Sociobiology: Beyond Nature/Nurture? Reports, Definitions and Debate.

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Westing's major contention is that modern technology and overpopulation combine to threaten the recuperative power of the Earth's resources. Consequently, all unnecessary plunder and pillage—an inevitable consequence of warfare—must be avoided.

The book is especially relevant today because of the vertical and horizontal proliferation of nuclear weapons and the general escalation in defense spending, East and West. While the report is confined to the anti-environmental aspects of militarism, an equally strong case could be made concerning the negative social and psychological impact of insane modern weapons systems. I plan to list this book as required reading in my undergraduate class, "Biochemistry and Society."

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MAN'S PLACE IN EVOLUTION.

British Museum (Natural History), London; Cambridge University Press, Cambridge and New York. $22.50 (hardcover); $7.95 (paper). 108 p.; ill.; index. 1980.

This is a brief and up-to-date account of human origins for the layman, with an abundance of superb illustrations.

HUMAN ARTIFICIAL INSEMINATION AND SEMEN PRESERVATION. *Proceedings of the international symposium held in Paris, France, April 9–11, 1979.*

Edited by Georges David and Wendel S. Price. Plenum Press, New York. $65.00. xvi + 639 p.; ill.; index. 1980.

During the past two decades, semen banks have been developed in several countries at the initiative of individual physicians in either the private or public sectors. In France, a national system of semen banks (CECOS) was begun in 1973 and this volume documents the first international symposium on artificial insemination and semen preservation, held in that country and attended by representatives from 37 countries.

The first two sections of the proceedings deal with the present state of artificial insemination with donor semen (AID) and semen banks in Europe and in the United States, and the organization and management of semen banks. Other sections deal with semen cryopreservation, clinical results of AID, factors influencing success of AID, genetic, psychological, social, legal, and ethical aspects of AID, and clinical results, semen improvement, and autopreservation in artificial insemination with husband semen (AIH). It is apparent that the numerous short chapters represent the original presentations at the symposium without any refinements by the editors.

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SOCIOBIOLOGY: BEYOND NATURE / NURTURE? *Reports, Definitions and Debate. Based on a symposium held at the 1978 AAAS National Annual Meeting in Washington, DC, February 12–17. AAAS Selected Symposia Series, Number 35.*

Edited by George W. Barlow and James Silverberg. Published for the American Association for the Advancement of Science, Washington, DC, by Westview Press, Boulder (Colorado). $32.50 (hardcover); $15.00 (paper). xxvii + 627 p. ill.; index. 1980.

Sociobiology is one of the most widely discussed fields in science today. Its aim is to explain the behavior of animals, including humans, in terms of evolution powered by natural selection. The extension of biological reasoning to human behavior has led to sociobiology being labelled a social weapon (*Biology As A Social Weapon*, Burgess Publ., 1977) and even mystical nonsense (Sahlins, *The Use and Abuse of Biology*, U. Michigan Press, 1976). Thankfully, this book brings together opposing sides in an atmosphere relatively free of such politics.

The 24 papers, mostly reviews, are from a symposium organized by Barlow and Silverberg for the 1978 AAAS meetings. The editors aimed to rise above the classical nature/nurture debate, but as is indicated by the question mark in their title, several papers are still concerned with arguing the contributions of genes and environment.

The papers are grouped into six parts. The first introduces sociobiology as it is understood by a biologist (Barlow) and by an anthropologist (Silverberg). It provides a valuable historic sketch and introduces biologists to the "strategy" of anthropology, and vice versa. Silverberg views human culture as an "emergent phenomena" which must be dealt with at its own level. Anthropologists, he feels, have always recognized an evolutionary ecological approach to human behavior (including population genetics), and sociobiology may therefore not be so new to them after all. I remain unconvinced, however, since my survey of several anthropology textbooks (e.g., Friede, *Cultural Anthropology*, Harper, 1976) revealed that, in general, they lack evolutionary perspective; genetics, for instance, is largely restricted to classical (and boring) elementary aspects (brown eyes × blue eyes = brown eyes). Silverberg's view also does not seem to hold in the face of some of the anthropological papers that follow his in this volume.

