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EDITORIAL

Why the History of Medicine?

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The merits of medical history have been appreciated ever since medicine emerged as a profession in antiquity. During the eighteenth century, nurturing of research into the history of medicine was initiated, and, by the late nineteenth and early twentieth centuries, incorporation of courses on medical history into the medical curriculum was started. Unfortunately, the benefits of medical history and its inclusion in medical education have come under increasing scrutiny over the past few decades. Ironically, the erosion began at about the same time that scholarly work in the history of medicine was beginning while that of scientific discovery and innovation in medicine was accelerating. Essentially, the demands of rigorous research into the history of medicine in the twentieth century gradually led to the emergence of medical history as an independent discipline within academic departments of history. Simultaneously, the exponential growth of new information generated by medical research led to an overcrowded medical curriculum, in which teaching medical history was contested and dismissed. Paradoxically, it is the very wealth of new information being generated in medicine and its history that has led to an increasing chasm between them. This paper examines the reasons that brought about the separation of medicine from its history and proposes potential solutions to their rapprochement.

Key words: Medical history, Historiography of medicine, Medical curriculum, Medical authorship, History

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> *"History determines our life. Whatever situation we face is the result of historical developments, and if we want to act consciously and intelligently we must be aware of these developments and trends."*
>
> Henry Sigerist

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The origins of history date back to the recorded story of human civilization. The early appreciation of its importance is exemplified in Clio, the daughter of Zeus, created by the Greeks in their mythology, as the muse of history. Importantly, they also attributed to her bringing the Phoenician alphabet to Greece, the very tool that when refined into a vowel-based phonetic alphabet, would allow for the easier learning and wider literacy, which launched the Greek civilization. Heading her message, the founding father of medicine, Hippocrates (ca. 460–375 B.C.), expounded on the early history of Greek medical thought in his *Of Ancient Medicine*. While his followers dabbled in the subject of the history of medicine, and Menon, at the behest of his teacher Aristotle (384–322 B.C.) compiled the teaching of physicians (likely the *Anonymous Londinensis*), it was Galen (ca. 129–200) who excelled in it. Galen's massive literary output is the best extant record of the history of medicine theretofore as he names and lists the contributions of his predecessors even if it is only to criticize their work in order to glorify his own contributions. Herodotus (ca. 484–425 B.C.), a founding father of history, felt compelled to record, compare, and comment on the medical practices of Egypt, Mesopotamia, and the regions he visited, as did the Roman encyclopedist Celsus (ca. 25 B.C. to 50 A.D.), whose introduction to his *De Medicina* is a recounting of ancient medicine.[1–3]

Most of these early ventures into the history of medicine were basically a compilation of extracts from the writings of past medical authors or a doxography of ideas rather than actual historiography.[3,4] This was a tradition that engrained itself in medical writing and survived in the medical literature published through the latter part of the past century. It was a way to expose the development of medical knowledge so that a reader would appreciate how the reported results of a study were developed, as illustrated in the first example in Table 1. Compare the mention of authors by name in the quoted example of a January 1961 article with the impersonal, terse statements of that in an article published by the same journal in January 2015. The difference in these two introductory paragraphs of articles barely 50 years apart reflects the hard times that Clio and her medical disciples have faced in the recent past. Essentially, where familiarity with and display of medical history was expected and presenting the evolution of ideas and the individuals behind them was the norm, any such attempt is now dismissed as worthless information of erroneous facts and refuted principles and, therefore, needless to spend time on or effort to recall.

The answer of today's authors and editors when asked why not the history of medicine is "who cares?" An eroding attitude not unique to medicine but a sign of changing times expressed a century ago by Henry Ford:

Table 1: Comparison of the style of the introductory paragraphs from two articles published in the *New England Journal of Medicine* in the inaugural January 1961 and 2015 issues

