

These many things, Finger relates with pleasing thoroughness, plying the reader with sufficient background detail to make for comprehension but not so much as to spoil the plot. The most striking thing that emerges from this biography is that Franklin was one of the first modern citizens of the United States and, indeed, the western world. He took completely seriously the doctrine of *mens sana in corpore sano* and cultivated his body as a means of fostering a serious republican mind. In this respect, like so many Enlightenment figures, he also looked back to ancient political and medical models; not that he was a solemn or solitary figure: quite the reverse. He was a jovial, clubbable chap, who saw in conviviality a natural route to social harmony—much like the Scots who clearly warmed to him. His advocacy of knowledge of the management of the six non-naturals placed him firmly among both the ancients and the moderns. He was a vigorous swimmer, promoted the virtues of fresh air, trees and forests, and was a kindly presence and knowing intellectual critic around serious-minded folk like Joseph Priestley. Knowledge of medicine in the broadest sense, he clearly believed, fostered the life of society, and here is the difference with the ancients: like the young French reformers such as Pierre Cabanis, with whom he spent much time, he saw medicine as a social institution, not simply a form of knowledge and practice to be used for individual betterment. This excellent book lacks nothing except Franklin's most memorable aphorism: "Beer is living proof that God loves us and wants us to be happy".

Christopher Lawrence,
The Wellcome Trust Centre for the
History of Medicine at UCL

Michael Bliss, *Harvey Cushing: a life in surgery*, New York, Oxford University Press, 2005, pp. xii, 591, illus., \$40.00 (hardback 0-19-516989-1).

Anyone who has read John Fulton's biography of Harvey Cushing (1869–1939), or

dug through the mountains of Cushing's surviving papers, will appreciate Michael Bliss's study, *Harvey Cushing: a life in surgery*. Bliss, with that characteristic verve and detailed finesse which distinguished his earlier biography of William Osler, has produced yet another fine portrait that will delight various audiences. Although historians of medicine will undoubtedly have more to add about Cushing's life and legacy, there can be no denying that this volume reveals much about the life of this American surgeon and scholar.

Given the extent of the archival collections from Cushing's life, it is amazing how little historical attention has been paid to him as a figure, and to what his papers reveal about modern American medicine. Other than a few edited books, an excellent dissertation by Ock-Joo Kim, and several scholarly articles, the major secondary sources on Cushing have remained the 1946 "official biography" by Fulton and Elizabeth Thomson's 1950 study. Though each is useful, as Bliss notes, both suffer from limitations, including choices of literary style, lack of access to primary sources, and rather adulatory authorial voices. By contrast, Bliss, in what he describes as an attempt at "Fitzgeraldian sensibility", uses wide-ranging sources to document an ambitious, perplexing, and often tumultuous, private and professional life (p. x).

In concise vignettes, Bliss traces Cushing's life. Born in Cleveland, Ohio, Cushing was the tenth child of a medical dynasty—and thus, as one might expect, enjoyed numerous advantages from this privileged social background, including education at Yale, Harvard, and Johns Hopkins, where he was trained by many of American medicine's most important figures. Subsequent chapters portray Cushing's early medical career, the development of his surgical manner and prowess, deductive mind, and clinical research. From the "birth of neurosurgery" through the travails and even "inauspicious" brain-snatching involved in his pioneering research on *The pituitary body and its disorders*, Bliss illustrates moments in Cushing's

professional life. Nonetheless, it is striking that Cushing always seems to have expected more. Bliss does not shy away from the consequences of such ambition: Cushing's relationship with his family suffered because of his workaholic lifestyle.

Early on in the Great War, Cushing travelled to France with a Harvard medical team. His war diary, subsequently published to critical acclaim in 1936, is a fascinating and important account of a surgeon's experiences in France. Bliss builds upon that historical treasure further by revealing, surprisingly, that Cushing was initially unenthusiastic about this venture. In the remaining chapters, Bliss covers the last years of Cushing's life: from failed plans for a national institute of neurology, to book collecting, the marriages of his children, and the tragic death of one of his sons. It is an engrossing account.

I enjoyed this book immensely and have had no trouble recommending it to others. Still, there is something dissatisfying about it as well. Before I started reading, it was obvious to me that Harvey Cushing was a "great man". But could Bliss have said more? To be sure, his expository narrative style is elegant, but is there an argument in this book? His footnotes tell of diligent archival research, but there is little suggesting Bliss is troubled by his project's rather polemic nature. Despite the fact that there is now a considerably sophisticated secondary literature on the nature of biography and autobiography, there is no real indication here that Bliss possesses critical insight or theoretical knowledge of his chosen genre. Surprising this, since he is quick to denigrate Fulton's earlier biography, implying that it suffered because Fulton wrote it in an intoxicated stupor. However, for me, Fulton's biography reads like many other biographical works from that era and earlier, and I am not convinced that Bliss's book is altogether different. Indeed, one merit of Fulton's study is that it captures the social perception and reception of Cushing's ideas and techniques abroad in ways that Bliss's account does not. Though Bliss's research is remarkable, it is noteworthy that it is based mainly in North

American archives (perhaps excusable since Cushing kept copies of much that he wrote). Still, there are archival sources elsewhere that would have subtly changed this representation of Cushing, and in consequence have produced an even broader perspective.

Stephen Casper,
University of Minnesota

Elliot S Valenstein, *The war of the soups and the sparks: the discovery of neurotransmitters and the dispute over how nerves communicate*, New York, Columbia University Press, 2005, pp. xviii, 237, illus., £19.50, \$31.00 (hardback 0-231-13588-2).

The 1936 Nobel Prize in Physiology or Medicine was awarded to Henry Dale of London and Otto Loewi of Graz for their separate but synergistic discoveries of the role of acetylcholine in the transmission of neural impulses in the autonomic nervous system. It provided scientific authority and legitimacy to the concept of chemical neurotransmission. However it was to be a further two decades before the idea was widely accepted by more than a few faithful adherents, whilst many, if not most, neurophysiologists continued to believe that most, if not all, neural transmission was electrical. During the 1930s, 1940s and early 1950s, debates between these two groups frequently enlivened meetings of the Physiological Society, and became known jocularly as 'Spark versus Soup': hence the title of this book.

This volume records the history of much of the work on chemical neurotransmission, starting from the development of the neurone doctrine, through the Nobel Prize winning work, up to the modern day concepts of "first messengers" and neuromodulators, and with a final epilogue of historical reflections based on the author's active career of almost fifty years in neurobiology. Throughout there is a strong biographical emphasis on the main players, including Dale, Loewi, Walter Cannon, and