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Historiography of Biomedicine

“Bio,” “Medicine,” and In Between

By Ilana Löwy*

ABSTRACT

History of biomedicine is a hybrid domain, intersecting with many other scholarly disciplines. From the 1970s, historians who investigated recent developments in medicine increasingly shared the approaches, presuppositions, and methods of inquiry of historians and sociologists of science and technology. One reason is that the increasing reliance of medicine on technologies, instruments, and drugs makes the demarcation between “medicine,” “science,” and “industry” more difficult. Another is the “practice turn” in the history of science, which gave greater attention to the ways scientists and physicians work. The impressive achievements of historians who applied these new approaches came, however, at a cost. The neglect of an earlier generation of historians of medicine may have limited more recent ambitions for understanding health and disease in society. Closer links with historians of science and technology and sociologists of science may have blurred the specificity of medicine as a domain grounded in the distinction between the normal and the pathological and lessened scholars’ interest in “the clinic” as a unique site of the production of knowledge.

In 1947 a special issue of the Bulletin of the History of Medicine, the first professional journal of medical historians, celebrated the retirement of its founder, Henry Sigerist (1891–1957). One of his longtime supporters, Alan Gregg, the director of the Medical Sciences Division of the Rockefeller Foundation, explained that

beyond and above anyone else Henry Sigerist made us aware of the fact that medicine is the study and application of biology in a matrix that is at once historical, social, political, economic, and cultural. . . . Sir Oliver Lodge once remarked that the last thing in the world that a deep sea fish could discover would be salt water. Henry Sigerist removed us, with a historian’s landing net, from a circumambient present into the atmosphere of the past and thus discovered to us the milieu in which we were swimming, floating, and betimes stagnating.1

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Gregg’s proposal—that the medical historian’s task is to show what happens to biological knowledge when it is applied to the cure or the prevention of diseases—in all likelihood reflected the Rockefeller Foundation’s commitment to the promotion of biology-based medical sciences. These efforts were successful, and the tightening of the links between fundamental scientific research, clinical practices, and industry, especially in the second half of the twentieth century, changed the nature of medical practice. This change in turn affected historians’ studies.

FROM SCIENTIFIC MEDICINE TO BIOMEDICINE

From somewhere in the mid-nineteenth century, doctors did not just evoke “science”; they increasingly relied on laboratory sciences. Some historical studies imply that many doctors rapidly and enthusiastically embraced practices that originated in the laboratory, while others accentuate doctors’ resistance to the “scientific turn” and their defense of “incommunicable” clinical expertise. It seems difficult to construct a single narrative of changes in medicine in the late nineteenth and early twentieth centuries, but rather easier in the case of the post–World War II period, when the term “biomedicine,” coined in the interwar era, became a common shorthand for the work of doctors and scientists. A growing focus on the role of proteins and amino acids led to the “molecularization”—or, rather, “macromolecularization”—of biology and medicine and to the increasing homogenization of the methods and techniques used to study fundamental life phenomena and those applied to the investigation of diseases.

World War II is usually presented as a turning point in the “biomedicalization” process. It accelerated and intensified collaboration between biologists, clinicians, and industrialists, a development exemplified by the wartime production of penicillin. In industrialized countries, the post–World War II era was also characterized by important increases in public funding for medical research, the extension of health insurance to large parts of the population (a process that, in nearly all the Western countries, the United States excepted, was also supported by the state), and the rapid growth of the pharmaceutical industry. Of course, the separation between pre- and post–World War II circumstances is not absolute: laboratory sciences were intertwined with clinical practices from the early twentieth century, while large-scale production and the testing of drugs started in the interwar era.
with the manufacture of vitamins, hormones, and sulfa compounds. Nor were the postwar transformations of medicine uniform. “Science rich” disciplines such as hematology, endocrinology, and oncology rapidly became “biomedicalized,” while other medical specialties were slower in turning to the laboratory.\(^6\)

The heterogeneity of “biomedicalization” notwithstanding, most historians have seen increasingly dense networks linking the bench, the bedside, and the production plant, strongly affected by the increased economic and political importance of health care and by tightening regulation of doctors’, scientists’, and industrialists’ practices. From the 1970s, the networks were also molded by the growing role of patient activism.