Example 1: From ***NEJM 1961; 264:7–10***
"Although many physicians regard chronic pyelonephritis as a relatively common cause of hypertension[1] a dissenting opinion stresses the rarity of an etiologic relation.[2,3] **Longcope**[4] is credited with having first suggested hypertension as a late manifestation of pyelonephritis, and **Weiss and Parker,**[5] presenting additional cases, subsequently established the current histologic criteria for the diagnosis. In both studies, however, the authors refrain from assaying the prevalence of the association. **Goldblatt**'s,[6] classic experiments producing hypertension with renal ischemia lent a partial explanation for an association, and the implication that occult, chronic pyelonephritis might commonly cause hypertension became prevalent. Actually, the cases presented, being mostly juvenile and accelerated cases, represent unique examples of hypertensive subjects."
Example 2: From ***NEJM 2015; 372:21–29***
"Amyloid heart disease leads to an increase in ventricular wall thickness and stiffness of the heart.[1] Abnormalities of transthyretin, a transport protein synthesized mainly by the liver, may lead to hereditary transthyretin-related amyloidosis.[2] This disorder can be caused by any one of more than 100 point mutations in the transthyretin gene (TTR); the V122l variant, in which isoleucine is substituted for valine at position 122, is the most frequent mutation and occurs in 3 to 4% of black Americans.[3–5] V122l reduces the stability of transthyretin tetramers, causing cardiac deposition of misfolded transthyretin monomers and resulting in an autosomal dominant cardiomyopathy that typically occurs during or after the sixth decade of life, with a penetrance believed to be as high as 80% among men.[6–9]"

Note: Proper names are shown in bold type.

> *"History is more or less bunk. It's tradition. We don't want tradition. We want to live in the present, and the only history that is worth a tinker's damn is the history that we make today."*
>
> (Chicago Tribune, 1916)

This position was buttressed by those in medicine who contend that anatomy would have been discovered even if Vesalius (1514–1564) had never lived, as would the circulation of blood even if William Harvey (1578–1657) had never existed, and that of antiseptic surgery even if Joseph Lister (1827–1912) were never born. The fact is that they did and it is the work of such creative individuals that has paved the way for the advances that followed in their respective fields. Although it is true that the progress of science is the product of many forces and individuals, confirming the adage of Isaac Newton (1642–1726) that, "*If I have seen further it is by standing on the shoulders of Giants*," the fact is that, at any moment in history, only select creative minds benefit from standing on the shoulder of giants, see things farther, and point the way for the rest of us. Certainly, they deserve credit for doing that. As such, the story of great men and their great ideas is important and deserves to be recounted. A position unequivocally stated by William Osler (1849–1919), "*History and the knowledge of men are as much part of medicine as the latest technical devices and the knowledge of science.*"[5]

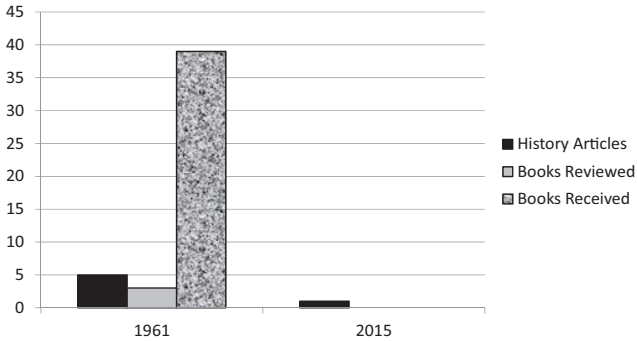

Figure 1: Comparison of the type of articles published in the *New England Journal of medicine* during the first three months of the years 1961 and 2015.

It is regrettable then that familiarity with the history of medicine, once acknowledged as important and promoted in medical education, has now been literally abandoned, and the relevance of its teaching in an increasingly congested medical curriculum is contested and dismissed.[6–8] Ironically, the erosion began at about the same time that scholarly work in the history of medicine was beginning while that of discovery and innovation in medicine was accelerating. A chasm that has only widened as the pace of progress in both fields (history and medicine) has accelerated over the past 50 years. Concern over this unfortunate eventuality was expressed by James Herrick (1861–1954) in 1905, "*There is a tendency in these hurrying times to seize upon that which is new and quickly forget the old.*" Regrettably, between the arrogant 1916 statement of Henry Ford and the serious concern about it expressed by James Herrick, it is Henry Ford's statement that has prevailed over time, and, in most circles nowadays it is deemed a shortcoming to talk of old ways that are regarded as obsolete, irrelevant, and not worthy of consideration. In this regard, the increasing attitude of editors and publishers of medical journals whose concern with the impact factor of their journals almost invariably results in the rejection of historical articles is of special concern. The consequent disparity created over time is evident in the types of articles published in the *New England Journal of Medicine* in the first three months of 1961 compared with those in 2015 (Figure 1). Despite a near doubling of the number of printed pages (680 vs. 1277), only one compared with five historical articles were published in the two periods considered.

What happened?

