

## Confuting Darwinism's Enemies—and False Friends Too

**Darwinism and Its Discontents.** Michael Ruse. Cambridge University Press, New York, 2006. 316 pp. \$30.00 (ISBN 9780521829472 cloth).

Referring to the aura of mystery surrounding the ancient Etruscans and their supposedly indecipherable language, D. H. Lawrence once wrote, "I don't think there is any other field of human knowledge in which there is such a daft cleavage between what has been scientifically ascertained and the unshakeable beliefs of the public" (quoted in Robert Hughes, *Things I Didn't Know: A Memoir* [New York: Knopf, 2006], p. 246). Lawrence must not have known about evolutionary biology—or was unaware of the gap between his own daft view of it and what had been scientifically ascertained even in his day.

I mention this because it gives a feel for the situation to which Michael Ruse addresses himself in *Darwinism and Its Discontents*. In part because he has been more willing than most biologists and philosophers of biology to engage in the rough-and-tumble of public debate, Ruse has been an effective advocate for Darwinism. The present book follows on the heels of Ruse's *The Evolution–Creation Struggle* (Cambridge, MA: Harvard University Press, 2005). It thus reflects his keen awareness that, although they have lost every court case since they began their most recent crusade to get Darwinism out of the schools, creationists and their kissing cousins in the intelligent design (ID) movement (who take Darwinism's opposite number to be Paley's argument from design rather than a literal reading of Genesis) have nonetheless managed to throw so much sand in the eyes of the general public that many people actually think that evolution—specifically, the common descent of all organisms on Earth from a common ancestor—is still in dispute. Worse, the public has been led to believe that the factuality of evolution is hostage to Darwin's theory of natural selection as its

cause, and therefore that the mere existence of controversies among Darwinians throws doubt on the phenomenon of evolution itself. Commendably, Ruse's aim in this book is to wise up the public.

Ruse's strategy is to update Darwin's own argument. With respect to evolution itself, Darwin cited converging facts from a variety of different sciences—embryology, biogeography, classification, and so forth—and inferred that evolution is their best explanation. (This is a proof procedure that William Whewell, whom Ruse somewhat controversially takes to be Darwin's primary methodological mentor, called "consilience.") Ruse points out that evolution (a "theory" only in the nontechnical sense in which any factual conclusion drawn from reasoning rather than direct observation alone is a theory) remains the best explanation of the fact that "missing links" have been popping up regularly since Darwin's day, with no countervailing finds; that phylogenies first established by traditional systematic methods have been corroborated, except for details, by phylogenetic systematics; and that recently these phylogenies have been shown to be beautifully consilient with molecular sequencing data coming from a flood of genome sequencing projects.

Ruse's account of natural selection follows suit. Selection is the best explanation of evolution. Selection has been confirmed in the lab and, with increasing success and sophistication, in the wild. In the second connection, Ruse cites the well-known work of Peter and Rosemary Grant on Darwin's finches. Is there empirical evidence for speciation, too? Ruse cites apple maggot flies, which parasitize both apple trees and hawthorns. Although capable of interbreeding, the sexual unattractiveness of these subpopulations to each other suggests a speciation event in the making.

Ruse's portrait of Darwinism as a continuous, cumulative, progressive research tradition set on the correct path by its ingenious founder is a good part of the

persuasive strategy of the book. After all, we do like our science to be cumulative. The very idea that it might not be is what bothers people about Thomas Kuhn's paradigms. But this strategy also commits Ruse to (or perhaps springs from) a substantive claim according to which the main line of Darwinism always has been, and presumably always will be, one in which the targets and beneficiaries of adaptive natural selection are individual organisms considered as members of discrete interbreeding populations. The discovery of genes, Ruse assures us, did not affect this continuity. "The genes (genotype)," he declares, "and the physical features (phenotype)...are not rivals" (p. 108). Accordingly, Ruse thinks that group-level selection either is rare or turns out to be individual selection after all. So much for groups, above the level of the individual. What about genes below? Ruse's assurance of preestablished harmony between genes and adapted traits implies that "selfish gene theory" is just another way of formulating organism-centered Darwinism, perhaps more useful on some problems than others. This is controversial, and I would have welcomed some discussion.

Ruse's claim about the continuity of the organism-centered Darwinian main line may well be historically and theoretically defensible. It is far from self-evident, however, if only because Ruse burdens it with a more contentious line of argument. He claims that self-proclaimed Darwinians who depart from the main line are not Darwinian at all, but constitute a fifth column of false friends whose ill-disguised "visceral hatred" of Darwinism gives aid and comfort to the creationist enemy and might even spring from psychological disorders. The context indicates that Ruse has at least partially in mind the late Stephen Jay Gould and the distinguished population geneticist Richard Lewontin. Their famous criticism of "the adaptationist program" sprang, Ruse implies, from a prior commitment to Marxism that trumped their