

An Equivocal Heritage

Darwin's Forgotten Defenders. The Encounter between Evangelical Theology and Evolutionary Thought. DAVID N. LIVINGSTONE. Eerdmans, Grand Rapids, MI, and Scottish Academic Press, Edinburgh, 1987. xii, 210 pp., illus. Paper, \$10.95.

Even a partial listing of David Livingstone's doughty Victorian protagonists—naturalists such as Asa Gray, James Dwight Dana, and George Frederick Wright and divines such as James McCosh, Benjamin Warfield, and James Orr—will be enough to convince many historians of science that not all of them have been forgotten. Nor did any of them defend Darwin's vision of evolution without serious qualifications. Why, then, this engagingly mistitled book?

Livingstone, himself an accomplished historian of science, does not write for professional peers but for fellow believers. His 19th-century Lamarckian sympathizers, providential evolutionists and cosmic teleologists, held Christian beliefs—about the fall, original sin, the atonement, the resurrection, and eternal damnation—generally indistinguishable from those of 40 million American evangelicals today. It is this popular audience, creationist at the core, forgetful of the evolutionists in their past, whom Livingstone addresses. By reminding them of their ancestors, and in a subtle way trying to rehabilitate these individuals, he aims to put "the onus . . . on the creationists to satisfy us that theirs is not a thoroughly modern movement cut off from the mainstream of the conservative Christian tradition." "Evangelical orthodoxy," particularly among its Calvinist representatives, was conspicuously on the side of Darwin.

It is a nifty piece of polemic—popular without being condescending, elementary but not didactic—and written extremely well. But I wonder whom it will convince.

Livingstone, while admitting to the bias of historical selectivity, proposes to let his characters "speak for themselves" in an effort to mitigate it. "History has its own lessons to teach," he says. This is not to be believed. His treatment of the evangelical naturalists, for example, is not only clear and concise; it is partial and laudatory. The strategy comes to roughly this: establish an individual's "impeccable" orthodoxy; honor his professional career; explain his deviance from the path of scientific truth as being common at the time, the outcome of empirical rather than exegetical considerations; finally, expound his discriminating support for Darwin. The result: another evolutionist among the "giants" whose "scholarly cast of mind, . . . rhetorical discipline, . . . scientific toler-

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ance, and . . . ecclesiastical latitude" set them apart from their fundamentalist and creationist successors.

Or such is the image that Livingstone uses history to cut for himself and the influential rump of evangelical evolutionists today. It may not prove attractive, first of all, to its intended audience because "the mainstream of the conservative Christian tradition" in America currently resembles the Strait of Hormuz. The belief in the inerrancy of the Bible, which Livingstone discounts as a factor inhibiting acceptance of evolution in the 19th century, has become the *sine qua non* of orthodoxy among militant neofundamentalists and creationists. From their embattled perspective, Livingstone's giants may tend to look a little vulnerable—like supertankers without an escort. None of them believed in the Bible as an inspired textbook of science.

A second reason why Livingstone may fail to carry conviction to his readers is that outsiders who know little of evangelical apologetics and frankly suspect its works will wonder how men who strained at the gnat of natural selection but swallowed the virgin birth can possibly be claimed as defenders of Darwin. The answer is that Livingstone abstracts natural selection from the context of Darwin's thought and offers it, safely sanitized from Lamarckian causal factors and naturalistic meanings, as a "theory of relative reproductive success," on the hypothetico-deductive model, suitable for amalgamation as "science" with supernaturalist metaphysics. In this he exceeds even the ingenuity of his ancestors, many of whom saw Darwin's work more organically, although his distinction, let it be said, comes straight from 20th-century neo-Darwinian apologists, who may now perceive how far they have unwittingly abetted their evangelical counterparts.

