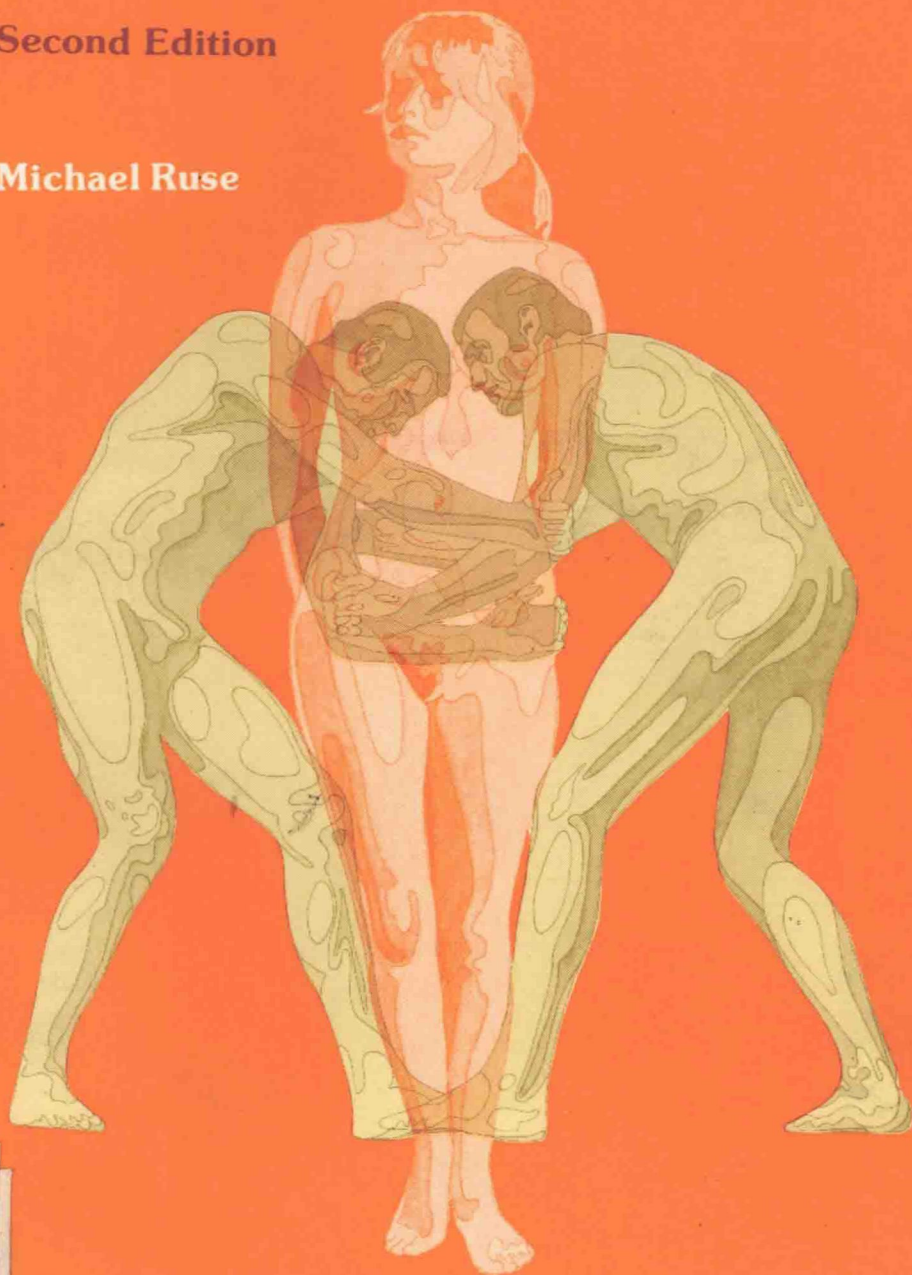


# Sociobiology: Sense or Nonsense?

Second Edition

Michael Ruse



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## **SOCIOBIOLOGY: SENSE OR NONSENSE?**

