BOOKS: HUMAN EVOLUTION

Can Selection Explain the Presbyterians?

Michael Ruse

David Sloan Wilson, one of the most interesting evolutionists active today, is a man with a mission. He believes that, in the 1960s, evolutionary biology took a wrong turn. In the *Origin of Species*, Charles Darwin had recognized that behavior is something as much subject to natural selection as physical characteristics. (There is no point in having the body of Tarzan if you have the mind and habits of a philosopher.) Darwin also recognized that certain kinds of behavior—especially behavior helpful to others, developed most fully among hymenoptera (ants, bees, and wasps), having nonreproductive castes—offer a major challenge to his theory. If evolution starts with a struggle for existence, more specifically a struggle for reproduction, how can it possibly be that it eventuates in adaptations that seem specifically designed to help others at the helper's expense? Surely such "altruists," as they came to be known, would be eliminated almost immediately.

The popular answer to the dilemma of social evolution was that it was the product of some form of "group selection," in which the unit of adaptation is the species, tribe, nest, or whatever rather than solely the individual. As Konrad Lorenz argued when explaining why the victor of a dog fight did not kill the loser, it would be bad for the species if members of a group kept cleaning out their fellows. But some thoughtful Darwinians (especially the English theoretical biologists R. A. Fisher and J. B. S. Haldane) always worried about this kind of explanation. In the 1960s, a number of evolutionists (notably W. D. Hamilton, John Maynard Smith, and George Williams) argued strongly that social behavior is better explained in terms of advantage to the individual. To use Richard Dawkins's felicitous metaphor, "selfish genes" seemed the best way to explain altruistic behavior. And thus the whole new evolutionary sub-area of "sociobiology" was off and running. A revolution had occurred.

David Sloan Wilson (to be distinguished from the influential sociobiologist Edward O. Wilson) has long maintained that, far from being a glorious move forward, this interpretation went wrong. He feels that there was no need of a revolution (if such it was), that group selection was unfairly dismissed, and that many of the supposed triumphs of individual selection are best seen and understood as manifestations of group selection. Notoriously, he has argued that the jewel in the crown of the new approach—Hamilton's kin-selection hypothesis, which explains how selection can produce features that aid the reproduction of close relatives—is not truly individual selection at all. Rather, it is group selection, where the key elements are not individual members but traits shared in common by many members. And, more generally, Wilson has contended that we should be taking a much more holistic attitude to social behavior than most would think necessary. In his previous book (*1*), he and philosopher Elliott Sober applied this way of thinking to that most interesting of species, ourselves. They claimed emphatically that human beings with their culture are far more integrated than most human sociobiologists or evolutionary psychologists (as they tend now to be called) allow or realize.

Darwin's Cathedral
Evolution, Religion, and the Nature of Society
by David Sloan Wilson
University of Chicago Press, Chicago, 2002. 276 pp. $25, £16. ISBN 0-226-90134-3.

Darwin's Cathedral is another sortie in Wilson's ongoing campaign. Here he turns his attention to religion. He examines specific examples of culture—in most detail, the society built by Calvin in 16th-century Switzerland—to see whether his thinking on group selection is confirmed and, in turn, whether it throws unexpected and important light on religion and religious practices. The reader will not be surprised to learn that Wilson concludes that his organismic approach yields great insights and that it will (as the text on the flap of the book's cover tells us) "change forever the way we view the relations among evolution, religion, and human society."

As always, Wilson writes well and clearly and in a stimulating and provocative style. The book is interesting and important, and there can be no higher praise. I applaud the way in which Wilson approaches his topic. If selection interpretations of any kind are to be applied to humans, then what we need are case studies such as Wilson offers. One cannot simply do these things in theory, without any empirical material. And a distinctive and admirable feature of the book is that Wilson does not (as so many evolutionary biologists are wont to do) prejudge the worth of religion before he starts. He finds it a notable feature of human societies and, as such, demanding respect if not agreement or support.

But I am not convinced. Wilson would not expect me to be, for I am a declared partisan of individual selection. My worries begin early in the book. In the tradition of evolutionary biologists such as Ernst Mayr and Stephen Jay Gould, Wilson uses history to bolster his case. He claims Darwin as a group selectionist, but [as Gould argues (*2*)] that requires a very selective reading of the texts. Through most of his life and particularly against the co-discoverer of natural selection, Alfred Russel Wallace, Darwin took a hard-line, individualistic stance. Even when he became somewhat of a groupie with respect to human morality (though not with respect to most human social behavior), he immediately pulled back and suggested that morality might be a function of the individualistic process of reciprocal altruism: you scratch my back and I'll scratch yours.

Nor am I taken with Wilson's use of his authorities. In support of his belief that selection can affect human nature, Wilson cites the work on homicide by the Canadian researchers Martin Daly and Margo Wilson (*3*). But he does not acknowledge that their appeal to biology to explain step-parental violence is individualistic through and through. A group selection hypothesis would see no difference between biological- and step-parental violence, and Daly and Wilson's starting point is that there is a huge difference.

Most of all, I worry about Wilson's case study. Although he acknowledges the difference between claims and action, he bases his work mainly on the former. But it is surely the latter that counts. I want hard figures on birth patterns before and after Calvin, and I want to know who had kids and who did not. I want these figures correlated with religious practice and belief. Then and only then will I start to feel comfortable.

But let me not end on a negative note, because I feel a bit mean criticizing an evolutionary biologist for going outside his own field to matters of church history. So let me repeat that I applaud the approach taken by Wilson, and I urge you to read *Darwin's Cathedral*. I think Wilson's answers are wrong, but much more important is the fact that his questions are right.

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References
1. E. Sober, D. S. Wilson, *Unto Others: The Evolution and Psychology of Unselfish Behavior* (Harvard Univ. Press, Cambridge, MA, 1998).
2. S. J. Gould, *The Structure of Evolutionary Theory* (Harvard Univ. Press, Cambridge, MA, 2002).
3. M. Daly, M. Wilson, *Homicide* (Adeline de Gruyter, New York, 1988).