

BOOK REVIEWS

Darwin's Central Problems

Charles Darwin. *Voyaging*. Volume 1 of a Biography. JANET BROWNE. Knopf, New York, and Cape, London, 1995. xvi, 606 pp., illus. \$35, \$C49, or £25.

Darwin's central problems are still ours. However fully we may accept his historical account of the way things went, most of us still find some of the same difficulties that he himself found in making complete sense of life round that story. We are still trying to forge a really workable world view, a metaphysical and imaginative background, that will fit it properly. Even those of us who see no problems about God are still puzzled, when we get round to thinking about it, by the status and meaning of that far more sensitive entity called Man. That is why Darwin's life still concerns us so deeply, generating a stream of fat biographies. (This one takes us only to the eve of *The Origin of Species* in 1856, with plenty more to follow in a projected second volume.)

Recently these treatments have tended to concentrate on particular difficulties affecting Darwin himself, dealing with his personal troubles—his mother's early death—and with the obstacles to his thought posed by a ruling-class ideology dedicated to the permanence of species. This emphasis has been useful, but it sometimes seems designed mainly to answer the question "What held Darwin back? Why didn't he more quickly get on with the business of unveiling the coher-

ent modern world view which was surely there, just waiting to be expressed?" Hasty readers might get the impression that a less nervous, less class-bound scientist would have been able to complete the job at once, or indeed that we would probably have done it better ourselves.

The present book has no such simple propaganda line. Janet Browne takes Darwin's problems a good deal more seriously. She does full justice to the important political point about ruling-class ideology. She shows how deeply Darwin's upbringing rooted him in an orthodoxy that rejected the whole idea of evolutionary change. Hence indeed an ongoing struggle, political and social rather than religious:

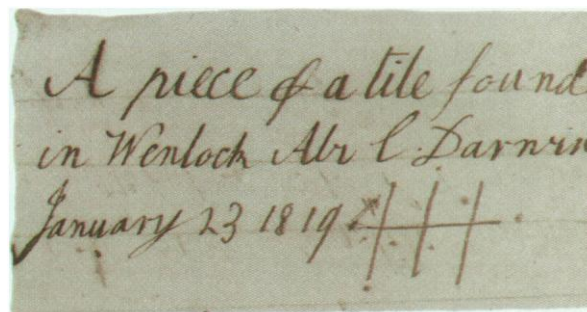
His sense of duty to his fellows, his innate conservatism, his appreciation of the values of gentlemanly society and unthinking acceptance of the advantages of Britain's hierarchies of power, lay uneasily together with the radical thrust of his philosophical views... Mostly the problem was a consequence of the structure of English society.

As Browne makes clear, however, Darwin was not a vague unconscious pawn in this process. He gradually came to own the conflict; he knew it was an internal one and he worked to resolve it. As it grew—as new dimensions of it successively opened on him—he acknowledged them and tried to deal with them. Unlike cruder, more polemical evolutionists such as his grandfather and Robert Chambers, he could not simplify the issue by taking sides:

He knew it was not particularly unusual to think that evolution had occurred.... [Apart from his grandfather] there were plenty of phrenological progressive radicals shouting for self-generated political and social change in the

human realm, urging transformations in the natural world as support for their views. Yet most of the men of his own professional standing who might have considered evolution invariably dismissed it... *Darwin's special achievement lay most of all in holding on in the face of this consensus.*

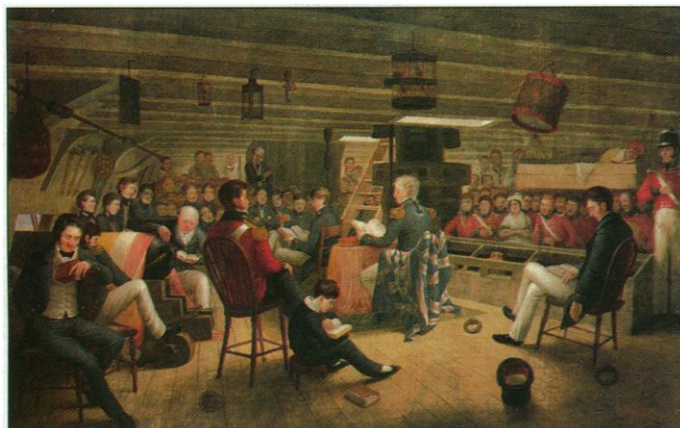
This is surely right. The trouble was that the cause belonged to the wrong kind of people. As Huxley said later, it was the Church Scientific that seemed likely to excommunicate Darwin for his new views, even after all the care he took to placate it. And that church meant a great deal more to him than the Church of England. The scientific establishment of his day saw evolu-



"The earliest scrap of Darwin's handwriting still extant. At age eight and nine, he was keen on collecting almost anything." [From *Charles Darwin*; courtesy of Mrs. Ursula Mommens]

tionary ideas as merely something sloppy, a political fantasy, not a part of hard science. The question was, could he divide himself from that establishment? Or could he go still further and convert it? He had somehow to find a reconciliation. He had to deal with this scientific opposition seriously, not only because it was so powerful but because it arose within himself as well as outside him. He had to sort out somehow what was serious in it from the extremely potent stereotyping in which it was wrapped.

