Review for *Ambix*

David Knight, *Voyaging in Strange Seas: The Great Revolution in Science* (New Haven CT: Yale University Press, 2014). $35. Pp. 336. ISBN: 978-0-300-17379-6.

This is a carefully-crafted and appealing history of science that combines familiar elements in fresh ways.

The book begins by interweaving two closely related stories that are often considered separately in books, courses and popular thought. The quarter millennium bracketed by the voyages of Columbus and James Cook hosted not only the major maritime voyages of discovery and sea-borne empires but also the Scientific Revolution. A sub-narrative outlined in the Introduction focuses on the westwards trajectory of scientific thought and power, beginning with Columbus and ending with the American War of Independence, an emphasis likely to be appealing to American readers.

But other integrative refrains are traced, too: the Long Reformation, between Martin Luther and John Wesley, and its valorizing of individual experience; the complementary transition from scientific 'soloists' like Galileo to 'choruses' such as the Royal Society and the backdrop of their unsung supporters. As the Introduction promises, the book places science 'in contexts of war, wealth, crafts and industry, health and disease, publishing and communications, class, careers and leisure' (p.5).

Given the book's theme of voyaging, it begins appropriately with a discussion of maps and the topics of navigation and exploration in its widest sense. This model of thematic chapters organizes the book as a whole.

Chapter 3 ('Refining Common Sense'), for example, focuses on surveying notions of philosophy of science from the Greeks to the seventeenth century – with asides on more recent philosophers of science such as Pierre Duhem and Paul Feyerabend. Very occasionally, the deft juggling of characters can be challenging to follow: 'Baconian open-mindedness' (p.35) and 'the common sense and logic

of Bacon' (p. 39) are mentioned before he is introduced (p.44). The wide-ranging treatment nevertheless offers opportunities for intercalated insights. Thus Knight argues that Bacon and Descartes, as 'lawyers and sons of lawyers', brought legal proof to science, 'the best that can really be hoped for in the empirical world' (p.56); and, that vernacular versions of the Bible available to Protestants encouraged literal, rather than allegorical, interpretations (p. 107).

Subsequent chapters weave similarly rich panoramas and details. The new astronomy, for instance, was supplemented by Kepler's fictional text *Somnus* (published posthumously in 1634), in which he imagined a trip to the moon and how the universe would look from the lunacentric viewpoint. In similar style, chapters explore experimental practices, scientific societies, medicine, practical science, global exploration, natural history and the Enlightenment. The titles usually avoid conventional labels, thereby discouraging stereotyped coverage of topics. The engagement ('with overtones of both betrothal and battle', p. 108) between theology and science, for example, is discussed under the rubric 'Through Nature to Nature's God: The Two Books'.

The final chapter takes a different tack, organizing the coverage in ways not foregrounded earlier. American contexts and nineteenth century events provide a postscript, and the book concludes with an overview of science as a social phenomenon combining evolutionary threads and revolutionary incidents – a 'chancy, multi-stranded story' (p. 291). Marxism and social construction are mentioned for the first time, and discarded, as potential models.

Chapter by chapter, the book is written in an engaging and effortlessly accurate style. The breadth of hinted connections is remarkable. Individual sentences, particularly in the early chapters, often link specific events, scientific products, material culture and philosophical concepts. The pace of coverage slows to accommodate more detail-rich and time-specific investigations such as natural history and voyages of exploration towards the end of the book. As to be expected of a semi-popular book, there are few in-text citations to buttress this wealth of associations, but chapter notes include both primary and secondary sources, and the index is generous.

Two tranches of high-quality monochrome plates are devoted to reproducing book pages and illustrations from sixteenth to eighteenth century publications. These figures, unreferenced in the text, range from frontispieces to maps to diagrams. Like the individual chapters, they hint at further unexplored connections. When examined in conjunction with their varied captions, the illustrations invite the inquisitive reader to explore, unpack and discover further links.

I heartily recommend this book not only to new readers of history, but also to jaded specialists who occasionally may need to be reminded of the seamless continuities between disciplines.

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