

therapies, institutions and “summaries”—the volume concludes with a ‘Discussion’ on the principles of treatment and a review of the literature. As Sir Roger Bannister puts it in the book’s foreword, Dr Silver “achieves a unique balance of historical perspective and neurological expertise” (p. vii).

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John Henderson, *A life of Ernest Starling*,
People and Ideas series, Oxford, published for the
American Physiological Society by Oxford
University Press, 2005, pp. xvi, 227, £35.99,
\$59.50 (hardback 0-19-517780-0).

There have been two accounts of Starling’s life, by Carleton Chapman and Jens Henriksen, but this volume draws upon new material—a collection of family letters. And instead of the thematic approach of the earlier books, Henderson treats Starling chronologically. A prelude outlines the history of medical education and physiology, before proceeding to Starling’s childhood, education and early career at Guy’s Hospital. Initially demonstrator in physiology (1889), Starling developed a close relationship with William Bayliss of University College London (UCL), during their joint work on the heart’s electrical activity and nervous stimulation. Starling published the first edition of his textbook, *Elements of human physiology*, in 1892, and studied tissue fluid and lymph formation, in 1896 explaining movement between capillaries and tissues in terms of hydrostatic and osmotic pressure—the “Starling Forces”. Using Guy’s Hospital minutes, Henderson demonstrates Starling’s dissatisfaction with his job insecurity, remuneration, and teaching load. Guy’s surgeon, Cuthbert Golding-Bird, described as “vindictive”, was apparently responsible for the situation. Similarly, Starling’s move to the UCL Jodrell chair of physiology (1899) was opposed by the surgeon Rickman Godlee, creating a “gruesome slice of university politics”.

Henderson devotes a chapter to the discovery of secretin (1902), Starling’s role in the “Brown Dog” vivisection trial (1903), and the creation of the UCL Institute of Physiology (1909). We are also introduced to Starling as “politician and iconoclast”: his robust views on medical research, science and education, attacks on the “Harley Street cabal”, and admiration for Germany. A further chapter considers Starling’s “Law of the Heart” (1914). Henderson regards this as of less importance than the microcirculation and secretin work, but provides a detailed discussion in view of continuing debate about the circulatory system.

During the First World War, Starling became engaged in gas warfare research, and later gas defence training. According to Henderson, his criticisms of War Office policies led to his posting to Salonika in November 1916. Returning to Britain in July 1917 he served as chair of the Royal Society’s Food (War) Committee, and as a member of staff of the Ministry of Food. Three post-war chapters deal with the Starling’s final activities. As Pre-Clinical Dean, he was much engaged in teaching, and a Rockefeller Foundation gift for a new anatomy institute. He also advised on the establishment of an all-India Research Institute. From late 1919 he suffered from colon cancer but, after an operation, resumed research in 1921, his research time increasing on his appointment to the Foulerton Professorship in Physiology established by the Royal Society. Starling’s final research was on kidney function and blood pressure control. The former work, conducted with Basil Verney, used a heart-lung-kidney preparation and demonstrated the effect of pituitary extract upon the composition of urine, the starting point for the rest of Verney’s research. As for the blood pressure work, Starling’s involvement seems to have petered out between his health deteriorating in 1925 and his death in 1927. In the final chapter, Henderson surveys Starling’s life, continuing discussions of his attitudes towards Germany and medical science, the reasons for his failure to receive a Nobel prize or a knighthood, and his scientific contributions.

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Throughout the book, Henderson discusses Starling's family life and personal characteristics. There is much interesting and tantalizing detail. But readers should not expect analysis which articulates with recent work of historians of medicine and science on, for example, the clinic and the laboratory, science and government, and the First World War. And the section on Starling's wartime food work relies for background upon Drummond and

Wilbraham's *Englishman's food* (1939) rather than Margaret Barnett's *British food policy during the First World War*, and other more recent work. Finally, the referencing system is not as clear as it could be, making it sometimes difficult to work out the precise source of the information presented.

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