Determinants of Behavior

Biological Bases of Human Social Behaviour. R. A. HINDE. McGraw-Hill, New York, 1974. xvi, 462 pp., illus. Paper, $7.95.

Students of animal behavior who attempt to explain the biological bases of human activities tend to fall into two camps. Exponents of an evolutionary philosophy of man (see for example R. D. Alexander, *R. Soc. Victoria Proc.* **84**, 99 [1971]) stress the significance of ultimate factors, our evolutionary history and the action of natural selection, in shaping and constraining our behavioral attributes. The second group, which adheres to what might be called a developmental philosophy of man, feels that an understanding of proximate factors, the genetic, physiological, and especially the developmental mechanisms, that underlie our behavior holds the best hope for helping us understand ourselves. These two viewpoints can be complementary rather than antagonistic, and some animal behaviorists are able to integrate them. Nevertheless, I believe the dichotomy to be real and important in affecting attitudes and approaches. For example, members of the first group tend to be tolerant of speculations about the influence of our past history as a species on our present-day capabilities; the "developmentalists" less so. Proponents of the developmental philosophy are inclined to stress the role of individual experience in shaping behavior and are hostile to the use of the phrase "innate behavior"; the "evolutionists" are less disposed to an environmentalist position and more likely to feel that it is possible to use the concept of an instinct in a useful manner.

Because Robert Hinde is a highly respected representative of the developmental position, his latest book will be important to readers of both viewpoints. As might be expected, he focuses on research dealing with the immediate underlying causes of behavior, especially on the role of experiential factors in behavioral development—although he does not completely omit material on the evolution and ecological significance of human activities.

Hinde's discussion of human aggression is perhaps the most valuable section of the book. His approach to this topic is typical of the book as a whole. He begins by examining in some detail the difficulties of defining what is meant by "aggression" and what should be included in this category. Subsequently, he reviews the literature on lower animals, showing that this research has uncovered many different causes of aggressive acts. Shifting to humans, he demonstrates in a similar scholarly survey that a host of factors may affect the development and expression of aggression in man. For example, in four pages of text (288–291) Hinde lists no fewer than 16 possible environmental influences in childhood that may promote later aggressive tendencies, among them frustration experienced by the child, a lack of self-esteem by the mother, observation of aggression in others, and, in a male child, failure to identify with the father. Given the bewildering diversity of the evidence presented, it is perhaps not surprising that Hinde's conclusions are largely negative (for example: there is no single cause of aggression; previous motivational models of aggression are not supported by some of the available data).

The difficulty here is the author's reluctance to advance new hypotheses as well as reject old ones. Perhaps because the developmental process is so complex and because there are so many possible environmental influences on behavioral development, adherents of the developmental approach tend to be exceptionally cautious about making positive generalizations. Hinde, in acknowledging that his book is largely about the behavior of nonhuman primates, goes so far as to suggest that his role is merely "to present the data" on lower animals, allowing psychologists, anthropologists, and sociologists to interpret their significance for human beings. It may well be that teachers in a variety of disciplines could, by taking up Hinde's challenge, create a stimulating seminar for advanced undergraduates. Nevertheless, the effect of his decision is to limit detailed presentation of his views on human social behavior to just three issues: individual aggression, nonverbal communication, and mother-infant interactions. Hinde makes only the briefest comments on many other intriguing human social activities, including sexual behavior, warfare, "territoriality," dominance relations, and most aspects of human cooperativeness. It would have been useful to have Hinde apply the developmental approach to these and other topics that have been discussed extensively from an evolutionary viewpoint.

Hinde's cautiousness may also stem from an inherent feature of the developmental approach, which is a lack of a unifying principle to organize and make biological sense of the diversity in animal behavior. For evolutionary biologists the principle of natural selection generates an enormously valuable primary question, which is, "Why might this behavioral trait help maximize the reproductive success of an individual?" Hinde notes in passing that recent theoretical work derived from this simple question provides "a new perspective from which to view early social behavior" (p. 206). As one who identifies with an evolutionary philosophy of man, I feel that Hinde misses an important opportunity to integrate the developmental and evolutionary approaches by evaluating and structuring findings on many of the proximate causes of behavior from this new perspective.

Therefore, although *The Biological Bases of Human Social Behaviour* provides useful examples of a developmental approach to human behavior, it is clearly not meant to be the whole story either in terms of the number of issues examined or the perspectives offered.

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Stimuli and Performance

The Processing of Information and Structure. WENDELL R. GARNER. Erlbaum, Potomac, Md., 1974 (distributor, Halsted [Wiley], New York). xiv, 204 pp., illus. $10.95. Experimental Psychology Series.

This book contains the second Paul M. Fitts Memorial Lectures delivered at the University of Michigan in 1973. Garner uses the occasion to put into perspective the research that he and his colleagues have conducted during the past ten years. As the book's title suggests, Garner's work is related to the branch of experimental psychology that has come to be called the information-processing approach. This approach originated in work that experimental psychologists in Britain and the United States did during and immediately after World War II in search of ways to reduce human error in such tasks as flying airplanes, monitoring radar scopes, and the many other man-machine interactions required in modern warfare. Their research produced the realization