

BACKGROUND BOOKS

SOCIOBIOLOGY

It all began with Charles R. Darwin in the year 1859.

Whether "sociobiology" is seen as science or pseudoscience, "a new synthesis" or a false step in the study of man's social behavior, the basic book is, of course, the great British naturalist's **ON THE ORIGIN OF SPECIES BY MEANS OF NATURAL SELECTION: or, The Preservation of Favoured Races in the Struggle for Life** (Harvard, 1975, 1st ed. reprint, paper).

In it, Darwin pays particular attention to the social insects (ants, bees, etc.), which had evolved complex systems of caste specialization; even sterile members performed specialized tasks. How could animals that failed to reproduce be part of the evolutionary process? Confronted by this question, Darwin, like many of his scientific descendants, seizes upon the only course open to him. His answer: Such neuters exist because they confer an advantage, not on individuals, but on the societies in which they live.

In a later (1872) study, **THE EXPRESSION OF THE EMOTIONS IN MAN AND ANIMALS** (Univ. of Chicago, 1965, cloth & paper), Darwin attempts to show how the facial expressions and "body language" observed in human beings have evolved from more rudimentary forms of expression in man's primate ancestors. From this early effort to treat behavior as a biological feature akin to muscles and feathers, much analysis was to flow. That man's behavior as well as his body is influenced by natural selection was a revolutionary notion in biology and anthropology. In many ways, it still is.

Post-Darwin intellectual developments

and counterdevelopments produced many important 19th-century books. Of these, the works of Herbert Spencer, another precursor of sociobiology, must be mentioned. Both **SOCIAL STATICS: or, The Conditions Essential to Human Happiness Specified, and the First of Them Developed** (Appleton, 1866; Kelley, 1969) and the three-volume **PRINCIPLES OF SOCIOLOGY** (Appleton, 1880-96; Greenwood, 1975) raise the question whether it is meaningful to ask of Spencer (as it is of Marx) whether he was, as often suggested, a "Social Darwinist."

If Social Darwinism is understood as providing theoretical support for the full-blown competition of man against man, group against group in a bloody war for survival, then the term does not correctly describe Spencer's beliefs. To him, the optimal social organization exists only when the requirements of man's biological nature and those of society are brought into harmony; immorality and evil arise from the discrepancies that exist between biological propensities and social arrangements.

Although Spencer left a legacy to philosophers and social scientists alike, he is today largely unread. Closer to his own time, academic arguments raged round his theories as they do now over sociobiology. Richard Hofstadter in his **SOCIAL DARWINISM AND AMERICAN THOUGHT** (Univ. of Pa., 1944, cloth; Braziller, 1959, rev., cloth & paper) recounts the excesses to which a firm belief in scientific ethics led some Americans. Racism, sexism, imperialism, and xenophobia were allowed to infuse politics in the name of Darwinistic or

Social Darwinistic ideas about nature and behavior. Opposition (as cited in *Popular Science*, April 1894) was known as "Spencer-smashing."

Historian Gertrude Himmelfarb in **DARWIN AND THE DARWINIAN REVOLUTION** (Doubleday, 1959, cloth; Peter Smith, 1967, cloth; Norton, 1968, paper) gives a comprehensive survey of the effects of speculation about man, human evolution, and human behavior on the intellectual world of the late 19th century. Philosopher Maurice Mandelbaum in **HISTORY, MAN, AND REASON: A Study in Nineteenth Century Thought** (Johns Hopkins, 1971, cloth; 1974, paper) demonstrates how fears of the inexorability of social evolutionism and the biological limitations contained in hereditarianism were ameliorated by a belief in the inevitable progressiveness of biological, social, and intellectual evolution. Self-betterment and self-improvement loomed as the saving graces of ethical and political systems built on the scientific understanding of human nature and behavior.

One interesting reaction that came hard on the heels of Darwin's and Spencer's attempts to provide evolutionary explanations for social behavior in animals and man was that of Russian geographer and social theorist Peter Kropotkin. In his recently reprinted 1902 classic, **MUTUAL AID: A Factor of Evolution** (New York Univ., 1972), Kropotkin goes to great lengths to show that as many species of animals and races of man have found cooperation a suitable strategy for survival as competition. *Contra* Darwin, he concludes, Nature's imperative is "Don't compete—competition is always injurious to the species."

