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 chemiatric 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 dispensatories; 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.

The Culpeper works, published well after his death, were in the vernacular and may well have responded to a market for the more populist or popular editions that from the early seventeenth century had breached the Latinate monopoly of official pharmacopoeias. That this market was buttressed by the lack of fonts in Greek and Latin is well known to students of American printing and explains the persistence of both learned and popular imports until the last decades of the eighteenth century.

One exception to the scarcity of North American imprints was the very mixed corpus of German vernacular medicinals coming from the German presses of Christopher Saur and other German-American printers, which Cowen almost single-handedly snatched from the ethnographers and introduced into the colonial history of medicine. German imprints competed first with John Tenant's Everyman his own doctor and later with the more sophisticated domestic manuals by William Buchan and Samuel Auguste Tissot, who found American publishers even before the Revolution. Although later printings brought over old pseudo-Aristotelian tracts, many German imprints were collections of recipes and treatments by German physicians and veterinarians who arrived with various religious groups over the course of the eighteenth century.

That some of the work in this volume and its underlying assumptions have been superseded will be readily acknowledged and certainly by its author, but for the historiography of an often neglected field, the vast and painstaking account of sources that form a major component of this book is invaluable. It permits not only a chronological assessment of how the official materia medica was presented in the Englishspeaking world over the course of the late seventeenth and eighteenth century, but offers the occasion to re-examine the premises and conclusions of Cowen's rich work on the history of pharmaceutical imprints and their translations. What is obvious to this reader is the global market in printing in these centuries, with German printers in particular providing sites for outsourcing and translations from the Latin and into the vernaculars of the various European markets. The interaction between these

markets—not only across Europe but across the Atlantic—is evident from the lists of imprints that are available in this collection. It awaits further and comparative historical study.

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H F J Horstmanshoff, A M Luyendijk-Elshout, F G Schlesinger (eds and trs), The four seasons of human life: four anonymous engravings from the Trent Collection, Rotterdam and Durham, Erasmus Publishing and Trent Collection, Duke University, 2002, pp. 109, €85.00 (including CD Rom) (hardback 90-5235-136-8).

This beautiful book presents for the first time a critical edition, transcription, translation, and commentary of a fascinating set of four seventeenth-century medical-astrological prints. Labelled spring, summer, autumn, winter, the prints fit into a medieval genre of the "Schema of the Fours", but are much more complex. They follow a pattern: in the centre of each are human figures that portray the four seasons of human life—children for spring, a young couple for summer, an adult couple (she, pregnant, and he with a full-on erection) for autumn, and an elderly man and woman stepping into a grave for winter. The sun is on the upper left and the moon is on the right; and each is over-arched by the quarter of the sky (in months and zodiac) that corresponds to the season illustrated.

Unlike the usual schemata, however, each print also displays numerous, mainly medical texts, mostly from the Hippocratic *Aphorisms* but also from the Bible, Pliny, Seneca, Aristotle, and others. Even more unusually, as compared to the medieval schemata, are the paper flaps placed over sun, moon and other figures, which illustrate the anatomy of muscles, ligaments, and vessels. There can be as many as twelve of these flaps over a single figure, each taking the viewer to a different level of anatomical complexity. For instance, underneath the corner maps are diagrams of the anatomies of liver and lung. There are also paper dials built onto the prints, including a pregnancy calculator.