the former's access to London hospitals, the compliance of the College of Physicians and the Barber-Surgeons' Company, the administrative acumen of London's liveried companies, and the financial tax support of London merchants—both sides faced considerable uphill struggles in their attempts to meet the increasing costs of casualty care. These costs, in terms of both finances and military mortality, were noticed particularly when armies were sent abroad. Von Arni helpfully compares the English difficulties in organizing field hospital care with the contemporary successes seen in Sweden, the United Provinces, the Spanish Netherlands, and France.

In sum, von Arni awakens us to medical pursuits in a critical period of England's history that have previously gone unnoticed. Not only does this add a new dimension to the history of military medicine, it adds an important and hitherto unwritten chapter to the history of nursing in Britain.

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Joan Druett, Rough medicine: surgeons at sea in the age of sail, New York, Routledge, 2000, pp. x, 270, £16.99 (hardback 0-415-92451-0).

In this book, Joan Druett uses material from nine English and two American manuscript diaries (most of which are unpublished) and a host of other documents, to chart the day-to-day activity of surgeons on South Seas whalers in the early nineteenth century. Druett clearly intended to produce popular, accessible history, unencumbered by prolific referencing, which, nevertheless, has a basis in historical documents. But this is more history for enjoyment than for the rigorous scholar. The book is peppered with amusing anecdotes from the diaries, such as John Coulter's visit to the natives of the island of Hivaoa, who contrived to keep the surgeon with them when they discovered his excellent marksmanship with the gun. Coulter was obliged to submit to the full body-tattooing of a tribal warrior before

eventually escaping back to his ship some days later.

It was important for whaling ships to carry surgeons because of the rough nature of the seamen's work and the opportunities that presented for trauma, cuts, sores and bruises, and because whalers carried more men than cargocarrying merchant-men of a similar size (p. 2). Indeed, it had been a legal requirement in England for whalers to have surgeons since 1733 (though American whalers were not so required). To be eligible for appointment, an English surgeon had to have a diploma from the Royal College of Surgeons or from the Society of Apothecaries. However, one of the diarists, Dr John B King, an American surgeon who sailed from Edgartown, Martha's Vineyard, was extremely well qualified, having graduated from the New York College of Physicians and Surgeons as a Doctor of Medicine and Surgery. For their services, surgeons received a share of the profits (rather than salaries), but were expected to be pretty flexible. If a seaman was incapacitated and a surgeon failed to cure him, for instance, some captains expected the surgeon to stand in temporarily for him, however menial the job.

The book begins with a chapter on that pioneering text of maritime medicine, John Woodall's, The Surgions Mate (1617), which attempts to put the sea surgeon's role into a medico-historical context. However, it is doubtful whether a book essentially on early nineteenth-century whaling surgeons can, even as an introductory gambit, justify a whole chapter on this one anachronistic text. The chapter might, more profitably, have surveyed the whole gamut of maritime medical and surgical literature published before the nineteenth century. Nor, to home in on a smaller point, would Woodall's understanding of the emotional anguish of the patient about to undergo surgery have been as rare as Druett anticipates (p. 18). Any surgeon operating on a regular basis without anaesthesia could not but have been aware of it.

Druett's discussion of the treatment of syphilis with mercury is similarly deficient for the medical historian, because she highlights all the side-effects of the hazardous cure—intense salivation, foul breath, slurred speech and impaired vision etc.—without demonstrating an understanding of how nineteenth-century practitioners perceived that mercury actually acted upon the disease itself (pp. 57-60). However, the rest of Chapter 3 fares better in this respect, not only in enumerating the different herbal and chemical remedies that surgeons used aboard ship, but in generally explaining the nature of their action. 'Batting Scurvy', which remained a problem whenever fresh rations ran out, wins and deserves a chapter of its own. However, for the most part, this is not a book that contributes much that is new to our understanding of sea surgeons' medical practice; it is, rather, a fine testament to a historian who writes accessibly and clearly loves her subject.

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Jürgen Helm and Annette Winkelmann (eds), Religious confessions and the sciences in the sixteenth century, Studies in European Judaism, Leiden and Boston, Brill, 2001, pp. xiv, 161, €46.00, US\$54.00 (hardback 90-04-12045-9).

This volume, containing the contributions to a 1998 conference, examines two broad questions in Renaissance science: the relation of confessional belief to scientific ideas, and the impact of new discoveries on religious (mainly Jewish) writers. Both questions are significant, but, as the editors admit, the answers here are little more than trial sondages. By including Judaism, the volume breaks away from a traditional Protestant/Catholic division, and many will find the essays on Jewish science the most valuable, simply because their largely descriptive style makes them accessible to non-specialists. Alongside some familiar faces, Melanchthon, the Jesuits (caught between science and theology), Paracelsus, and Renaissance anatomy, are others less wellknown—geography and Prussian Calvinism.

This is a potentially valuable collection, yet one whose individual parts never quite coalesce into a satisfactory whole.

In part this is the result of the sheer scale of the enterprise. The discussion of Jewish science in the Ottoman empire (defined as 1450 to 1600), although offering interesting insights, never develops them in detail, and leaves one asking for more—or for the sort of sociohistorical study carried out for the Moriscos by Luis García-Ballester. By contrast, the study of the writings of the Mantuan Jewish physician Abraham Portaleone (1542–1612) is extremely narrowly focused.

Of greater interest to medical historians will be the two essays on religion and anatomy by Helm and Cunningham. Helm compares the teaching of anatomy at two universities with widely differing confessional stances, Lutheran Wittenberg and Jesuit Ingolstadt, concluding that while there was no difference in substance or method, anatomy occupied a different place in each curriculum. At Ingolstadt it formed part of medical education only, at Wittenberg it was part of the basic education of all students, whether future pastors or physicians. This conclusion is also accepted by Cunningham, in what amounts to a considerable modification of his earlier views. Instead of seeking to make attitudes to anatomy dependent on prior religious views, and seeing a Protestant anatomy as somehow different from a Catholic one, he now uses "Protestant" more loosely. He proposes three theses: Melanchthon gave anatomy a new standing in Protestant universities; Vesalius' approach to anatomy was "Protestant in structure", like Luther's emphasis on the Bible alone; and Paracelsus' spiritualism led him to neglect physical anatomy. These propositions, which are hardly new, can be generally accepted, although Erasmian religious humanism may have had a greater influence on Vesalius than Luther. But they are still in need of considerable testing and refinement if they are to carry explanatory power. While it is clear that Lutheran universities heavily dependent on Wittenberg, like Greifswald and Jena, followed the model of Melanchthon, it is far less obvious how far it applied to Calvinist institutions, or to Protestant