The 1970s and 1980s were also a period of expansion and professionalization of history of medicine. An increase in the number of historians of medicine with formal training in history, or new forms of history of science, led to tensions, especially in the United States, where doctor-historians and radicalized nonmedical historians went to the same meetings. Many younger historians of medicine became interested in gender, race/ethnicity, post-colonialism, and non-Western systems of knowledge, and some were later influenced by the “practice turn” in history of science.\(^7\) Scholars who investigated recent developments in medicine came to share with historians of the experimental sciences an interest in laboratory practices and laboratory cultures, instruments and measures, technical skills and tacit knowledge, the circulation of reagents, techniques, and researchers, and the links between science and other domains, such as craft, commerce, industry, and the military.\(^8\)

Though many historians of the post-1960s generation felt that they were engaged in a very different scholarly enterprise than their post–World War II predecessors, some knew of the older, richer heritage centered on Baltimore. There, in the 1930s, 1940s, and 1950s, history of medicine was already a social and cultural history, with a highly ambitious project integrating history of medicine with general, cultural, and economic history and also with sociology, history of art and of religion, economy, archaeology, linguistics, and anthropology. Scholars such as Henry Sigerist, Owsei Temkin (1902–2002), Erwin Ackerknecht (1906–1988), and George Rosen (1910–1977) urged historians of medicine to study the social conditions that produce morbidity and mortality, the ways diseases were seen, the socially accepted ways to treat the sick, how doctors and other health professionals were trained and evaluated, and how medicine was practiced in a given society. Historians socialized in the interwar era viewed history of medicine as a mirror of society


and culture, and they were bold enough to look on big—and sometimes very big—pictures.9

Two elements in the post-1960s history were, however, genuine innovations: the focus on practices and an engagement with recent medical science. Sigerist and some of his colleagues had certainly engaged with contemporary issues around socialized medicine, but less so with medicine’s technical aspects, perhaps because of the “Western exceptionalism” then common. These scholars were fully aware of the influences of social, cultural, and political context on the medical knowledge and practices of earlier periods but were persuaded that Western science had moved inexorably in the direction of empirical truth and rationality.10 In 1939, for example, a student of Sigerist, the Polish historian of medicine Tadeusz Bilikiewicz (1901–1987), argued that explanations linking scientific understanding with broader cultural trends were valid only for earlier historical periods, when scant empirically grounded scientific knowledge needed to be supplemented by elements from general culture.11 He was opposing the view of the Polish-Jewish pioneer of sociology of science Ludwik Fleck (1896–1961) that recent “scientific facts” were as dependent on culturally and socially conditioned “scientific thought styles” as those produced in ancient Greece or Renaissance Italy.12 From the 1970s on, the majority of historians of science and medicine adopted Fleck’s point of view; regretfully, some thereby rejected the totality of the achievements of scholars who believed in “Western exceptionalism.”

A NEW HISTORIOGRAPHY FOR A NEW MEDICINE

Studies of recent biomedicine grew exponentially in the late twentieth century. The percentage of publications listed in what was then called the Isis Critical Bibliography that dealt with the twentieth century (defined as the post-1914 period) increased from 10 percent circa 1970 to 30 percent circa 1990.13 Biomedicine was studied by scholars classified as “historians,” but also by “sociologists,” “anthropologists,” and “philosophers,” some of whom included a historical dimension; and the work was published in a wide range of journals.14 Though many historians of all the periods of medicine were

12 Fleck’s conviction that contemporary science is no less dependent on specific thought styles than the science of earlier periods did not undermine his faith in the key role of science in promoting freedom, democracy, and human well-being. See Ludwik Fleck, “Crisis in Science,” in Cognition and Fact: Materials on Ludwik Fleck, ed. Robert Cohen and Thomas Schnelle (Dordrecht: Reidel, 1986), pp. 153–158.
14 For work on biomedicine from a number of fields see, e.g., Patrice Pinell, The Fight against Cancer:
affected by the “practice turn” in history and sociology of science, those who studied
biomedicine had an additional incentive because biological, biomedical, and clinical
investigations had increasingly overlapped.\(^{15}\) Two areas of the new “biomedicine studies”
may illustrate the increasingly wide scope of this work: intersections with gender studies
and the history of pharmaceuticals.

The women’s rights movement, struggles for the liberalization of contraception and
abortion, the homosexual liberation movement, and, recently, the activism of intersex
people stimulated historians’ interest in the ways that science and medicine shaped
sexualized bodies in the twentieth century. These studies were partly connected by the
uses of sex hormones to control female fertility, to treat a wide range of conditions
perceived as pathological or undesirable, to enhance performances of bodies, and to deal
(usually in conjunction with surgical technologies) with atypical bodies such as those of
intersex people and those wishing to change their sex/gender. The historians studied
biological laboratories, production plants, slaughterhouses (a rich source of sex glands
used to extract hormones), doctors’ offices, and hospital wards. They also focused on
social movements and political debates, the regulation of medicines and bodies, the
routine management of sexualized/gendered bodies, and the radical reshaping of identi-
ties.\(^{16}\)

