The 19th century was a watershed for the practice of clinical medicine. The hospital was gradually becoming a focus for healthcare, enabling the observation of a greater number of patients and facilitating description of the natural history of diseases. Sophisticated and structured physical examination methods were developed, backed by inventions such as Laennec’s stethoscope, allowing better diagnosis. In the 18th century, the leading European medical schools were in the Netherlands in Leiden and, in Britain, in Edinburgh and London (1). Paris rose to prominence as the world center of medicine in the first part of the 19th century.

Transmission of rapidly expanding knowledge in turn required effective teaching, which centered in the emerging teaching hospitals. Training of physicians was actually quite international: it was not unusual to study medicine abroad. European developments soon influenced the US. William Shippen and John Morgan (both Edinburgh graduates) established the Medical College in Philadelphia in 1767. Harvard introduced an innovative structured course in medicine in 1871, and in 1876 a university medical school was founded in Baltimore (2).

The 19th century also marked the move of medicine toward science. Louis Pasteur demonstrated that a scientist without medical background can also greatly contribute to clinical practice. Claude Bernard was probably the greatest supporter of science in medicine. He put forward a concept of symbiosis between clinical skills and basic science, in which hospitals served to observe a disease and the laboratories helped to understand its pathological mechanisms (1). Toward the end of the 19th century, fast-developing German science precipitated the next revolution in medicine by focusing on basic science. The 20th century continued to be a story of increasing significance of laboratories, but also, one could argue, of the (relative) neglect of the human interface dimension.

Because the clinical method depended so much on individual observation and examination skills, exceptionally gifted doctors, and those who were good teachers, were gaining a huge following and achieving a very high professional status. Many eminent physicians lived their life for medicine, being completely devoted to the training of their pupils and successors.

Not surprisingly, the prestige of early medical schools was very often linked as much to individual clinicians as it was to the institutions themselves. Thus, there was Herman Boerhaave in Leiden, William Cullen (3), and the triumvirate of Monros in Edinburgh and Glasgow, and William and John Hunter in London (1). In Baltimore, the “big four” were the pathologist Henry Welch, the physician William Osler, the surgeon William S. Halsted, and the obstetrician Howard Kelly, all being the key players in making Johns Hopkins a leading academic hospital (1, 2, 4). A description by an eminent journalist of the day, H.L. Mencken, provides an unembellished view of their personalities (5).

One of the great European physicians of the era was Jean-Martin Charcot (1825–1893), regarded together with Guillaume B.A. Duchenne (1806–1875) as the founder of clinical neurology (among other contributions, as he was first to describe multiple sclerosis) (6). Charcot had a major interest in hysteria and developed (later refuted) theories explaining its mechanism. He extensively employed visual art in his work. He was one of the pioneers of the use of medical photography and used sculptures for his demonstrations. He was also an accomplished artist, often sketching his patients (6, 7). Many of the eminent physicians had wide interests beyond medicine—often reflected in their book collections. Dr. Charcot also left a large library; it is now known as the Charcot Library, belonging to the Pierre and Marie Curie Libraries at the Sorbonne in Paris.

Charcot practiced at the Salpêtrière hospital in Paris, which at the time was an asylum for insane women. The painting shown in Fig. 1 is entitled Clinical Lesson at the Salpêtrière Hospital (8). It shows one of his
famous regular teaching sessions. The picture clearly illustrates the concept of a clinical school; several future eminent neurologists attended the presentation, including Joseph Babinski (he is in the painting supporting the patient).

The painting was created in 1887 by a French artist Pierre-André Brouillet (1857–1914), a realist who also painted Parisian scenes, landscapes, and a number of Orientalist pictures such as *The Exorcism* (8, 9). Although his career spanned Impressionism and Postimpressionism, his style remains traditionally academic. In illustrating the transmission of medical knowledge, the painting is similar in its ambience to *The Agnew Clinic*, painted later by the American Thomas Eakins.

There is something fascinating in the personalities of these physicians, pioneers of modern clinical medicine who, although often domineering and authoritarian, were deeply devoted to clinical teaching. They made a lasting mark on medicine by collectively creating an intellectual template for the institution-based system of medical education, which was developed in full after the publication of the Flexner Report in the US in 1910 (2).

However, there is a postscript. With the rising pre-eminence of medical research, the university-based medical schools began to rank clinical skills and teaching ability below research. Seeing how critical teaching had been to medicine, one cannot help thinking that this, at some point, needs to be redressed.

Author Contributions: All authors confirmed they have contributed to the intellectual content of this paper and have met the following 3 requirements: (a) significant contributions to the conception and design, acquisition of data, or analysis and interpretation of data; (b) drafting or revising the article for intellectual content; and (c) final approval of the published article.

Authors’ Disclosures or Potential Conflicts of Interest: No authors declared any potential conflicts of interest.

Acknowledgments: My thanks to Jacky Gardiner for her excellent secretarial assistance.
## References


DOI: 10.1373/clinchem.2013.218362