

## Book Reviews

unnoticed, such as Chao Yuan-ling's study of physicians in Suzhou and Ruth Rogaski's work on health and hygiene in treaty port Tianjin over a similar time period.

There is no doubt that this is a welcome contribution to the recent history of medicine in China. Well-researched and well-illustrated with a number of helpful tables and maps, Bretelle-Estabet does a masterful job of uniting French and Chinese viewpoints on health and disease.

**Kim Taylor,**  
Needham Research Institute,  
Cambridge

**Otto Magnus, *Rudolf Magnus, physiologist and pharmacologist, 1873–1927***, ed. Louis M Schoonhoven, Amsterdam, Koninklijke Nederlandse Akademie van Wetenschappen, and Dordrecht, Kluwer Academic Publishers, 2002, pp. xii, 350, illus., €57.00 (hardback 90-6984-327-7).

While the rise of the medical sciences in the nineteenth century has been studied quite extensively over the last few decades, the development of modern biomedicine during the twentieth century is still a relatively little researched area. This biography of Rudolf Magnus, whose main contributions to experimental pharmacology and neurophysiology belong to the first quarter of the twentieth century, is therefore a welcome addition to our knowledge. Written by Magnus's son Otto, this book builds on family documents as well as scientific papers and publications. It provides detailed information on Rudolf Magnus's background and upbringing in a prosperous, educated Jewish family in Brunswick, before it continues with the period of his medical studies in Heidelberg. Here Magnus was especially influenced by the physiologist Wilhelm Kühne, under whose supervision he graduated MD in 1898 with a study on direct blood pressure measurement in the exposed (animal) artery. In the same year he became assistant to Kühne's son-in-law, the Heidelberg pharmacologist Rudolf Gottlieb. In 1908 Magnus was appointed to a

pharmacological professorship at the University of Utrecht, the first such chair in the Netherlands, which he held until his death. Support from the Rockefeller Foundation allowed him to build here a large institute.

Rudolf Magnus's work, both in Heidelberg and Utrecht, reflected the then very close connections between physiology and pharmacology, as can be seen from the numerous extracts of his research papers that this biography provides in English translation. Under Gottlieb, Magnus worked experimentally on diuresis and the mode of action of diuretics and digitalis; and he devised his own method for pharmacological tests on the isolated mammalian intestine, which later in Utrecht enabled him and his assistant Joan Willem le Heux to identify the role of choline in producing intestinal movements. From early on Magnus was also engaged in neurophysiological research. This became his main field in the Utrecht institute, where he explored the so-called "righting reflexes", which control animal posture and which proved to be useful signs for the clinical diagnosis of human neurological conditions. For this research he and his collaborator Adriaan de Kleijn were considered for the award of the Nobel Prize, when Magnus died unexpectedly in 1927. Magnus had also wider cultural interests, as documented by his Heidelberg lectures on Goethe as a scientist, which are summarized with extracts in English translation in a separate chapter of this biography.

Perhaps the most interesting aspect that this book brings out, chiefly through presenting Magnus's notes on his experiences at the International Congresses of Physiologists between 1895 and 1923, is his close relationship to British physiology. Magnus admired the experimental skills of John Newport Langley and Charles Scott Sherrington, both of whom he visited for joint research (in 1905 and 1908, respectively), following a period of laboratory work with Edward Albert Schäfer in Edinburgh in 1901. The other side to Magnus's enthusiasm for British researchers was his estrangement from his own head of department, Gottlieb, who eventually dismissed him as his assistant with a

letter in 1908 (pp. 193f.), shortly before the offer from Utrecht University became known. Magnus's service as a German medical officer in the First World War, during which he performed research on war gases in the Kaiser Wilhelm Institute in Berlin, caused a cooling period for his international relations, so that he was relieved when Sherrington resumed contact after years of silence in 1922.

Despite the wealth of interesting and relevant detail that this biography provides, it is not easy reading. Otto Magnus often lets the historical documents and scientific accounts speak for themselves, rather than giving us a continuous narrative of his father's life and achievements. However, readers with a serious interest in the history of twentieth-century physiology and pharmacology, and in the scientific community that promoted these disciplines, will be richly rewarded.

**Andreas-Holger Maehle,**  
University of Durham

**Peter Vinten-Johansen, Howard Brody, Nigel Paneth, Stephen Rachman, Michael Rip,** with the assistance of **David Zuck,** *Cholera, chloroform and the science of medicine: a life of John Snow*, Oxford University Press, 2003, pp. xv, 437, illus., £39.95 (hardback 0-19-513544-X).

Up until now there have been two John Snows: the anaesthetist and the investigator of cholera. It is one of the many achievements of this excellent book to show how Snow's ideas and practice in the former area played a part in his thinking about epidemic disease. This work is a conventional and comprehensive biography. That is, it is based on extensive research and it attempts as far as possible to deal with Snow's life chronologically. The authors come from a variety of disciplines. Snow was born in York in 1813 and served an apprenticeship to a surgeon-apothecary in Newcastle-upon-Tyne. At seventeen he became a lifelong vegetarian and relative teetotaller. Two years later he would have had his first encounter with cholera.

In 1833 he became an assistant to an apothecary in North East England. But even at this time Snow's ambitions probably were higher than this and lay in London, to where he walked in 1836. Here, after studying at the Hunterian School of Medicine and the London hospitals, he took the examinations of the Royal College of Surgeons and the Society of Apothecaries.

His penchant for research had already developed and, while many other medical students relished the pleasures of the capital, the serious-minded Snow was conducting physiological investigations, notably on arsenic. By this time, the authors suggest, he was developing a long-term interest in "systems circulation and transmission in terms of patterns and pathways" (p. 73). One of the features that would unify his anaesthetic and cholera work. Although he worked on many physiological problems, he had a life-long concern with respiration and poisoning (again issues central to anaesthesia and so-called miasmatic disease). This too was emerging at this period. Interesting also was his energy in enrolling other sciences, notably chemistry, in his researches. By now he began to publish and to attempt to create a medical practice, although this was not easy for such a reserved man (he never married) with no chatty bedside manner.

The introduction of ether anaesthesia came as a godsend to Snow. Here was a discovery that could be used to develop a lucrative medical career that freed him from encounters with wide-awake patients. In describing this, the authors are deeply indebted to Richard Ellis's edition of *The case books of Dr. John Snow (Medical History, Supplement No. 14, 1994)*. But anaesthesia also him allowed him to exploit all his research interests and inventive genius. He did this to the full, endlessly experimenting on himself and on animals and developing inhalers to give measured doses of various agents. In 1848 cholera struck and, as is well known, Snow threw himself energetically into its investigation. Almost from the start he was opposed to miasmatic theory. His view was based on a number of preconceived positions, notably his knowledge of the laws of gas diffusion. Ever eager to put his ideas to the test, he became