That story is surely one that should be remembered each time stereotyping in terms of hard and soft science is allowed to settle important issues—as it frequently is today. It is worthwhile, too, to reflect on what would have happened had Darwin *not* been present to make this quite exceptional effort in his day. If, for instance, he had been lost on the voyage of the *Beagle*, the warfare over evolution would doubtless have gone on, but it would surely have been quite different and far more bitter. It would have been waged initially between the professional scientists, backed by their church, and Herbert Spencer, backed by Robert Chambers and various kinds of political revolutionaries, ranging from Marx and the Chartists to champions of unbridled commercial freedom. What would have followed? Which way would Huxley (originally a sharp anti-evolutionist) have jumped?



Sunday service aboard ship; painting by Augustus Earle, artist on the *Beagle* during the first part of its voyage. [From the dust jacket of *Charles Darwin*; courtesy of National Maritime Museum, Greenwich, UK]

Janet Browne raises no such wild hypotheses, but she shows admirably how a whole series of mentors and colleagues—Robert Grant, Henslow, Sedgwick, Fitzroy, Owen, Lyell, and many others—successively lit up new possibilities for the young Darwin, letting him move more and more freely from his original corner. She makes particularly clear the crucial part played by Robert Chambers's book *Vestiges of Creation* in this process. That book, published in 1844, shook Darwin radically by stating many of his secret conclusions but doing it so unprofessionally that the scientists were bound to ignore and despise it, and they duly did so.

At this point a weaker man might have given up. Instead, he responded in a remarkable way by studying barnacles for eight exhausting years. As Browne shows, this was no mere displacement activity but an admirable tactic. It gave him the detailed knowledge he had never yet had of a particular group of species and their mutual relations. (Before this time, he had centered his detailed investigations on geology rather than zoology.) This work not only greatly increased his general controversial weight among scientists but also provided him with a number of detailed cases that served well to illustrate his general thesis. Notably, he found among the barnacles a striking range of sexual arrangements, which made sense when they were considered as stages along an evolutionary path from an original hermaphrodite condition to full sexual duality.

That firm factual base was absolutely essential for his eventual success. But it was only the start of his problem. As Browne says,

Darwin understood that such difficult and controversial concepts could not be sold by facts alone . . . He also faced the arduous task of reorienting the way Victorians looked at nature . . . The world that Sedgwick and Henslow cherished, the world steeped in moral meaning which helped mankind seek out higher goals in life was not Darwin's.

Nor (to repeat) was this just a matter of amputating God. The replacement of theism by the worship of mankind, which has gone on so vigorously in the last century, disgusted Darwin even more. "It is absurd," he wrote, "to talk of one animal being higher than another . . . People often talk of the wonderful event of intellectual Man appearing—the appearance of insects with other senses is more wonderful." He always avoided using the Lamarckian word *evolution*, speaking instead merely of transmutation.

This avoidance went along with a deeper and more general avoidance of the whole notion of evolutionary progress. He had no belief in a cosmic crescendo whose apex was Man, destined to float on it to still greater heights of glory. That directional sweetener

Reviewed in This Issue

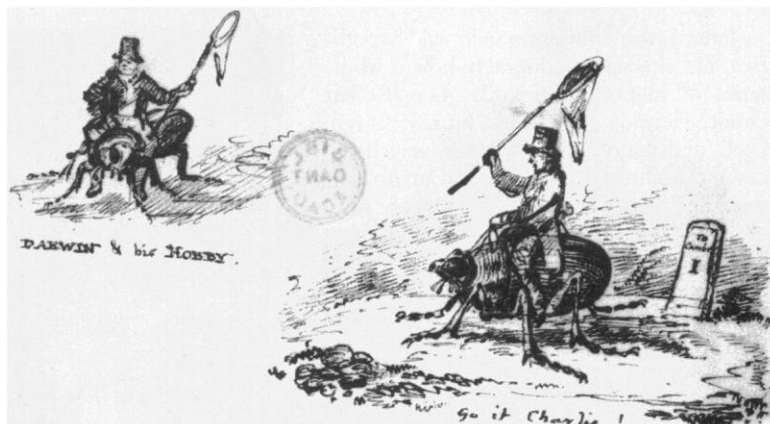
<i>Always</i> , Rachel, R. Carson and D. Freeman	1203
<i>American Technological Sublime</i> , D. E. Nye	1198
<i>Archaeology of the Southeastern United States</i> , J. A. Bense	1217
<i>Atoms in Electromagnetic Fields</i> , C. Cohen-Tannoudji	1212
<i>Carnegie Atlas of Galaxies</i> , A. Sandage and J. Bedke	1214
<i>The Challenger Foraminifera</i> , R. W. Jones	1208
<i>Charles Darwin</i> , J. Browne	1196
<i>Early Life on Earth</i> , S. Bengtson, Ed.	1206
<i>Evolution by Association</i> , J. Sapp	1209
<i>Images of Power</i> , H. Geertz	1218
<i>Invasions of the Land</i> , M. S. Gordon and E. C. Olson	1208
<i>My Double Life</i> , F. Hamerstrom	1205
<i>The Norton History of Astronomy and Cosmology</i> , J. North	1214
<i>The Rocket and the Reich</i> , M. J. Neufeld	1200
<i>Suffering Made Real</i> , M. S. Lindee	1201
<i>Tombs for the Living</i> , T. D. Dillehay, Ed.	1215

