

endocrine control mechanisms, and, linking them all, his concepts of functional integration. His total fascination with integrative physiology was apparent from his earliest writings. This biography re-emphasizes and extends that interest in a particularly satisfactory way: the medical student who advocated the "Case method" for clinical study; the teacher who, while agonizing over his lecture style, provided a wide practical interpretation of his subject's strengths and applications; and the administrator who promoted medical education as an integral part of the university, and animal experimentation as an essential component of medical research. All these aspects of Cannon's life are convincingly drawn. Less sure are the sections on Cannon's domestic life and his conflicts with personalities such as Porter and Bowditch, although even here, details such as the Cannons' difficulties in starting a family are skilfully woven into the main story of the development of his research and the hazards of prolonged X-ray exposure.

Unfortunately, this volume finishes in 1917, when Cannon, the father of a young family, is about to set off for Europe and war. More, much more, of his creative life remained, including his entrance into the debate about the possibility of chemical neurotransmission and the publication of his most influential book, *The wisdom of the body*, in 1939. There is no indication in this volume that the Cannon story is to be continued, but one can hope that this fruitful and rewarding biography will move into a second volume.

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ELIZABETH FEE, *Disease and discovery: a history of the Johns Hopkins School of Hygiene and Public Health, 1916-1939*, Baltimore, Md., and London, Johns Hopkins University Press, 1987, 8vo, pp. xii, 286, illus., £21.30.

This history of the Johns Hopkins School of Public Health, up to 1939, recounts the fascinating story of its foundation set in its context of the previous and concurrent development of public health concepts, services, and training in the United States.

By the late nineteenth century, there were public health departments at state and major city level; but no professional requirements for public health practice had been set, and no specialist training existed. It was largely "the province of amateurs and gentlemen", supported and harassed by voluntary pressure groups. The attention focused on communicable diseases and the need for improved sanitation by high mortality in the Civil War was enhanced by the similar communicable disease problems of the Spanish American War and early attempts to dig the Panama Canal. By the early 1900s, industrialists were investing heavily in the southern states—railways, cotton mills—and keen to extend their interests overseas. John D. Rockefeller had created the General Education Board to promote economic, social and educational development in rural areas. G. W. Stiles convinced the Board that hookworm ("the germ of laziness") was the real cause of "misery and lack of productivity" in the South, and a Sanitary Commission under Wickliffe Rose was set up (1909) to eradicate it. Although it failed to do so, the Commission's activities led to a great expansion in public health services; and in 1912, the federal government responded by expanding the responsibilities of the public health service.

In 1914, Rose reported to the General Education Board that careers in public health now existed and recommended the setting up of a school of public health: a science-based school, well endowed for research, with an independent identity within a university. The main contenders—Boston, New York, Baltimore, Chicago—met and agreed that Rose and William Henry Welch should prepare a plan. With much jockeying for position among the contenders, Rose and Welch produced different versions of the expected joint report. In 1915, Welch's version—emphasizing scientific research—was accepted by the Board. After site visits to Boston, New York, Philadelphia, Baltimore, Washington DC, Chicago, and St Louis, Baltimore was chosen because, while "the general resource of the University and of the community are inferior—in some respects much inferior—to those found in New York, Boston and Philadelphia, the Medical School fulfills the requisite conditions in the highest degree anywhere obtainable". Welch thus achieved his dream, with assured funding for five years and a virtual promise of

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substantial endowment, without declaring his hand for Baltimore until the end, previously adopting a detached attitude regarding the site.

In 1916, Welch and William Howell (Professor of Physiology in the Medical School) started planning the new School, determining not to limit it to pathological investigation but to give equal emphasis to the promotion of health through nutrition, sanitation, better planning and administration. The first decade saw the planning and organization of departments, almost all focused on laboratory research. The School building was opened in 1926, with an address by Sir Andrew Balfour (Director of the London School of Hygiene and Tropical Medicine) declaring, rather optimistically, that “the pursuit of wealth and the pursuit of pleasure are but evanescent compared with the pursuit of hygiene as a world force”. Financial crisis and re-evaluation characterized the early 1930s, and emphasis changed towards more applied subjects such as mental hygiene, child health, venereal disease, and community-based studies in public health administration. The early students were attracted mainly by scientific research and aimed at careers in research or teaching, rather than in public health practice where positions of authority were normally reserved for physicians. In 1927, the Rockefeller Foundation expressed concern at the failure to attract recent medical graduates. However, in 1935, the Social Security Act expanded the Public Health Service and provided federal grants for training; and, with the depression, young physicians were often unable to establish themselves in private practice because the under- and unemployed were unable to pay for medical care. Thus, in 1938, the Dean (Lowell Reed) said: “Plenty of [medical] recruits are now coming from the Social Security program, the quality has come up abruptly in the last 5 years”.

We can look forward with pleasure to the promised second volume of this readable history, covering the post-war period.

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J. WORTH ESTES and DAVID M. GOODMAN, *The changing humors of Portsmouth. The medical biography of an American town, 1623-1983*, Boston, Mass., Francis A. Countway Library of Medicine, 1986, 8vo, pp. xv, 363, illus., \$19.95.

Having studied the history of American medicine for the past forty-five years, I can report that this “medical biography of Portsmouth” is a mini-history of American medicine. The first chapter details the careers and practices of the town’s physicians in the seventeenth and eighteenth centuries. The second presents brief biographical sketches of the lives of Portsmouth’s nineteenth-century practitioners. In the process, the authors describe the daily lives of physicians, including their medical practice and the number of patients attended, their political and social activities, their role in society, and their reaction to the growth of proprietary drugs and the emergence of irregular medical sects.

A third chapter traces the history of the Portsmouth Medical Association from its founding in 1879 to 1976. The main preoccupation of the members appears to have been with their economic position. Orthodox physicians faced keen competition from pharmacists, homoeopaths, eclectics, and other irregulars. In addition, the rapid expansion of medical schools in the late-nineteenth century, many of which were simply diploma-mills, meant that the ratio of physicians to population was rapidly increasing, further increasing competition for patients. Consequently, as had been the case with early nineteenth-century medical societies in the United States, the Association’s first major efforts were directed towards instituting fee bills and attempting to drive out the irregulars. In the twentieth century, it concentrated on preserving the fee system by fighting the contract practice, medical insurance, and other forms of “socialism”.

Chapter 4 briefly surveys Portsmouth’s efforts to promote community health. The early centuries saw the town attempting to deal with sanitary matters, the periodic epidemic diseases, and providing care for war veterans. As with most other American towns until well into the twentieth century, a large share of community health work was privately financed. The last three