A PALLAS PAPERBACK



*For my wife April*

## PREFACE TO SECOND EDITION

I wrote *Sociobiology: Sense or Nonsense?* some six years ago, when controversy still raged strongly over so-called "human sociobiology", the full-blooded extension of neo-Darwinian evolutionary theory into the realm of human social behaviour. Since then, as one might have expected, matters have quietened. There is, after all, only so much you can say on a topic, however ardently for or against it you may be. As I suspected, the time has now come when human sociobiology must prove its worth as a science. If it can provide new insights for students of human behaviour, then no defence will be necessary. If, like so many other bright ideas, it fails, then no defence will be sufficient.

I am a philosopher, and the reason why I put pen to paper was that I sensed that the sociobiology controversy went beyond the bound of strict science (whatever that might be), raising issues about methodology, underlying regulative principles, morality, and all those other factors which fall within the sphere of my own discipline. Expectedly, not every one of my reviewers felt that I had done justice to my theme. More importantly, virtually everyone agreed that there are here important philosophical questions which ought to be discussed. Furthermore, I am glad to say that a growing number of philosophers have turned to human sociobiology, both to throw light on that subject and (very excitingly) to see if sociobiology can in turn aid us in some of the deepest questions of epistemology and ethics.

In order to bring the reader up to date I have added an Afterword to this volume, touching on what seem to me to be some of the most interesting writings of the past few years. As in the main body of the text, my guiding principle is the understanding of the philosophical issues surrounding human sociobiology. For convenience, in the Afterword, I have followed the original discussion. If you want, after reading each chapter in the text, you can at once turn to the appropriate, new up-dating section.

Let me say that were I writing this book for the first time, there is very little I would want to change. But, I do now think that my concluding chapter on sociobiology and ethics is seriously incomplete.

## ACKNOWLEDGEMENTS

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*"Descended from monkeys?  
My dear let us hope that  
it is not true! But if it  
is true, let us hope that  
it not become widely known!"*

*(The wife of the Bishop of  
Worcester upon hearing of  
Charles Darwin's theory of  
evolution through natural  
selection.)*

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## CHAPTER 1

### INTRODUCTION

In June 1975, the distinguished Harvard entomologist Edward O. Wilson published a truly huge book entitled, *Sociobiology: The New Synthesis*. In this book, drawing on both fact and theory, Wilson tried to present a comprehensive overview of the rapidly growing subject of 'sociobiology', the study of the biological nature and foundations of animal behaviour, more precisely animal *social* behaviour. Although, as the title rather implies, Wilson was more surveying and synthesising than developing new material, he compensated by giving the most thorough and inclusive treatment possible, beginning in the animal world with the most simple of forms, and progressing via insects, lower invertebrates, mammals and primates, right up to and including our own species, *Homo sapiens*.

Initial reaction to the book was very favourable, but before the year was out it came under withering attack from a group of radical scientists in the Boston area, who styled themselves 'The Science for the People Sociobiology Study Group'. Criticism, of course, is what every academic gets (and needs!); but, for two reasons, this attack was particularly unpleasant. First, not only were Wilson's ideas attacked, but he himself was smeared by being linked with the most reactionary of political thinkers, including the Nazis. Second, although some of the members of the critical group were Wilson's colleagues — indeed, hitherto had been considered friends — the attack was made publicly (in the form of a letter to the *New York Review of Books*, following a sympathetic review by the geneticist C. H. Waddington) and without the courtesy of prior warning to Wilson.