Other Features

Botanical Illustrations Through the Centuries	1210
Ordering Books	1220
Books Reviewed in <i>Science</i> , 13 May 1994 through 19 May 1995	1221
Vignettes	1201, 1204, 1222
Books Received	1224



"The interior of Darwin's college rooms, photographed in 1909." [From *Charles Darwin*; *Christ's College Magazine*, 1909]



"Darwin spent most of his time [as a student] collecting beetles and shooting. These sketches were made by Albert Way, an undergraduate who went out beetling with him." [From *Charles Darwin*; Darwin collection, courtesy of the Syndics of Cambridge University Library]

for his doctrine, which has comforted and indeed intoxicated so many theorists since his time, came from Lamarck and was added to Darwinism by Herbert Spencer, as were the free-trade nostrums of "Social Darwinism." Darwin himself took none of these drugs. Nor, of course, was he the kind of Nietzschean immoralist who could cheer himself up by reveling in the sheer destructiveness of his work. Nor did he take refuge—as some of his successors do—in congratulating himself that at least he had got everything right. All these comforting kinds of complacency were foreign to him.

Accordingly, what with one thing and another, it is really not surprising that Darwin sometimes felt extremely ill. On the much-discussed question of his bad health, Browne takes no dramatic line. She attributes it mainly to nervous indigestion exacerbated by the irritant medicines of the day (purgatives and calomel), by conscientiousness, and by a punishing work schedule. She does not mention recent suggestions about nervous hyperventilation, but these proposals seem to fit quite well with this general approach. About his marriage she is perceptive, seeing it as happy on the whole but limited by the somewhat narrow notions of sex roles shared by the partners. Though Emma was a positive, intelligent kind of woman and though there was real love and sympathy between them, she was largely excluded from his work and saddened by his irreligion.

It is surely interesting that Darwin, who

had been expressly warned by his father that unbelief shocks women and must be kept from them, made no effort to find a less religious partner, although his quest for a wife was calculated and deliberate. He seems to have shared his father's view of religion as probably an unavoidable sex-linked characteristic, a necessary part of the female role. No doubt he saw it, more widely, as part of a whole emotional fluency suited to women, a fluency which—as he sadly said in his *Autobiography*—he felt had dried up in himself over the years, leaving him somewhat arid.

Many of these themes will no doubt be



Down House in Kent, where Charles Darwin and his family moved in 1842, "very solid throughout though oldish and ugly." [From *Charles Darwin*; Darwin collection; courtesy of the Syndics of Cambridge University Library]

taken up in another volume. Meanwhile, this is surely a very good biography. It is thoroughly scholarly, but the scholarship does not obtrude. It is not, like some fat biographies, a mere welter of references. Details are kept well in place within the plan of the whole, which is clear without being oversimplified into a one-sided scenario. Appropriately, the story is of *development*—of a

steady, gradual growth both in the man himself and in the problems that confronted him, to a climax of the utmost importance. What help we can get from it for dealing with our own problems must come from following that development further.

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Magnificence Lost

American Technological Sublime. DAVID E. NYE. MIT Press, Cambridge, MA, 1994. xxii, 362 pp., illus. \$35 or £31.50.

Historians of technology are currently interested in *sublimity*, a term 18th-century writers used to describe their response to magnificent but terrifying natural wonders such as precipices and torrents. In her excellent *Notes on the Underground: An Essay on Technology, Society, and the Imagination* (MIT Press, 1990), for example, Rosalind Williams notes that the language of sublimity shifted esthetic focus away from formal properties of the object to the moral and emotional reactions of the observer. When Europeans of the mid-1800s began to characterize industrial sprawl as sublime, says Williams, they wrote as outsiders astonished by vistas from which large-scale technology had banished nature. In this respect, sublimity points toward postmodernism, which holds that all environments are artificial, that experience is socially constructed, that individuals are subsumed by groups and institutions, and that visualization has undermined the cultural authority of text.

In contrast to Europeans, says David E. Nye, author of *American Technological Sub-*