Perhaps the first truly "sociobiological" approach to understanding animal behavior appears in American ecologist Warder C. Allee's **ANIMAL AGGREGA-**

TIONS: A Study in General Sociology (Univ. of Chicago, 1931) and his later work, **THE SOCIAL LIFE OF ANIMALS** (Norton, 1938). Both books are out of print. Allee's lack of access to mathematical models, genetic findings, or detailed field studies meant that his pioneering attempts to analyze the precipitating conditions for the appearance of certain social behaviors were never fully realized, hence have gone unappreciated.

Allee in the United States tried to direct attention to social behavior viewed from an ecological and demographic perspective. Meanwhile, Konrad Lorenz and Nikolaas (Niko) Tinbergen in Europe were trying to redirect biologists to Darwin's original insight that behavior could be treated like any other organic property and studied by means of comparative genealogies and evolutionary analyses. Lorenz's work on birds had convinced him that much observed behavior in animals had its locus or cause in genetic sources. In his popular book, **ON AGGRESSION** (Harcourt, 1966, cloth; 1974, paper), he summarizes a lifetime in behavioral biology and extends his findings to human beings.

Lorenz emphasizes the importance of genetic factors in triggering such complex behaviors as aggression, sex, dominance, territoriality, love, friendship, and warfare. Not only can much human behavior be understood as outgrowths of our genetic programming but, in his view, our culture and society are at the mercy of our innate (and unpleasant) biological natures. Unlike Spencer, Lorenz sees a world in which killings, violence, selfishness, and competition are unavoidable since no amount of political engineering or socialization can modify our natures.

Tinbergen, in his scholarly **THE STUDY OF INSTINCT** (Folcroft, 1951,

cloth; Oxford, 1969, cloth & paper) and later, popular book, **CURIOUS NATURALISTS** (Basic Books, 1958, cloth; Natural History Library, 1968, paper), also urges the re-acceptance by biologists and social scientists of behavior as a legitimate object of evolutionary inquiry. He decries the tendency among psychologists and ethologists to confine the study of animal and even human behavior to the laboratory and the artificial experiment ("I believe strongly in the importance of natural or unplanned experiments"). Tinbergen's concern with field observations had a marked effect on the development of sociobiological thinking about the evolution and function of social behavior in animals.

Other books published in the 1960s helped to lay the groundwork for today's sociobiology. In **ANIMAL DISPERSION IN RELATION TO SOCIAL BEHAVIOUR** (Hafner, 1962), Vero C. Wynne-Edwards follows the tradition of Allee and theorizes that animals evolve social behavior and organization as an adaptive group response to the threat of overpopulation and the overexploitation of resources. George C. Williams in his lucidly written **ADAPTATION AND NATURAL SELECTION: A Critique of Some Current Evolutionary Thought** (Princeton, 1966, cloth & paper) shows how social behavior can be seen as primarily advantageous, not to a species or group, but to individual genetic perpetuation. Unlike some of his peers, however, Williams stresses that, to prove adaptation, one "must demonstrate a functional design" and "concentrate first on the individual and seek an understanding of the adaptive aspects of its behavior."

Cyril D. Darlington in **GENETICS AND MAN** (Macmillan, 1964, cloth; Schocken, 1969, paper) argues that human behavior not only is subject to the influences of genetics and the en-

vironment but is merely the sum of these interactions. Belief in free will, in human responsibility for action, in choice, and in rationality—all are totally mistaken. "Our instincts may revolt at this conclusion," he writes, "but that is no evidence of its falsehood."

SOCIAL LIFE OF EARLY MAN, edited by Sherwood Larned Washburn (Aldine, 1961), and **PRIMATE BEHAVIOR: Field Studies of Monkeys and Apes**, edited by Irven DeVore (Holt, 1965), are two influential collections of papers from this period.

More spectacular books about human and animal behavior came from a group of writers that includes Ashley Montagu, Desmond Morris, Robert Ardrey, Robin Fox, and Lionel Tiger. Many scholars were shocked by the popularization of ethology in books by science writers. But other practicing scientists hopped on the best-seller bandwagon.

