Selecting the very fittest

Evolution Extended: Biological Debates on the Meaning of Life
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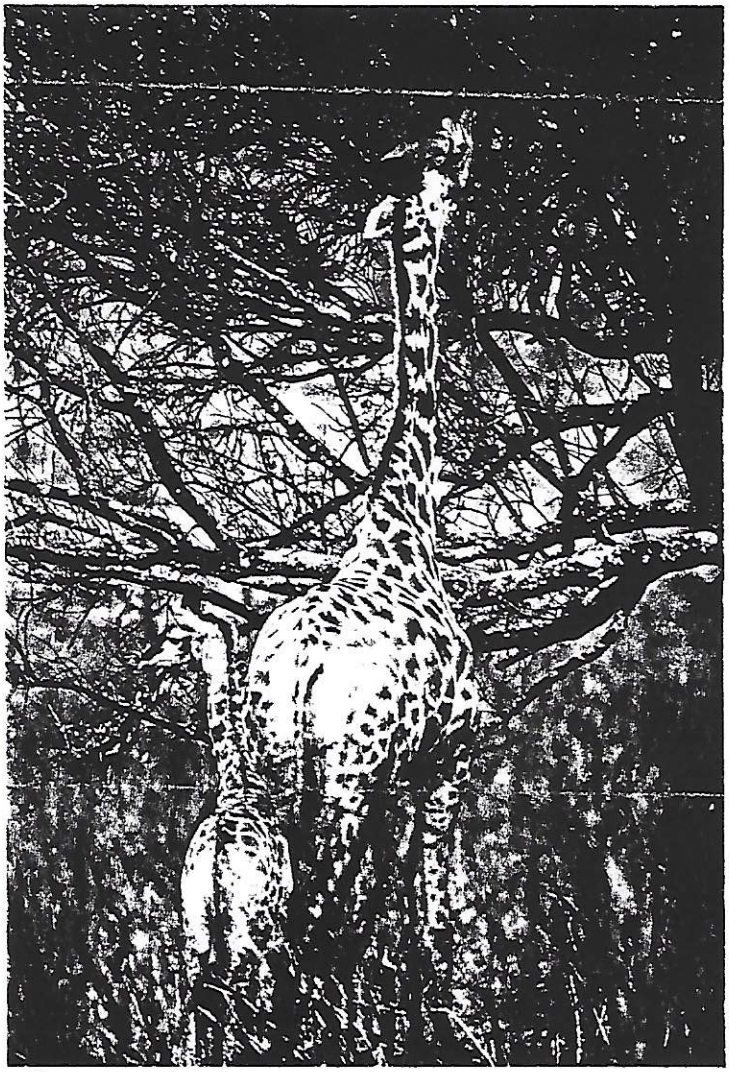
"EVOLUTION is not antireligious any more than the roundness of the earth is antireligious," according to the American palaeontologist George Gaylord Simpson. But whether he is right, I suspect, depends on the religion. In so far as religion depends on the idea that species were created supernaturally, fixed in form, evolution is antireligious; in so far as it does not, it isn't. While biologists may think that creationism should not be included in a religious creed, it is not their job to tell people what to put in their religions: they should leave that to the ayatollahs.

Many of the authors included in *Evolution Extended* would disagree. The book is an anthology about evolution and religion. It contains the work of scientific atheists, creation scientists and religious evolutionists. "Separatists", however, who would allow both religion and science but keep them in their proper places, have short shrift. One who is represented is Pope John Paul II, and Barlow pontifically excerpts him beneath the well-chosen title "good fences make good neighbours". Another is Karl Popper, whose remark that "it is important to realise that science does not make assertions about man's task in the world" was (at least to me) welcome after reading Julian Huxley's efforts to establish himself as a global evolutionary ayatollah.

The main dialogues concern, as well as creationism, various more or less religious improvements on neo-Darwinism. I detected three such attempts in particular, two linked by the idea of progress. Julian Huxley and Teilhard de Chardin both suggest that humans are evolution's highest achievement so far, and that progress in the future will be made by building on us. Their arguments are gasp-makingly feeble. Consider: if there are 30 million species alive today, then there are 30 million evolutionary lineages leading from the common ancestor of life to a modern species. If you trace the events up some of them, there is change as far as the origin of bacteria, and then constancy; up others, there are other patterns of change. Only if you arbitrarily pick one of them—the one leading to humans—out of the 30 million do you see the events so marvelled at by the philosophers of evolutionary progress: net change in an anthropomorphic direction. For Huxley this was "independence from the environment", for de Cardin "cerebralisation".



T. Barrett/Bruce Coleman

Darwin's puzzle: how the giraffe got its neck

Progressionists are mesmerised by this one lineage, or small number of lineages, and they cannot stop thinking of it as the evolutionary highroad, even while insisting that they are not being anthropomorphic. But if they had picked some other lineage they would have a different story to tell. There is as much evolution (about 3·5 billion years of it) behind a modern bacterium, with its "cerebralisation", as there is behind us, with ours; it just happens to be a rather different evolution.

Barlow says she selected some of de Chardin's more readable passages (and I believe her), but there is plenty of vintage material. For example, "half of our present uneasiness would be turned to happiness if we could once make up our minds to accept the facts and place the essence and the measure of our modern cosmogonies within a noogenesis," wrote de Chardin. I expect you are half cheerful already.

The third problem with neo-Darwinism is that natural selection is not, well, very nice. Some writers want more emphasis on cooperation, and find symbiosis particularly significant. Peter Corning has it that symbiosis "clearly defies the "tooth and claw" model of natural selection." I should have thought it exemplified it rather well, but neither he nor the other authors actually explains how the process (selective death, competition and so on) leading to the evolution of symbiosis is any more edifying than evolution to, say, a flesh-destroying *Streptococcus*.

Barlow's selection is broad-ranging and well-balanced. De Chardin is bound together with Peter Medawar and Jacques Monod, Huxley with Simpson and William Provine. She has interspersed the scientific writings with pictures and poetry. As with all the best anthologies, if you dip into it you often find something surprising. The number of writers is large: there are also long (5 to 10 page) extracts from Francisco Ayala, Gregory Bateson, John Tyler Bonner, Charles Darwin, Richard Dawkins, Alister Hardy, and E. O. Wilson, and extracts from many others. Francis Crick, for instance, has a paragraph on the (mainly negative) reaction to Monod's *Chance and Necessity*. The reaction, says Crick, "is all the more surprising since the central vision of life that it projected is shared by the great majority of working scientists of any distinction. It would be difficult to find a better example to display the deep rift between science and the rest of our culture." Such is the rift that Barlow, in this and her anthology *From Gaia to Selfish Genes*, is working to put bridges over. Good luck to her.□

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