

## Study Guide #10, 11/15-11/17: Therapeutic Revolutions

John Harley Warner, "From Specificity to Universalism in Medical Therapeutics: Transformation in the 19<sup>th</sup>-Century United States," in Judith Walzer Leavitt and Ronald L. Numbers, ed., *Sickness and Health: Readings in the History of Medicine and Public Health*, 3rd edition. Madison: University of Wisconsin Press, 1997. pp. 87-101.

Pernick, Martin. "The Calculus of Suffering in 19th-Century Surgery." *Hastings Center Report* 13 (April 1983): 26-36.

"Discussion on the Advisability of the Registration of Tuberculosis." *Transactions of the College of Physicians* 16 (Philadelphia 1894): pp. 1-27.

Leavitt, Judith W. "'Typhoid Mary' Strikes Back: Bacteriological Theory and Practice in Early Twentieth-Century Public Health." *Isis* 83 (1992): 608-629.

With this set of readings we move into the final phase of the course, The Rise of Modern Medicine. This week we focus on developments in medicine and public health in the late 19th century, a period named (probably misnamed) the "therapeutic revolution." When the term was coined it referred to a series of interconnected processes that took place starting roughly in 1870. With the advent of anesthesia, and then aseptic technique, surgery became tolerable, safe, and reputable. With the discovery of bacteria and germ theory, medical theories increasingly focused on specific causes of specific diseases. With the new knowledge of microbiology, public health campaigns were reinvigorated: many of the same techniques were used (cleaning streets, disposing sewage), but with a new enemy (germs) and with new enthusiasm. These changes, and others, contributed to the rapid (over 30-40 years) transformation of public health, hospitals, medical schools, and professional prestige. By 1910 the medical profession was on its way to becoming respected and powerful. The irony of the term "therapeutic revolution" is that medical therapeutics, with the exception of surgery, did not dramatically change during this time. While some purer, more effective medicines did appear (especially morphine and aspirin), it was not until the 1920s onwards that medical therapeutics really began to change.

This week we will look at the early phases of this process: a review of the changes in medical therapeutics over the 19th century, the advent of anesthesia in surgery, and the impact of germ theory on public health.

Warner, "From Specificity and Universalism": John Harley Warner runs the History of Medicine program at Yale. He wrote *The Therapeutic Perspective*, the definitive study of 19th century therapeutics in the United States, based on a

detailed study of case records at MGH and Cincinnati Hospital. The essay is essentially a summary of that book. He starts with material that will hopefully be familiar to you: heroic therapy and the popularity of depletives in the early 19th century. He then traces the decline of depletives, the rise of stimulants, the shift to medical empiricism, and then to a new rationalism based on experimental physiology. Several aspects deserve special attention. Why, in the early 19th century, did southern doctors believe that southern medicine should be different than northern medicine? What was the appeal of the new laboratory medicine? What new treatments did it produce? What other benefits did it provide for the profession?

Pernick, "The Calculus of Suffering": Pernick is a historian at University of Michigan; you have already read his discussion of yellow fever in Philadelphia in 1793. This essay is a summary of a book he wrote (same title), about the history of pain and anesthesia in the 19th century. It is not hard to imagine the horrors of surgery before the advent of anesthesia. What impact did this have on surgery? What sort of person would (could) go into surgery? What impact do you think this had on ideas about male vs. female surgeons? How did the precedent of Rush's heroic therapy shape American surgery in the early 19th century? When anesthesia appeared in 1846, why were some surgeons so ambivalent? What is the "calculus of suffering"? What factors led mainstream doctors to be more welcoming towards pain relief, both in surgery and general practice? Can you think of any examples today where pain is tolerated or even valued?

"Discussion on the Advisability of the Registration of Tuberculosis": As we discussed earlier in the course, tuberculosis rose to prominence, especially in cities (and Indian reservations) in the late 19th century. For many decades it was the leading cause of death in Europe and the United States. Throughout this time, as described in my chapter last week, there were debates about the causes of tuberculosis: was it an environmental disease? a hereditary disease? a contagious disease? etc. German researcher Robert Koch demonstrated in 1882 that tuberculosis was caused by a specific bacterium, *Mycobacterium tuberculosis*. This discovery created enthusiasm that TB could be controlled like any other infectious disease, by preventing spread of the contagion. Physicians and public health officials began arguing that consumptive patients should be hospitalized (against their will), that infected houses should be disinfected, etc. However, many doctors were not satisfied with Koch's explanation: the bacillus was everywhere, but only some got infected; of the many infected, only some got sick. So even after Koch's discovery, debates about the cause of TB continued. These debates over theory paralleled debates over professional power: should TB be managed primarily by individual physicians, or by public health officials (some were doctors, some were microbiologists, some were hygiene reformers)?

These tensions can all be seen in the “Discussion.” In 1894 the Board of Health of Philadelphia considered legislation that would have required doctors to report all patients with TB to the Board of Health, so that the Board could take appropriate measures. In January members of the College of Physicians got together to debate the issue; the “Discussion” is a transcript of the meeting, showing the proposed response (a proposal against registration), a counter-proposal supporting registration, a debate among leading doctors of Philadelphia, and their final decision. This is a complex discussion, with many different doctors expressing opinions. Pay particular attention to several issues. Did each doctor believe that contagion, heredity, or environment was most important? Did they believe that specific public health measures (isolating the sick, disinfecting houses, etc.) would be effective? What were the harms and dangers of registration? Why did some doctors think that different policies were needed for the rich and the poor? Why, in the end, did the committee adopt the proposal against registration? Also pay attention to the types of evidence: did the doctors cite clinical experience, quantitative data, data from the US or Europe, etc.? What data seem most convincing?

Leavitt, “Typhoid Mary”: Leavitt is a historian of medicine and public health at University of Wisconsin. This article, like Pernick’s and Warner’s, is excerpted from a full length book she wrote about Typhoid Mary and disease control efforts in the early 20th century. Her goal was to examine the extent to which germ theory changed public health theory and practices. She did this by examining one of the most famous cases, Mary Mallon. How did public health officials discover the problem of healthy carriers? Why were they such a threat? How reliable was the science of bacteriology, and why was this important? What options did health departments have for managing healthy carriers? Why was Mary Mallon treated differently than the other carriers? Leavitt argues that there was more to public health in the early 20th century than bacteriology and science. Are you convinced?