Fox and Tiger, collaborators on **THE IMPERIAL ANIMAL** (Holt, 1971, cloth; Dell, 1972, paper), hold that most of our fights, politics, family arrangements, attitudes toward women and children, and assignment of roles in society are merely external reflections of our "biogram," or natural genetic programming.

Tiger's own book, **MEN IN GROUPS** (Random, 1969, cloth; 1970, paper), was much criticized by feminists; the author protested that it was intended to be the opposite of sexist. Surprisingly, a new book by Robert Ardrey, **THE HUNTING HYPOTHESIS: A Personal Conclusion Concerning the Evolutionary Nature of Man** (Atheneum, 1976) seems to have escaped such attacks, despite a bitingly funny chapter entitled "The Sexual Adventure" ("the evolving human female . . . dreamed it up," the author claims). Ardrey's several earlier books, all with long, Darwin-style subtitles (as above), include **THE TERRITORIAL IMPERATIVE** (Atheneum,

1966, cloth; Dell, 1971, paper).

With the appearance of E. O. Wilson's massive **SOCIOBIOLOGY: The New Synthesis** (Harvard, 1975), social behavior gained renewed prominence as a challenge to those evolutionary conceptions which rooted change in the advantages conferred by certain types of behavior on individual organisms. (see pages 114-15.)

Wilson's clarion call for the scientizing of human behavior is echoed by others, among them Pierre van den Berghe (see page 122) in his **MAN AND SOCIETY: A Biosocial View** (Elsevier, 1975, cloth & paper). Richard Dawkins, in his readable **THE SELFISH GENE** (Oxford, 1976), argues that the sort of explanations represented by the work of sociobiologists necessarily revolutionizes the view we have of our own behavior and of ourselves in the world. Dawkins, who acknowledges his debt to Tinbergen, sees human beings as "survival machines—robot vehicles blindly programmed to preserve the selfish molecules known as genes." The contributors to **BIOLOGY AND POLITICS: Recent Explorations** (Humanities, 1976, paper only), edited by Albert Somit, generally agree that political theory and practical politics can only truly be understood in light of the findings of sociobiology and evolutionary biology.

There are many dissenters. In a collection of papers presented at a Smithsonian conference in 1969, published as **MAN AND BEAST: Comparative Social Behavior**, edited by J. F. Eisenberg and

Wilton S. Dillon (Smithsonian Institution Press, 1971), philosopher Susanne K. Langer objects to overemphasis on animal behavior in analyzing human actions and customs. "Facts, opinions, and conceptions of causal relationship (often imaginary) have become the basis of human life," she states.

Social scientist Marshall Sahlins in **THE USE AND ABUSE OF BIOLOGY: An Anthropological Critique of Sociobiology** (Univ. of Mich., 1976, cloth & paper) vigorously enters the lists against the sociobiologists. In his view, far less of human social behavior is determined by biology and genes than the sociobiologists would like us to believe. Sahlins also asks whether Wilson and his supporters may not be repeating historical errors and allowing political and other biases to color the kinds of things sought and found to be "scientifically" true about human nature and behavior.

Another scholar and writer on primate behavior, anthropologist Vernon Reynolds, in **THE BIOLOGY OF HUMAN ACTION** (Freeman, 1976, cloth & paper) writes in mind-stretching detail about emotions and "man's inner dimension." He rejects the idea of biological *predispositions* as unprovable and comes down instead on the side of biological *limitations*. We act on perceptions, culturally organized. For these perceptions (as well as the limits on them) to be better understood, he believes, the academic world needs to see a rapprochement between the biological and social sciences, not a synthesis.

EDITOR'S NOTE: *Arthur Caplan, who teaches medical ethics at Columbia University's College of Physicians and Surgeons and is at present a postdoctoral Fellow at the Institute of Society, Ethics, and the Life Sciences, Hastings Center, Hastings-on-Hudson, N.Y., suggested many of the books discussed above and commented on some. Two Wilson Center Fellows, John Purcell and Joaquín Romero-Maura, both social scientists who have read widely in biology and ethology, offered other selections and observations.*