Sex hormones are but one category of pharmaceuticals recently investigated by histo-
rians as they engage with the increasing social and economic importance of the pharma-
ceutical industry. This domain of study, like gender and biomedicine, is by definition
interdisciplinary, intersecting with business and industrial history, legal history, and
political science. Pharmaceuticals are also closely intertwined with the control of natural
resources and with intellectual property issues. Scholars have studied the structure of
clinical trials, the intersections between the laboratory and the clinic, the marketing of
drugs, regulation and standardization, and the circulation of products, instruments, prac-
tices, and knowledge both in North–South networks and in the South–South networks that
are now expanding.\(^{17}\)

Dealing with rapidly changing domains and living scientists is a fascinating but


sometimes tricky enterprise. Historians need to handle the sometimes conflictual relationships with scientists and to define their own responsibility toward the people they study. Another potential pitfall is the lure of the new. New forms of identity, subjectivity, and citizenship created through new biomedical techniques may be important well beyond the specialized niches in which they are created, but they may need to be distinguished from overall societal trends. Likewise, the rapidity of changes in some areas of medicine can mask the continued importance of “traditional” methods and approaches.

**AN AUTONOMOUS POSITION IN OUR SYSTEM OF LEARNING**

In 1936 Henry Sigerist wrote an open letter to the editor of *Isis*, George Sarton, in which he criticized the latter’s statement that “the historian of medicine who imagines that he is *ipso facto* a historian of science, is laboring under a gross delusion.” Serious historians of medicine, Sigerist claimed, were well aware of the fact that history of science and history of medicine are distinct enterprises and that medicine should not be reduced to science. Indeed, for Sigerist (unlike for Gregg), medicine is not a branch of science and it will never be. If medicine is a science, then it is a social science. The physician’s goal is to keep his fellow men adjusted or to readjust them if necessary. In order to do this he has to prevent and cure diseases and he does it largely, though not exclusively, by applying scientific method. Yet, it would have been fundamentally wrong to call medicine an applied science, just as it would have been a mistake to call geography or technology applied science. . . . Medicine, like geography and technology, has an autonomous position in our system of learning.

Close intertwining between historical and social science disciplines has now made possible many refined and complex analyses of recent developments in medicine and the biomedical sciences—but perhaps we tend to focus on “bio” rather than on “medicine.” Historians of present-day biomedicine tend to be more interested in laboratories than in

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18 On the difficulties of studying living scientists see Söderqvist, ed., *Historiography of Contemporary Science and Technology* (cit. n. 13).

19 See, e.g., Soraya de Chadarevian, “Using Interviews to Write History of Science,” in *Historiography of Contemporary Science and Technology*, ed. Söderqvist, pp. 51–70; and Jean-Paul Gaudillière, “The Living Scientist Syndrome: Memory and History of Molecular Regulation,” *ibid.*, pp. 109–128. Sociologists and anthropologists who study clinical settings tend to be more concerned about methodological and ethical aspects of their studies than about the reconstruction of the “correct” story.


doctors’ surgeries and hospital wards, though there are important exceptions to this rather hasty generalization, especially among historians who investigate the reception of medical innovations. But generally we now know much more about biomedical “laboratory life” than about the life of the clinics.

If we want to put more medicine into biomedicine studies, one route may involve the theoretical insights of scholars from earlier generations, such as Sigerist, Temkin, Fleck, Ackerknecht, Rosen, Georges Canguilhem—and Michel Foucault. Critical reading of these thinkers can open new ways to study the “biomedicalization” of medicine and, indeed, forms of medicine that escaped the “biomedical” turn. (If Foucault appears here among the list of the neglected, it is for his early insights on the specificity of hospitals and clinics as sites, in books that remain much less read than the work that helped stimulate the “practice turn” in the history of science.) Foucault, the archaeologist of medical practices, may still inspire historians of recent medicine, as may Fleck, the student of multilayered interactions between the laboratory and the clinic, Canguilhem, the author of reflections on biological normality and social normativity, or Sigerist and his colleagues, as keen investigators of the broad economic, social, and cultural underpinnings of a human activity called “medicine.”

Many topics in “biomedicine studies” still await investigation, including the roles of terms such as “biopower,” “bioethics,” “biocitizenship,” and “biosociality.” The popularity of these terms may mask the difficulty of grasping the multiple meanings of the “invisible hyphen” they incorporate and the ways in which the “bio” part interacts with power, ethics, citizenship, or socialization. We are still looking for conceptual tools that will better link the social, cultural, and material aspects of medicine, promote studies of the clinic as a key site of the production of new knowledge, and favor an integrated understanding of recent patterns of management of healthy and sick bodies.