To appreciate what brought about the general apathy and neglect of a subject once considered a component of medical education, one has to turn to the historiography of medical history. The formal historiography of medicine is dated to the seventeenth and eighteenth centuries. Some of the early works in the field were that of the Frenchman Daniel Leclerc (1652–1728) who published *Histoire de la Médecine* in 1702, followed shortly by that of the Englishman John Friend (1675–1728) who published *The History of Physick* in 1725, intended as a sequel to that of Leclerc but now focused on the UK.[1–3] In the USA, one of the first books on medical history was by Robley Dunglison (1789–1869) who was re-

cruited by the University of Virginia and asked to give, alongside his medical teaching, a series of lectures on the history of medicine "at the desire of Thomas Jefferson," the then Rector of the University of Virginia. Dunglison's lectures were compiled and published posthumously as *History of Medicine* by his son in 1872.[9]

Most of this early history of medicine was written by medical men to glorify and promote the progress of scientific medicine whose disciples they were. This was at about the same time that, following the Scientific Revolution, experimental and laboratory research accelerated, medical concepts began to change into explanatory mechanisms, and technological advances proliferated. Therefore, there followed a major paradigm shift in the medical knowledge that had been transmitted theretofore through the dogmatic opinions, experience, and ways of the elders into that in the reports of experimentally verifiable new mechanisms of disease and their pathophysiology. And, as the pace of discovery and innovations in medicine accelerated, emphasis on medical history writing changed to that of recounting the progress achieved and was presented as triumphs deserving the support of the research enterprise generating it. This is when history as "great men, great discoveries" flourished. It is also then that the writing of medical history that had started as an antiquarian pursuit of retired doctors recounting tales of professional triumph and institutional histories with excursions into the ailments of the famous and mighty of the past began to change into a more rigorous endeavor based on archival research and increased in scope into a broader vision than what had been the mere recounting of the story of medical men.[1–3]

The consequent rigorous scholarship brought to bear on the history of medicine early in the twentieth century resulted in considerable improvement in the quality and content of the historical works being produced. The movement began in the latter half of the nineteenth century in Germany by Kurt Sprengel (1766–1833) and Max Newburger (1868–1955) and in France by Emile Littré (1801–1881) and Charles Daremberg (1817–1872) flourished in the first half of the twentieth century by a new generation of investigators such as Karl Sudhoff (1853–1938), Fielding Garrison (1870–1935), Charles Singer (1876–1960), Arturo Castiglioni (1874–1953), Henry Sigerist (1891–1957), Owsei Temkin (1902–2002), and George Rosen (1910–1977), to name a few.[3] They were all medical men who had studied medicine but devoted themselves to history.[4,10–13] The ground work in historical research of these venerable pioneers was further expanded in the latter half of the twentieth century as professional historians got into the picture. Therefore, the new writing of the history of medicine passed from clinician-historians to non-medical scholars with PhDs based in university departments of history, who further reshaped, expanded, and refined the scope of medical history. The result of this historiographic "revolution" was the emergence of an autonomous research discipline, with a shift of emphasis to the social, cultural, philosophical, and economic aspects of medicine. This otherwise admirable progress has created new problems. The writing of medical history has become increasingly demanding and these new academic historians now dominate the discipline, write for each other, and consider the work of clinician-historians as naïve.[6,8,14,15] These changes are not unique to medical history. They occurred simultaneously in the history of sciences in general and in the very discipline of history itself as it shifted emphasis on social, economic, and geographical trends rather than on the political, military, and diplomatic history of the past. Essentially, the focus of the new academic departments of history was no longer on specific events or people but on the social, economic, climatic, and geographical trends and external factors that influenced events and shaped the work product of the "great men" of the past.

This recent progress in research and writing of the history of medicine and of medical research independent of each other and the problems it has created can be summed up in the opening phrase of *A Tale of Two Cities* by Charles Dickens (1812–1870)—"*It was the best of times, it was the worst of times*"—for as much as it has been good for each of them to flourish, it has increased the chasm between the two disciplines and literally estranged medicine from its own history.[14–16] This regrettable loss has been condemned, bemoaned, analyzed, and addressed ever since the trend began.[16–21]

Why the history of medicine?

