

bibl., index. London: Wellcome Trust Centre for the History of Medicine at UCL, 2004. \$50 (cloth).

Walking the Paris Hospitals is a closely edited presentation of the manuscript diary of a medical student who visited Paris from November 1834 to the end of June 1835. Diana E. Manuel makes a plausible argument, based on information provided in the diary, that the unknown author was likely to have been James Surrage of Clifton, a town near Bristol, who attended the University of Edinburgh and took the M.D. degree there in 1835. Spending an academic year in Paris was—as we know from several studies, most notably John Harley Warner's *Against the Spirit of System: The French Impulse in Nineteenth-Century American Medicine* (Princeton, 1998)—a desirable experience for practitioners seeking to broaden their medical and cultural horizons. In her introduction, relying on a range of secondary sources, Manuel presents the contexts for understanding the diarist's experiences, including a description of Edinburgh medical education and the major developments of Paris medicine before 1834. She has heavily annotated the text to identify the individuals, places, diseases, procedures, and treatments the unknown student mentions in his daily entries. For these extensive notes she has consulted contemporary guidebooks and medical texts and so has carefully embedded the diarist in historical context. This decision means, however, that the unskilled reader might be confused by the editor's choice to define medical words by giving their 1830s meanings rather than modern interpretations, as the definitions sometimes contain terms and concepts as obscure as the original words themselves. For the most part, however, Manuel avoids the pitfalls of anachronistic glosses, and her notes provide helpful information and cross-references to other parts of the diary.

As Manuel observes in the introduction, the diarist offered little insight into his personal or medical life apart from the occasional comment on his difficulty with making coffee or his intense dislike of some of the French surgeons. He was quite struck by the opportunities to make physical examinations of women in his midwifery courses, noting that it would shock the "old maids in England" if they saw what students were allowed to do. He also took to the stethoscope, confirming that the only way really to learn to use the relatively new device was hands-on in the Paris hospitals. He spent many hours studying the skin and eye diseases among patients collected in special clinics, thus also confirming the advantages of the wealth of clinical

cases that Paris offered compared to the much smaller population of Edinburgh or, for that matter, Bristol. On the whole, the record from this unknown student contains much that supports the generalizations already found in published sources and synthetic works and little that is new or surprising for historians of medicine to muse over. Indeed, the author's rather priggish opinions, his reluctance to praise anything French, and his evident dedication to spending hours at lectures and on hospital wards create a portrait of a serious, conservative young British Protestant working very hard to learn about diseases and treatments without reflecting too deeply (at least in writing) about the process of learning, knowing, or doing medicine. As the diarist was not interested in much apart from medicine, moreover, historians of science will be disappointed that he did not note any discussions of physics, zoology, chemistry, or other aspects of Parisian intellectual currents as he traversed the city.

Manuel has done a painstaking job of making this medical student's diary accessible to a larger audience. Together with similar critical editions, such as Russell M. Jones's collection of Jonathan Mason Warren's correspondence (*The Parisian Education of an American Surgeon* [American Philosophical Society, 1978]) and John M. T. Ford's edition of Hampton Weekes's letters (*A Medical Student at St. Thomas's Hospital, 1801–1802* [Wellcome Institute, 1987]), *Walking the Paris Hospitals* offers our students another way to get close to medical students' lives in the early nineteenth century.

SUSAN C. LAWRENCE

Daniel Pauly. *Darwin's Fishes: An Encyclopedia of Ichthyology, Ecology, and Evolution.* xxv + 340 pp., figs., apps., bibl., index. Cambridge/New York: Cambridge University Press, 2004. \$88 (cloth).

An erudite hobby turned reference work, *Darwin's Fishes* brings together all of Charles Darwin's scattered remarks on all kinds of fish. In alphabetical entries ranging from "acanthopterygians" to "zooplankton," Daniel Pauly reproduces and discusses relevant passages from Darwin's notebooks, letters, papers, books, and marginalia. Vigorous cross-referencing has made for a large number of supplemental entries. Readers following up on the acanthopterygians, for instance, can go to the entry on "ctenoid scales," but also to ones on "collection," on Darwin's fish expert Leonard Jenyns, and on the botanist John Stevens Henslow, mentioned in pass-

ing in an excerpted 1839 letter from Darwin to Jenyns on these perchlike fish. The volume includes a brief overview of Darwin's ichthyology and three specialist appendixes: "Fish in Spirits of Wine," a circa 1838 inventory of fish acquired on the *Beagle* voyage; and two lists of *Beagle* fish specimens in, respectively, the British Museum of Natural History and the University Museum of Zoology in Cambridge. An extensive, annotated, and cross-referenced bibliography concludes the work.

