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Review: Alix Cooper, *Inventing the Indigenous: Local Knowledge and Natural History in Early Modern Europe* (Cambridge, 2007)

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vious regret: one political crisis after another, from the Seven Years' War to the formation of the United States, prevented his full-time pursuit of natural philosophy (p. 324).

Chaplin considers how Franklin's legacy has been shaped and distorted by biographers since his death in 1790. Beginning in the nineteenth century, Americans promoted Franklin the statesman over Franklin the philosopher. While Chaplin describes this process of demoting science from his leading characteristic to, at best, one item in a long list of achievements (p. 344), she does not satisfactorily explain how or why it was done. Indeed, her section on Franklin in American public memory is short and hurried. Instead of analyzing the tendency of Franklin biographers to slight his science, Chaplin closes her biography by playing their "almost irresistible game" of imagining "him living in our age" (p. 346). Rather than speculating about Franklin running his own Web log, as other biographers might have done today, she instead speculates about how he would have reacted to developments in the history of science up to string theory and climate change. In one passage she notes that "it is impossible to say what his reaction to Darwin might have been" (p. 352)—but she does not reveal how comparable difficulties could be overcome elsewhere. Despite its anticlimactic ending, *The First Scientific American* deserves a wide readership. It is well written, strongly argued, and full of insights and connections. At last, Benjamin Franklin has a proper scientific biography.

MICHAEL F. CONLIN

Alix Cooper. *Inventing the Indigenous: Local Knowledge and Natural History in Early Modern Europe*. xi + 218 pp., illus., bibl., index. Cambridge/New York: Cambridge University Press, 2007. \$75 (cloth).

I always enjoyed looking at sixteenth-century herbals and flora, nice books filled with careful drawings. Not that I ever had anything intelligent or interesting to say about them. In the territories of early modern Germany, where so many of these things were produced, they came to form an important genre. The secondary literature on works like these, mirroring its subject, rarely went beyond the descriptive. But that has changed now, with the appearance of two important new books: Alix Cooper's *Inventing the Indigenous* and Brian Ogilvie's *The Science of Describing: Natural History in Renaissance Europe* (Chicago, 2006). It is fair to say that, taken

together, Cooper's and Ogilvie's books have revolutionized the field. They certainly have revolutionized it for me. I finally have something interesting to say about all the pretty pictures.

Cooper's book, elegantly written and constructed, argues that Europeans reacted to the Columbian encounter by looking inward, at their own natural worlds. The collective shock of dealing with the New World, that is, prompted a full-scale reevaluation of the old, as Europeans made local voyages of botanical discovery around their towns and villages. In the process, they created new kinds of local, or indigenous, knowledge. The term "indigenous," as used today, almost always refers to non-European peoples, species, and cultures. Cooper's book, by contrast, focuses on a very different kind of indigenous: Europe's fascination with itself. It is a captivating story that sheds new light on everything from Paracelsus to the Boston Tea Party.

There is nothing historically self-evident about categories like "local knowledge" or "exotic species." From the beginning, notions of the indigenous emerged together with fears of the exotic, as reflected in the basic dichotomy between categories like "outlandish" and "native," which appeared repeatedly in Latin, German, Dutch, and English texts. These same texts reveal that the growing obsession with local plants reflected a keen interest in local identity. As they produced their local floras, early modern Europeans were not just describing plants. They were reflecting on what it meant to be local and what it meant to be foreign, simultaneously representing themselves and their fears about strange new worlds.

The genre of the "local flora," a small catalogue of plants, gained prominence during the early modern period, especially in the towns and universities of the Holy Roman Empire. Cooper does a nice job of reconstructing the forgotten world of provincial university towns, which became centers of botanical knowledge during the sixteenth and seventeenth centuries. Tiny backwater universities like Altdorf, near Nuremberg, became unlikely focal points for the new sciences, as professors of medicine and their students took to the hills and woods around these small towns, drawing, cataloguing, and describing every plant in sight. The empire proved a hothouse for local plant inventories, as professors used them to burnish reputations; botanical gardens followed close behind; and soon these little university towns had developed the infrastructure that would spur decades of intense local botanical investigation. By the early eighteenth century, almost all the plant life around univer-