As can be imagined, attack was followed by counter-attack, and the bitterness escalated. As also did the circle of interest, professional and public, until finally the dispute was accorded that ultimate American accolade, cover-story treatment by *Time* magazine! Certainly, for all of his troubles, Wilson can feel satisfied that he has helped raise public consciousness about sociobiology, although he must also take comfort in the fact that general sentiment has been one of sympathy towards him for the way in which he was persecuted. And indeed, some of Wilson's initial attackers have regretted the way in which he was criticized, even though they may still endorse the essential content of the attack.<sup>1</sup>

Now that tempers have cooled somewhat and we are starting to move away from the time of the most harsh salvos, it would seem that we might more profitably hope to look at the sociobiology controversy: not at the personalities particularly, but rather at the various ideas being expressed. Certainly, the whole question of the true nature and basis of animal social behaviour seems worth studying. And if we include the nature and basis of human social behaviour, then the interest and importance of the inquiry seems much magnified. Moreover, whatever we may feel about the particular actions and motives of the various disputants in the sociobiology controversy, they certainly seem to have earned the right as scientists to have their ideas taken seriously. As intimated, prior to the publication of *Sociobiology* Wilson was rightly considered one of the world's leading insect biologists. And on the other side, the company is, if possible, even more prestigious, for we find amongst the Boston critics (to name but two) the brilliant population geneticists, Richard Lewontin and Richard Levins. Lewontin, in particular, has given modern population biology a major forward impetus, because of the way in which he has brought molecular theory and findings to bear on traditional problems.<sup>2</sup>

Therefore, because the subject seems important and because the disputants seem to be the sort of people who would have something worth saying, I want to consider, in this book, the sociobiology controversy. As stated, my concern is not with personalities or even particularly with motives. I want to see what case can be made for sociobiology and what case can be made against it. Because my inquiry is intended to be fairly abstract and far reaching, I shall not restrict my exegesis of sociobiological claims exclusively to Wilson's writings, but shall feel free to refer generally to the work of sociobiologists (as, of course, Wilson himself does). Conversely, although I shall obviously be referring in some detail to the objections of the 'Science for the People' critics, I shall feel free to cast my net more widely there too.

As I begin I should perhaps enter a personal note, not so much by way of apology but more by way of explanation. I am trained and work as a philosopher of science, not as a biologist. It might therefore seem somewhat impertinent of me even to try to write such a book as this: the sociobiology controversy is a biological controversy and ought therefore be handled by biologists. However, I think I can legitimately and appropriately enter the fray. Thomas Kuhn in his stimulating work, *The Structure of Scientific Revolutions*, has pointed out that when one gets major scientific conflicts and disagreements one finds frequently that crucial differences rest not so much on matters of pure science (whatever that might mean), but more on matters

which for want of a better word we might call 'philosophical'. The differences involve logic, methodology, metaphysics, and so on. I do not know how widely Kuhn's general analysis of science holds: certainly, I shall be giving reasons for showing how the sociobiology controversy causes difficulties for this analysis; but in this question of philosophy I think, in this instance, Kuhn is right.<sup>3</sup> As we shall see, much of the sociobiological controversy goes beyond science to matters philosophical: at least, to matters that philosophers talk about at great length! For this reason, I presume to write on the sociobiology controversy. Of course, if I get my biology wrong I expect to be criticized by biologists; but that is nothing to what I expect from philosophers if I get my philosophy wrong. I should add that my arrogance equals my presumption for I hope that what I have to say will be of interest both to biologists and philosophers. It is, for this reason, that I try always to provide elementary biological and philosophical background. I know that philosophers need the biology, and I suspect that equally the philosophy will be of value to biologists.

The structure of this book is as follows: First, following the introduction of some essential biological theory, I shall present the major theoretical and factual claims made for non-human sociobiology. Since I am not writing a popular introduction to sociobiology, I shall not feel pressed to mention absolutely everything. I hope indeed to cover enough that a reader new to sociobiology can get a fair idea of the subject; but I shall be writing always thinking of the objections levelled against sociobiology. Second, I shall repeat my presentation but dealing with the claims made for human sociobiology. I should add now that I shall not be dealing with earlier popular writers about supposed biological bases of human behaviour, for example Robert Ardrey and Desmond Morris. For reasons that will be explained, people like Wilson feel that they have given human sociobiology a whole new approach, and because I tend to agree with them and because the earlier writers have not been involved in the recent controversy, I shall ignore these writers in this book.

