you look at what he says about all of the people in his index whose names begin with A, you will find that on five occasions he acknowledges Alberto Manguel's *A History of Reading* as his intermediate source. On 22 others he gives word for word the same facts and cites word for word the same quotations as Manguel, but without mentioning him. The difference is that in this latter group the original sources are in English or are available in a published translation. Therefore, unless you investigate further, you would think that he had chosen them himself. This seems disingenuous to say the least. Nevertheless Fischer's range is slightly wider than Manguel's, he is more up-to-date by a few years, his material is more systematically organized, and his style is more outwardly objective.

A History of Reading is the third part of an ambitious trilogy by Fischer, the earlier volumes covering the histories of language and of writing. But this volume is self-standing, and can be read and enjoyed for its own sake. ■

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New in paperback by the same author **A History of Writing**

by Steven Roger Fischer
Reaktion, £9.95, \$17.95

Darwin's stonecutter

Hewett Cottrell Watson: Victorian Plant Ecologist and Evolutionist

by Frank N. Egerton
Ashgate, 2003, 312 pp. £47.50, \$84.95

Richard Bellon

When the botanist Hewett Cottrell Watson finished reading a presentation copy of Charles Darwin's *On the Origin of Species* (1859), he could not contain his enthusiasm. "You are the greatest Revolutionist in natural history of this century," he wrote excitedly to Darwin, "if not of all centuries."

The book had yet to go on public sale when Watson made this breathless, but prescient, assessment of Darwin's place in the history of science. Darwin looms so large that his shadow eclipses many of his contemporaries, including Watson, who is one of many productive Victorian naturalists who are now largely forgotten. Frank N. Egerton's biography brings Watson out of the shadows and explains why his meticulous work in plant biogeography and systematics was so important to Darwin and other Victorian naturalists.

Recent studies of the history of science have vividly uncovered the political and

Hewett Cottrell Watson was an evolutionist before Darwin but pursued data rather than big ideas.

social background of Victorian evolutionary biology, and yet frequently overlook deceptively mundane technical issues. Nineteenth-century naturalists argued incessantly over such issues as the specific identity of primroses, cowslips and oxlips. Egerton deftly shows how and why such nitty-gritty technical questions mattered in the conceptual development of evolution.

Watson converted to evolutionism in the early 1830s when Darwin was still a non-evolutionist on the *Beagle*. Although Watson's adoption of evolution strengthened his reputation as a renegade, he repeatedly staked out positions that were more radical in principle than in practice. He angrily rejected his father's Tory politics, for example, but not the comfortable gentleman's lifestyle, which was financed entirely by his father's money. He was attracted to phrenology, but his conservative (and sensible) standards of scientific practice later drew him away.

Egerton concludes that Watson, for all his contrarian eccentricity, was no scientific revolutionary. He devoted his energy to the conventional species problems of the age: geographical distribution, the nature and limit of variation, and taxonomic delimitation. His interest in the origin of species remained secondary and unimaginative.

Most botanists before 1859 believed that each plant species had a fixed central type, and that variation from type was a transient response to environmental stimuli. A transplanted species would vary to conform to its new environment, or die if conditions were too alien. Return an environmentally

induced variety to its aboriginal environment, and it would revert to type. Variation, although ubiquitous, could not lead to evolutionary change because it was both inconstant and tightly bounded. Watson accepted this conventional wisdom with a caveat. He suspected that if variation persisted for an unspecified period of time, it became fixed, through some unspecified process, as a new central type. In this way, variation could accumulate to produce new species.

Watson never developed this idea. He believed that the facts of systematics and distribution strongly pointed towards evolution, but also suspected that the origin of species was a question that no one person could solve definitively. He duly subordinated his vague evolutionary speculations to his rigorous systematic and geographical studies. His great treatise on British plant geography, *Cybele Britannica* (1847–59), provided a wealth of suggestive data and analysis but broke no new intellectual ground. Echoing Watson himself, Egerton sees his subject primarily as a stonecutter for Darwin's edifice. By analysing the practical issues driving the development of natural history in the middle decades of the nineteenth century, Egerton allows a deeper appreciation of Darwin's evidence and argument, particularly relating to the chapters in *On the Origin of Species* on "Variation under Nature" and "Geographical Distribution".

The biography does not focus exclusively on Watson's contributions to evolutionary biology. Egerton perceptively analyses Watson's bullying personality, which soured nearly all of his professional relationships. Seeing how Watson's contemporaries balanced his obnoxiousness against his obvious scientific ability provides insight into the moral economy of Victorian science. The chapters on Watson as phrenologist clarify the history of that failed science.

The book disappoints in one key respect. Even though the subtitle characterizes Watson as a plant ecologist, there is little ecology in the book. The term 'ecology' was translated from German late in Watson's life, and he probably never encountered it. Watson's work might have given later ecologists much to use and assimilate, but it still falls squarely into an earlier, and different, tradition.

Egerton opens a window on the complexity and vitality of biology in the age of Darwin. This is a book to pursue, but not to inaugurate, an interest in Victorian natural history, however. Anyone acquainted with the subject, perhaps from Janet Browne's excellent two-volume biography, *Charles Darwin*, will come away with a much clearer appreciation of the vital intellectual milieu that produced Darwin's considerable revolution. ■

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