Finally, Livingstone will have a tough time persuading many colleagues among historians and philosophers of science that as an evangelical he has really got to grips with the Darwinian challenge. *Darwin's Forgotten Defenders* proffers a fairly conventional investigation of science, on the one hand, and Christianity on the other. Only weakly and belatedly does the book suggest how these may be jointly explicated as competing professional allegiances, or modes of ideological representation, or vehicles of social control. The notion that evolution itself might *explain* evangelical religion as an adaptive response in the struggle for existence—a notion supported in principle by Darwin and plausible enough to attract sociobiologists concerned with recent geopolitics—gets no time at all. For the most part Livingstone seems rather to be interested in

maintaining a distinction between the content and the context of science under which a remark such as, "There was no direct relationship between evolutionary biology and nasty social practices" can safely shelter from the rain of historical refutations. Yet it is odd to encounter this remark in a book that elsewhere notes the confluence of theory and theology in the likes of the Reverend Thomas Malthus, while pointing up the indebtedness of modern science to the Puritan evangelical spirit, under which capitalism also prospered.

Non-believers will learn much from Livingstone that they might not otherwise have known. Some of his giants were giants indeed, and it is salutary to discover how deeply and thoroughly the evolutionary naturalists were imbued with un-Darwinlike metaphysical beliefs. Creationists, on the other hand, will learn much they may not wish to know, and it must not be supposed that *Darwin's Forgotten Defenders* will keep them from forgetting again. In the end, therefore, Livingstone has employed an impressive array of evidence to make a timely argument admirably adapted to the needs of a large and, I daresay, increasing number of "mainstream" American evangelicals who set store on intellectual upward mobility. If they succeed in embellishing their tradition with Darwin's name, anything is possible. It would certainly be a miracle.

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Relativity As a World View

The Comparative Reception of Relativity.

THOMAS F. GLICK, Ed. Reidel, Dordrecht, 1987 (U.S. distributor, Kluwer, Norwell, MA). viii, 412 pp. \$79. Boston Studies in the Philosophy of Science, vol. 103. Based on a colloquium, Boston, MA, March 1983.

In its early years Einstein's theory of relativity was often seen as a program with wide extrascientific implications rather than just a theory of physics. It became, like Darwinism and Freudianism, a world view, and as such its significance is independent of its actual scientific content and lies largely in its reception and dissemination. In recent years sociologically oriented "reception histories" have been generally recognized as a means of extending the perspective of standard historiography of science. Along these lines Thomas Glick edited in 1974 *The*

Comparative Reception of Darwinism, to which *The Comparative Reception of Relativity* can be seen as a companion. In the present volume 11 scholars have contributed informative and interesting essays on how relativity was received in particular countries. Similar studies have been published before, and some of the contributors draw on these, but this is the first time we are offered what is purportedly a comprehensive, comparative analysis of the reception of relativity.

Although each of the contributions could merit individual attention, I shall only mention a few. Stanley Goldberg shows how the assimilation of relativity in the United States was based on misunderstandings of Einstein's theory, which was presented as an inductivist theory founded on and justified by experimental facts. Mistaken as this view was, it made relativity fit into an epistemological framework familiar to American science and education and in this way helped the new ideas to be assimilated. Barbara Reeves examines the political and cultural connotations of relativity in Italy, especially "relativity" interpreted metaphorically as a political theory in early Fascism. The strength of Thomas Glick's analysis, dealing with Spain, lies in its sociological approach, necessitated by the fact that theoretical physics barely existed in that country. He therefore focuses on "the scientific middle class" (engineers, physicians, pharmacists), arguing that relativity provided the engineers with an intellectual halo, which was a main reason for their espousal of the theory. Interestingly, support for relativity in Spain often came from conservative Catholics, who managed in this way to embrace science without opposing traditional Catholic values.

As in the present volume, reception and diffusion studies most often take the natural unit to be the national state. The countries dealt with are well chosen, covering scientific centers (Great Britain, France, Germany, the United States) as well as countries of more peripheral importance (the Soviet Union/Russia, Japan, Italy, Spain, Poland). Inclusion of countries with a very different cultural tradition might have added an interesting perspective, however. Rather than have two contributions on France, I would have preferred to know how relativity was received in, say, China, Egypt, or India. Although the importance of national styles in science is unquestionable, it does not follow that this is the only or most promising unit to study. Instead of asking how specific national environments influenced the reception of relativity, one might ask, for example, how the idea was received by different social classes or how reception var-