sity towns like Altdorf had been described and catalogued. The local countryside was now “known.” The legacy of that process manifests itself today in charts and maps that estimate the comparative level of “floristic knowledge” across the globe. These maps graphically illustrate how “some crucial activities of science came to be distributed in unequal ways” (p. 17). But the dense little Latinate volumes that contained much of that knowledge were not merely descriptions of the local plant life. They were much more than that. Compilers of these flora tended to be “foreigners” themselves, academic wanderers whose careers had often taken them far from their own local towns. The “local knowledge” contained in their books always gestured at a larger world, looking outward “in a spirit of comparison and even of cosmopolitanism” (p. 86).

From local floras, Cooper turns to a very different kind of genre: the regional mineralogy. In the wake of the Thirty Years’ War, German territories started systematically to survey the rocks and minerals within their borders. These mineralogies, often guided by cameralist and administrative considerations, attempted to publicize the “natural riches” of different territories, and they differed from the local floras of earlier decades. As in the case of local floras, however, regional mineralogies had ambitions that extended well beyond the territories they surveyed. Even as they detailed objects of “natural value” in the territory, these works trafficked in a different kind of nonmonetary economy, where the value of an object was largely determined by its importance to other naturalists.

By the seventeenth and eighteenth centuries, we encounter various attempts to construct complete natural histories of entire regions. But the ambitious attempt to create natural histories for whole territories encountered serious problems, many of which were caused by cultural and institutional incommensurability across borders. Henry Oldenburg, secretary to the Royal Society of London (and a transplanted German), made constant attempts to engage his Continental colleagues in the larger project of writing Baconian natural histories of their regions. He failed miserably. But where Oldenburg failed, the Swiss entrepreneur Johann Jakob Scheuchzer would succeed in dramatic fashion. Scheuchzer, argues Cooper, was able to craft a form of Baconianism suitable to the Swiss Confederation. His model, and not Oldenburg’s, then proved palatable to German authors, who would use it to write natural histories of their territories during the eighteenth century.

With Linnaeus came a new world. His *Bibliotheca botanica* (1736) disparaged the kind of rich local variety that others, like Scheuchzer, had valued so highly. The Linnaean system of binomial nomenclature radically pared down the content of natural history, reducing it to a few key elements. Linnaeus liked to disparage the eclecticism of local floras, especially the ways in which authors used many names for the same plant or even invented their own names. In short, he “believed that the authors of local floras had descended too far into the local” (p. 169). But Linnaeus had the passion of the convert. In turning against local floras, and the kind of natural history represented by Scheuchzer, he was also rejecting his own past. Cooper convincingly argues that the Linnaean movement might be viewed as the culmination of a process dating back to the earliest local floras, rather than as a revolutionary break from the past. In so doing, she calls into question many of our all-too-facile generalizations about everything from classification systems to Enlightenment disciplining. It is one of many challenges posed by this fine book. Those wild radish sketches will never look the same.

ANDRE WAKEFIELD

Richard L. Hills. *James Watt. Volume 1: His Time in Scotland, 1736–1774.* 480 pp., index. Ashbourne, Derbyshire: Landmark Publishing, 2002. £37.50.

Richard L. Hills. *James Watt. Volume 2: The Years of Toil, 1775–1785.* 256 pp., index. Ashbourne, Derbyshire: Landmark Publishing, 2005. £26.99.

Richard L. Hills. *James Watt. Volume 3: Triumph through Adversity, 1785–1819.* 288 pp., index. Ashbourne, Derbyshire: Landmark Publishing, 2006. £26.99.

When James Watt died in 1819, he was eulogized in the manner of Newton in the previous century. But whereas the Enlightenment mind traced its pedigree to Newton’s divinely inspired theoretical insights (“God said, Let Newton be! and all was Light”), Romantic poets and ideologues of industrialization put Watt at the head of the pantheon of inventors, which, they noted, the ancients placed among the gods themselves. The posthumous deification of Watt focused on the improvements he made to the steam engine, which, in the eyes of many, were tantamount to its invention, or reinvention. These improve-