

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 Otto Magnus often lets the historical documents and scientific accounts speak for themselves, rather than giving us a continuous narrative of his father's life and achievements.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.

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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 teetotaler. 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

an energetic epidemiologist and cartographer. His championing of a water borne theory really only had its recognition posthumously. Taking a sound historical approach, the authors seek to understand the objections of his contemporaries rather than ridicule them. This is a model biography, integrating social, intellectual and technological history. Comprehensively footnoted, with an excellent bibliography, it is hard to see its being surpassed.

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David L Cowen, *Pharmacopoeias and related literature in Britain and America, 1618–1847*, Variorum Collected Studies Series: CS700, Aldershot, Ashgate, 2001, pp. ix, 296, illus., £55.00 (hardback 0-86078-842-3).

The Ashgate Variorum Collected Studies Series has a niche for the history of science, technology and medicine, mainly from the medieval to the early modern period. The book discussed here is part of a small number of collected works by single authors in the history of medicine and medicines. It is all the more welcome as it contains a corpus of transatlantic studies that admits North America to the discourse on the development of pharmacopoeias and medicinals of all types for the colonial and post-colonial period. Cowen, among the senior historians of pharmacy in the United States, admits having to be prodded to gather these collected works, which outline the matrix in which medical authors and authorities passed on the therapeutic substances for the practice of medicine in England, Scotland, the North American colonies and eventually the new republic. By way of disclosure, the author of this review admits to some bias in reviewing this work, which handsomely acknowledges her first steps in breaking the Anglo-Scottish monopoly on the history of colonial pharmacy.

As indicated in the title and the dates of his contributions, Cowen concentrated early on the

often neglected contribution of the London and above all the Edinburgh pharmacopoeias as a major tool of reforming—if that is the word—the materia medica before and during the botanical reclassifications and the chemical revolutions of the last decades of the eighteenth century. We will have to await further cross-national work to determine if their eventual predominance argued by Cowen was real or perceived—but the Lewis *New dispensatory* in particular, which began its printing history in 1753, was reprinted in numerous versions in England and abroad till 1818 by many and distinguished editors, and continued by Andrew Duncan and foreign presses until the 1840s. The format developed by Lewis for the dispensatory certainly was in organization and structure an excellent and economical tool for both physician and pharmacist, offering quite superior new bottles into which the editors poured some or most of the old wine of materia medica and chemiatic substances carried over from the far and recent past.

The collection of Cowen's work is divided into roughly two parts. The first seven reprints concentrate on the history of the compilation, printing and dispersion of the Edinburgh pharmacopoeia and the resulting dispensaries; the second narrows the field to the North American scene. A substantial essay published in 1961 under the sponsorship of the American Institute for the History of Pharmacy and its director Glenn Sonnedecker, surveys North America's imported and locally produced medicinal literature prior to the publication of the first United States Pharmacopoeia in 1820. An excursion on the importance to native born American physicians of both imports and eventually local imprints of the Edinburgh Pharmacopoeia and dispensatory reflects the efforts at standardization of names and substances on the one hand, and at professional stratification between pharmacists and physicians and surgeons, on the other hand. Cowen's attention to local American imprints begins with the 1708 Boston edition of Nicholas Culpeper's collection of medicinal secrets and a 1720 edition of his London dispensatory, both discussed in some detail in a separate article.