

The Ant and the Peacock

Helena Cronin

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A PAPERBACK VERSION OF *The Ant and the Peacock*, which was first published in 1991, is now available. The headlining animals represent the two big challenges, altruism and sexual selection, to the evolutionary explanations developed by Alfred Wallace, Charles Darwin, and others in the nineteenth century. Both sex and societies seem to require a degree of cooperation that is at odds with a view of nature as being red in tooth and claw. The ant and the peacock are Cronin's guidelines from historical solutions to these difficulties, to modern debates on the same topics. Entomologists will already have cheered that an insect has top billing.

"The ant problem" for Wallace and Darwin was the occurrence of species with morphologically different subcastes of workers. How could such differences evolve by natural selection among already sterile workers? This example is used to illustrate arguments that genes, of the selfish Fisher-Haldane-Dawkins-Hamilton type, are the units which experience natural selection. [These four people, plus Darwin, are the heroes of the book.] The major shift in thinking, from the good-for-the-species, organism-centered worldview of the last half of the 1800s, to a gene-centered one of today, has succeeded, according to the author, in providing rational explanations for the ant problem, and many other examples of behavior. Extreme examples might even include pathologies such as higher tendencies by males to murder, observed across cultures. Cronin gives herself running room, suggesting that not all observed behaviors are "adaptive" (she means, have "apparent design"), because people have done "unnatural" things to their environments. Because phenotypes result from interactions with genic and environmental information, some behaviors expressed today on the streets of say, New York, might be based on genic information which produced different, but adaptive behaviors on the African savannah. I frequently disagreed with many of Cronin's interpretations, but the examples were interesting.

The extravagant tail of a male peacock repre-

sents the other difficulty for Wallace and Darwin. The history of ideas about sexual selection is similarly illustrated with accounts of the brilliantly colored displays of (usually) male animals, as well as the drab and dull-colored, and the strange antics of males as they court and mate with receptive females.

A goal of the book is to show how many current (circa 1991) debates and controversies about sexual and natural selection are haunted by the courteous disagreements between Darwin and Wallace about similar questions. Wallace fares better in this history than he usually does, and receives some of the credit due him for his important contributions.

For a general reader interested in biology, the book will be delightful, with attractive line drawings, historical photographs, and even scanning electron micrographs of plant seeds. The book is an excellent advocate for a selfish-gene point of view, and in this context I recommend it highly (especially because it is now published in paperback). For a seminar course, it could be a lighter version of some of the same material covered in Richards (Richards, R. J. 1987. *Darwinism and the emergence of evolutionary theories of mind and behavior*. University of Chicago Press, Chicago). Cronin's descriptions of behavior were often too anthropomorphic for my taste (for why this is a serious problem, see Kennedy, J. S. 1992. *The new anthropomorphism*. Cambridge University Press, Cambridge), but anthropomorphism makes for a snappier story. Descriptions of current controversies and their histories are strongly biased towards ideas of British biologists, but this too makes for especially coherent and entertaining reading. The writing style is light and usually amusing. There is a bibliography of more than 500 references; a separate bibliography of the letters of Wallace and Darwin; and a combined subject, author, book title, and species index.

Almost anyone interested in evolution will learn something new from working through the easy-to-read arguments in *The Ant and the Peacock*. There is much to disagree with in this book, but its arguments are especially worthwhile in helping one understand the darwinian and wallacean views on the same subject.

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