Much of the controversy in sociobiology goes beyond science to matters philosophical. There-

fore, I was happy to find Part 2 devoted to the viewpoints of philosophers of science. We are told that the present controversy has a long precedent in science, and Hull provides some explanation for the human behavior involved. To assess fully Caplan's rather complex views, I would refer readers to Ruse (*Sociobiology: Sense or Nonsense?*, Reidel, 1979).

Part 3 shifts to an examination of the organism in its environment, and Emlen and Bradbury stress "ecological determinism" in social behavior. Warner makes an ambitious attempt to separate the coevolution of life history and behavioral traits. This is an original and valuable paper, although the analysis of the evolution of parental care in fishes is probably erroneous (a small point overall). Also included are papers by Barash, Mainardi and Gould.

The genetic basis of animal and human behavior is investigated by De Fries, Wilson, Livingstone and Dawkins in Part 4. Three important points arise. (1) Our knowledge of the genetics of behavior is primitive and largely overstated by sociobiologists. (2) It is clear that some behaviors in animals and humans can be related to a limited number of genes. (3) Predictions from sociobiological theory that rest on a genetic basis should not be ignored by anthropologists. Appropriately, Part 5 follows with an analysis of Yomut data by Irons who concludes that Yomut social behavior is adaptive in the biological (genetical) sense. There are three papers addressing the problem of psychosexual differences in humans (Adkins, Leacock and Shields). It is more than statistically interesting that there are the only women authors. Shields concludes, perhaps rightly, that "Science has thus far demonstrated not the adaptiveness of gender differences to biological imperatives, but the adaptiveness of science to cultural imperatives" (p. 498). It is evident that there is much work to be done in this area. In the same section, there is an important paper by G. C. Williams with the tantalizing conclusion that . . . the prevalence of sexual reproduction is a major unresolved mystery" (p. 383).

One of the most powerful theories to arise from sociobiology is kin selection. A reasonable coverage can be found in the final section (Chagnon, Sherman, Stamps and Metcalf, B. Williams). The paper by the anthropologist Chagnon is especially fascinating and I hope all anthropologists will read it. Chagnon, while ignorant of the theories of kin selection, spent 41 months studying Yanomamö Indians. He now finds that kin selection is the best explanation for his data on such anthropologically enigmatic behaviors as cross-cousin marriage and patterns of village fusion. His conclusion, ". . . the social behavior of the Yanomamö conforms to the predictions from the theory of evolutionary biology" (p. 549), is in direct confrontation to the stand of the illustrious anthropologist Sahlins: "My aim is to support the assertion that there is not a single system of marriage, postmarital residence, family organization, interpersonal kinship, or common descent in human societies that does not set up a different calculus of relationship and social action that is indicated by the principles of kin selection" (1976, p. 26).

My major complaint is that the editors did not provide a synthesis at the end or include some of the meeting's debate in the book. Nonetheless, they are to be congratulated for bringing together such a fine collection of papers, which I recommend to all students of sociobiology and anthropology, and anyone attempting to make sense out of the fray.

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AMERICAN INDIAN ENVIRONMENTS. *Ecological Issues in Native American History.*

Edited by Christopher Vecsey and Robert W. Venables. Syracuse University Press, Syracuse (New York). $18.00 (hardcover); $9.95 (paper). xxviii + 208 p.; ill.; no index. 1980.

This volume is inappropriately titled. Its contents, the proceedings of a conference on "American Indian Environments", held during April, 1979 in Geneva, New York, are chiefly essays by a number of academic historians on widely varying topics in the history of the Indian peoples of North America. The title and subtitle notwithstanding, there is very little that is specifically ecological in concern among the papers, assembled here, scientific ecology making only the briefest and most illusive of appearances.

As a collection of historical essays this is an odd conglomeration. The contributions vary widely in quality and utility. All contain at least some information of value to those with even a casual interest in American history. Unfortunately, however, the material is often imbedded within rambling and unsystematic literary structures (e.g., in C. Vecsey's "American Indian Environmental Religions") or scattered among research centered on dubiously useful sociological concepts (as in R. W. Venables' "Iroquois Environments"). With notable exceptions (excellent contributions by C. Martin and W. T. Hagan) these essays are readable but unexciting examples of historical prose. There are also occasional lapses in the generally high level of scholarship. Two examples come to mind: in the introduction, one receives the distressing impression that the