The quirkiness of the project extends to the entries themselves. Consider the one on "loaches." It begins straitlacedly enough, describing what sort of a fish the loach is (small, bottom dwelling, especially diverse in Asia), then quotes loach-mentioning passages from, among other sources, the *Origin of Species*. There Darwin adduced the case of the loach's respiring, digesting, and excreting alimentary canal as one example among many of a multiply-functioning organ in a lower animal. Darwin's point was that organs specialized for single functions among the higher animals need not have emerged whole and perfect, but could have emerged gradually through natural selection on more generalized organs, of the kind we see even today in the loach. Rather than ending thus conventionally, however, the entry free-associates to more outrageous facts. Just as one loach species today vents gas through its intestine, so, we are reminded, Darwin himself had terrible problems with flatulence. And if you find that idea "revolting" (p. 129), spare a thought for Japanese loaches. Thrown live into pots of water and tofu, they burrow into the mudlike tofu when the mixture starts to heat up—making, one imagines, for easy serving afterward.

The gag at Darwin's expense is out of character for Pauly, a prize-winning fisheries scientist. By and large he treats Darwin as a colleague who happens to live in the past. Pauly not only explains Darwin's interest in this or that fish but also brings him up to date, correcting as necessary. The result makes for fine browsing but fitful usefulness. The volume works best with questions framed, like the index, in terms of fish taxa. I was mildly curious, for instance, about Darwin and pike. I knew that in the second (1874) edition of the *Descent*, and again in his "Biographical Sketch of an Infant" (1877), Darwin wrote about an odd aquarium experiment, not done by him, involving a pike, a pane of glass, and some minnows. After three months' banging its head against the glass, the pike learned so thoroughly not to attack the minnows on the other side that it refrained from doing so

even after the glass was removed. Did Darwin mention this experiment anywhere else? The "pike" entry shows that he did, in a sentence in his final book, on the earthworm (1881).

Other questions slip Pauly's net, however. What about Darwin and aquaria? Home aquaria were all the rage in Britain in the 1850s. The aquarium boom left its mark on natural history, social history, and even geological illustration; as Martin Rudwick has pointed out, it was only after the boom that artists began to depict edge-on views of ancient seas. In the *Origin* Darwin wrote about experimentally transferring duckweed between aquaria and about suspending a duck's feet in an aquarium to test the tenacious hanging-on of freshwater shells. Yet two years later he wrote a letter apologizing that he could not accept the offer of an interesting live specimen (a blind cave salamander), for he had no aquarium. Could *Darwin's Fishes* throw any light? Alas, no. It has no entry for "aquarium," and its bibliography contains none of the associated scholarship. Those absences will rightly suggest to historians that this is a resource not really designed with them in mind. Pity.

GREGORY RADICK

Harold L. Platt. *Shock Cities: The Environmental Transformation and Reform of Manchester and Chicago.* xvi + 628 pp., illus., maps, figs., tables, index. Chicago: University of Chicago Press, 2005. \$49 (cloth).

In *Shock Cities*, the urban historian Harold Platt compares the industrial transformation of Manchester (England) and Chicago through the holistic lens of environmental studies. He employs the concepts of human and industrial ecology to explore how technology, environment, and public health interacted in the development of urban landscapes, but he does so "without losing sight of the central drama played by the city's people, politics, and patterns of settlement" (p. 12).

The dramatic industrial metropolises of Manchester and Chicago emerged in the nineteenth century from the interplay of the era's innovative technologies of energy production, transportation, and manufacturing and within the organizing scheme of the new factory system. The resulting patterns of land use and social geography in these "shock cities" were like nothing that had come before. These urban centers consumed natural resources at an unprecedented rate; they produced an unprecedented amount of pollution; and they transformed the natural environment in ways that endangered the inhabitants' lives.

Using Alexis de Tocqueville's concept of the