college. The failed efforts to raise endowment support for the college from these transfer students only sealed its fate. Born in an era of vibrant sectarianism, the college survived into the twentieth century only to be abandoned by its graduates and die a pauper’s death. In the end, the college faced an uncertain future by backfilling its shrinking numbers of believers with marginal students and young Jewish men anxious to enter the profession by steering clear of the restrictive quotas in Eastern schools. All that remained of eclecticism were memories of the past and its once proud philosophy.