Third, I shall turn to the various criticisms that have been made of sociobiology (non-human and human). Because both sides will now have been presented, I shall evaluate the merits of the criticisms as we go along. Fourth, I shall ask what, if anything, might be the long-term scientific implications of sociobiology. In particular, I shall look in detail at some recent speculations by Wilson about the possible future effects of sociobiology on the social sciences. Fifth, and finally, I shall ask what, if anything, might be the long-term philosophical implications of sociobiology. In particular, I shall look in detail at some speculations by Wilson about the possible effects of sociobiology on philosophy.

## NOTES TO CHAPTER 1

<sup>1</sup> Short histories of the sociobiology controversy can be found in Wade (1976) and Currier (1976). The Boston critics' first attack on Wilson was Allen *et al.* (1975). They followed with an expanded version in *BioScience*, Allen *et al.* (1976), and in an even more expanded version Allen *et al.* (1977). Wilson replied publicly to these critics in Wilson (1975c) and Wilson (1976).

<sup>2</sup> Wilson collaborated with the late Robert MacArthur on a key work in ecology, MacArthur and Wilson (1976). His own major work on insects is Wilson (1971), and he has just published, in collaboration with George Oster, what may prove to be a fundamental contribution to the theory of insect behaviour, Oster and Wilson (1978). Lewontin's major work is on the genetic variation within groups, Lewontin (1974). I discuss his ideas in Ruse (1976a) and Ruse (1977a). Levins is best known for his work in theoretical biology, Levins (1968).

<sup>3</sup> As I shall suggest later, the sociobiology controversy is strongly reminiscent of the controversy following the publication of Charles Darwin's *Origin of Species*. There also, philosophical matters were important, although there are also many difficulties for a Kuhnian analysis. See Ruse (1970), (1975a), (1978); Hull (1973), (1978a).



## CHAPTER 2

### THE BIOLOGICAL BACKGROUND

In this chapter, I want to introduce some fairly basic biological ideas and theory, so that these can then be presupposed for the rest of the book. Obviously, I do not want to introduce the whole of biology, but rather those aspects which have some bearing on sociobiology. Therefore, the guiding thread at this point will be the nature of sociobiology and the way in which it is supposed to relate to the rest of biology. Possibly, some readers interested primarily or exclusively in human behaviour might regret the fullness of my treatment, and they may be tempted to skip ahead. I think this would be a mistake. Perhaps one thing, more than anything, distinguishes both the claims and the style of sociobiologists from previous writers about the biological bases of human social behaviour, namely the way in which the sociobiologists believe that they are the first to approach human behaviour backed by a solid foundation of tested biological theory. Of course, we may conclude later that the links the sociobiologists see both between their work on social behaviour in the non-human world and the rest of biology and between their work in the non-human world and social behaviour in the human world are nothing like as tight as they themselves suppose; but these are things that will have to be investigated, not assumed at the outset. For this reason, consequently, if only out of fairness to the sociobiologists, it is important to establish as solid a biological background as is possible. Let us therefore turn to Wilson's definition of sociobiology and work backwards to general biological principles.

#### 2.1. SOCIOBIOLOGY AS BIOLOGY

At the beginning of *Sociobiology: The New Synthesis*, Wilson writes: "Sociobiology is defined as the systematic study of the biological basis of all social behavior". (Wilson, 1975a, p.4.) We are therefore interested in animal behaviour, or, more precisely, animal behaviour inasmuch as it involves interaction with other animals. We are not directly concerned with most of the morphological and other features of organisms, for example the thick coat of the polar bear to keep out the cold, although, of course, our concern does extend to non-behavioural features which do in some sense get involved in social behaviour — weapons for fighting, and so on. (Note that here, as always,