

Wilson E. O. *Sociobiology: the new synthesis*.
Cambridge, MA: Belknap Press, 1975. 697 p.
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Sociobiology is the systematic study of the biological basis of all forms of social behavior. It emphasizes the analysis of societies as populations, using methods and concepts from population biology. It also focuses on the adaptive significance of higher levels of social organization. [The SCI® and SSC® indicate that this book has been cited in over 2,810 publications.]

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I consider *The Insect Societies*,¹ which appeared four years before *Sociobiology*, to be the more original work, wherein I systematically reinterpreted knowledge of a major group of highly social animals (ants, bees, wasps, termites) in the framework of the then relatively novel concepts of population biology. This approach made sense simply because societies are populations. For example, caste systems are best understood as the outcome of "adaptive demography," in which programs of natality and senescence generate adaptively superior combinations of workers of varying size and age; each species has a colony (i.e., population) size at which it is optimal to start producing queens that found new colonies; males are drones because they are genetically too distant from their sisters to make altruism adaptively profitable; and so forth. A great deal of disparate information acquired by many specialists in different topics was tied together in this fashion.

The last chapter of *The Insect Societies* was entitled "The prospect for a unified sociobiology." In it I suggested that many of the principles that seemed to work well for social in-

sects were also applicable to other kinds of animals, up to and including primates. In other words, sociobiology deserved to be a separate discipline based on population biology and with a strong evolutionary style of explanation. *The Insect Societies* did not have much impact outside entomology, perhaps because insects are not a familiar subject to the great majority of biologists, and their study seems too specialized and "technical" to many.

Not so for *Sociobiology*, in which I extended the approach to all social organisms, from colonial bacteria to man. Part of the popularity of the book came from the unusual panoramic illustrations provided by Sarah Landry. More important, however, was the coverage of the vertebrates, which enjoy the attention of a far greater population of biologists and are instantly familiar to everyone. Still more important, I included a brief, two-chapter introduction to human sociobiology. The idea that human social behavior has a biological basis shaped by natural selection was sufficiently controversial, many would say scandalous, to trigger the "sociobiology controversy" that attracted a great deal of public attention during the late 1970s.

In summary, then, *Sociobiology* was successful not because it was the first synthesis of its kind (*The Insect Societies* preceded it), but because it cast a lot of already familiar material in new, scientifically better authenticated form while suggesting a way to bridge biology and the social sciences. The success of the approach is attested by the existence of several subsequently created journals devoted substantially to it, including *Behavioral Ecology and Sociobiology* (Springer-Verlag, New York), *Ethology and Sociobiology* (Elsevier Publishing Co., New York), *Journal of Social and Biological Structures* (Academic Press, London), as well as a large number of textbooks, monographs, and critiques, among the most recent of which are those by D.P. Barash,² J.H. Beckstrom,³ M. Daly and M. Wilson,⁴ P. Kitcher,⁵ and J. Lopreato.⁶

1. Wilson E. O. *The insect societies*. Cambridge, MA: Belknap Press, 1971. 548 p. (Cited 1,200 times.)
2. Barash D. P. *Sociobiology and behavior*. New York: Elsevier, 1982. 426 p.
3. Beckstrom J. H. *Sociobiology and the law*. Urbana, IL: University of Illinois Press, 1985. 151 p.
4. Daly M & Wilson M. *Sex, evolution and behavior: adaptations for reproduction*. Boston, MA: Willard Grant Press, 1983. 402 p. (Cited 55 times.)
5. Kitcher P. *Vaulting ambition: sociobiology and the quest for human nature*. Cambridge, MA: MIT Press, 1985. 456 p.
6. Lopreato J. *Human nature and biocultural evolution*. Boston, MA: Allen & Unwin, 1984. 400 p.