Why then the history of medicine? From the outset, it is important to admit that historical knowledge is not indispensable to the practice of good medicine by any well-rounded clinician or to doing solid research by any well-trained medical investigator. The once lofty answer that as a learned profession medicine has interests that transcend its utilitarian purpose is no longer tenable. The fact remains that most notable leaders and contributors to the medical sciences are well versed in the humanities and knowledgeable of its history. For those enamored of the rapid pace of medicine in embracing innovation and rejecting the past as obsolescence, it is worth noting that today's research can be appreciated best when considered in its historical context. Especially, although all medical investigators, however narrow their field of research is and, whether they recognize it or not, they are, in a way, part of a grand historical tradition; and, however limited their care for the history of medicine is, their ultimate research motivation is the changing of history. As such, the realization of their own rich professional heritage can only enrich their own intellectual satisfaction and will provide reassurance in facing the trials and tribulations of bench research. In essence, their belittling of the past is detrimental only to their own appreciation of the work they are engaged in. In the words of Paul D. White (1886–1973) on the merits of looking back:

> *"We acquire a better perspective of our place in history with the humbling realization of our role as merely a link in the long chain of acquisition and application of medical knowledge."*[7]

Table 2: The potential contributions of the history of medicine listed by Eugene Cordell (1843–1913) in his 1904 presidential address to the Medical and Chirurgical Faculty of Maryland[8,17]

Why the history of medicine	
1	It teaches what and how to investigate.
2	It is the best antidote we know against egotism, error, and despondency.
3	It increases knowledge and gratifies natural and laudable curiosity.
4	It is a rich mine from which many neglected and overlooked discoveries of value may be brought to light.
5	It furnishes the stimulus of high ideals which we poor, weak mortals need to have ever before us; it teaches our students to venerate what is good, to cherish our best traditions, and strengthens the common bond of the profession.
6	It is the fulfillment of a duty—that of cherishing the memories, the virtues, and the achievements of a class that has benefited the world as no other has and of which we may feel proud to be members of.

Rather than just why the history of medicine, a better question to pose would be whether medicine deprived of its history makes one a better clinician or investigator. I would think not. As a first consideration, it is worth noting that history is engrained in the very practice of medicine. Every good clinician—even those who despise medical history—must be a good historian who can dig up and record the facts of the "past medical history" of every patient encountered. That is the aim of every aspiring clinician so well promulgated by one considered as the ultimate clinician scholar, William Osler. His statement on the importance of medical history has been quoted above. What is more important is the model Osler set in nurturing this concept. As one of the founders of modern medicine at the Johns Hopkins University School of Medicine, Osler lectured on the history of medicine and was also instrumental in the launching of its Institute of Medicine, under the leadership of William Welch (1850–1934). The statement of one of Osler's colleagues Eugene Cordell (1843–1913) is one of the best and often-quoted reasons for the importance of the history of medicine (Table 2). Osler's continued commitment to these principles is reflected in his efforts after moving to Oxford in 1905, where he launched the Section of the History of Medicine of the Royal Society of Medicine in 1912.[5] All this from an icon of modern medicine known to every medical student and practitioner independent of their own interest in or caring for the history of medicine.

What now?

Attempts to teach history in medical schools may be futile. What has contributed to this difficulty has been the increasing pace of knowledge. Where at the end of World War II, human knowledge was estimated to double every 25 years, in 2014, it has been estimated to double every 13 months. For a student starting a four-year medical school, this means that half of what is learned in the first year would be outdated by the time of graduation. Besides, medical school represents only a short period of four years in the life span of a physician. For interested medical students, the solution has been the offering of medical history as an elective, which, unfortunately, is being selected by a diminishing number of students.[8,21] As such, the battle to integrate medical history into medicine should be shifted to the longer 40–50 years that medical graduates practice their trade. Medical societies should step in to fill this gap, as should subspecialty societies. They should assume the lead in the continued medical education of their membership. That can only be for their own benefits as reflected in the words of August Comte (1798–1857), the founding father of modern sociology, "*To understand a science it is necessary to know its history*."

Another argument for the importance of the history of medicine is the irony that medical history continues to be of both general public and medical interest. Books such as "*The Emperor of All Maladies*" and "*The Immortal Life of Henrietta Leaks*" continue to capture audiences' attention. So do the writings of the late Oliver Sacks (1933–2015), as did those of Berton Rouché (1910–1999) a generation ago in his eminently readable "*Microbe Hunters*." Nurturing and fulfilling this public need is another avenue where the future of the history of medicine may lie.

CONCLUSION

To answer the question of why the history of medicine as the title of this paper and having started the paper with a quotation, it is proper to conclude it with another older quote dating back to the Scientific Revolution by the English historian Thomas Fuller (1608–1661):

> "*History maketh a young man to be old, without either wrinkles or grey hairs; privileging him with the experiences of age, without either the infirmities or inconveniences thereof. Yea, it not only maketh things past, present; but enableth one to make a rational conjecture of things to come.*"

CONFLICT OF INTEREST STATEMENT

The author has no conflict of interest to declare other than that of his love for the history of nephrology.

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