



**Review: [Untitled]**

Reviewed Work(s):

*Caring.* by Willard Gaylin  
Mary Jane West-Eberhard

*The Quarterly Review of Biology*, Vol. 53, No. 3. (Sep., 1978), pp. 344-345.

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The sixteen articles discuss research in the arctic, alpine, subarctic, subalpine, maritime, and subantarctic tundras. The stated purpose of the volume is to present word models of each study area, i.e., a verbal description of the functional properties of the ecosystem and its components. The final paper in the volume is a mathematical formulation of the model for Barrow, Alaska, the major site of the U. S. IBP Tundra Biome.

All papers give data on air temperature, precipitation, soil types, names of the dominant plant species, and estimates of plant standing crop, and primary production. A few studies report CO<sub>2</sub> exchange, nutrient cycling, and energy flow, and two discuss plant water relations. Information about species composition and population dynamics of herbivores, carnivores, and decomposers, is presented when available. About half the studies discuss the interaction between terrestrial and aquatic communities or man's influence on the ecosystem. The papers on Devon Island, Canada, and Barrow, Alaska, U.S.A. are the most comprehensive in their coverage of the ecosystems. All papers provide useful information which is presented in a consistent format; this facilitates between-site comparisons of tundra areas around the world. The emphasis is not on presenting original data but is on synthesis. A fairly high level of generalization is maintained throughout the book. This volume cites the references used as bases for the word models; this provide the reader with a list of the relevant published literature.

P. M. MILLER AND P. C. MILLER, *Systems Ecology Research Group, San Diego State University*

SCIENTIFIC RESEARCH IN ANTARCTICA. *A Royal Society Discussion Held on 19-20 May 1976.*

Organized by Vivian Fuchs and R. M. Laws. *The Royal Society, London.* £20.10. v + 288 p. + 5 pl.; ill.; no index. [First published in *Philosophical Transactions of The Royal Society of London*, Series B, Volume 279 (No. 963), p. 1-288.] 1977.

Almost half of this presentation in "coffee table" format, of the British scientific effort in Antarctica consists of papers on biology and fisheries resources. This volume begins with generalities about the ecosystem and ends with a summary piece on "the place of the Antarctic in biological sciences," in which the author states, "I think there is still a need for studies on taxonomy, systematics and distribution in the Antarctic." (This appears to be a substantial part of the Russian effort, however.) The rest of the "discussion" consists of papers on geology (including Gondwanaland), glaciology, and atmospheric sciences.

JOEL W. HEDGPETH, *Santa Rosa, California*

SCIENTIFIC ASPECTS OF NATURE CONSERVATION IN GREAT BRITAIN. *A Royal Society Discussion Held on June 10th, 1976.*

Organized by J. E. Smith, A. R. Clapham, and D. A. Ratcliffe. *The Royal Society, London.* £ 3.65. vii + 103 p.; ill.; no index. [First published in *Proceedings of the Royal Society of London*, Series B, Volume 197 (No. 1126).] 1977.

Usually collections such as this consist of position papers and sermons. This volume does exhibit these characteristics somewhat (actually a separately bound issue of *Proc. Roy. Soc.*, ser. B, vol. 197), but there is also a valuable paper by J. M. Hellawell on the methods of studying natural systems and what such study requires. This particular paper ought to be read by regulatory agency people as well as the host of environmental consultants looking for an easy fix. There is none.

JOEL W. HEDGPETH, *Santa Rosa, California*



## NEURAL SCIENCES AND BEHAVIOR

### CARING.

By Willard Gaylin. *Alfred A. Knopf, New York.* \$7.95. xi + 199 p. + ix (separately paginated index). 1976.

The noble purpose of *Caring* is to elevate the human self-image, to serve as an antidote to books portraying our species as fundamentally (biologically) territorial and aggressive, or just another animal. Gaylin, a psychoanalyst, cites clinical and biological evidence that "caring" (affection, solicitude, and social identification with others) and the softer human virtues are an integral part of human nature. He believes that humanity must begin to take a more positive view of itself as a step toward relieving the widespread feeling of impotence and disillusionment which he sees as resembling the despair of depressed (and self-denigrating) clinical patients.

Gaylin effectively supports the idea that caring is likely to be an evolved (biologically adaptive) human characteristic, and tactfully criticizes previous interpretations of human behavior and emotional development (e.g., some of those of Erikson and Freud). The book is an interesting and readable source of information on the functions and development of beneficent human behavior, especially parent-offspring interactions and their derivatives. However, it is distractingly naive regarding non-human animals. To confidently proclaim, for example, that the young human adult is the "most beautiful and wondrous of creatures" (p. 94) takes a certain blindness to, or ignorance of, the rest of nature! Such unjustified and unconvincing assertions of the superiority and specialness of man are common in this book. I doubt that substituting one kind of illusion for an-

other in this way is really the best antidote to the "disillusionment" of modern man. Why not instead attempt the more realistic approach of selling mankind on the beauty and wondrousness of nature as a whole? Being one among the animals does not really put us in such shameful company (many other species are "caring" and beautiful)! The age-old species egotism of Western man, based on persistent self-deception in the face of ever increasing counter-evidence, would itself be a worthy subject for a book on human nature.

*Caring* could have been greatly (and easily) improved by a caring pre-publication reader or editor knowledgeable enough about general zoology to point out that insects do not have incisors; that "survival of the species" is a misleading concept in most discussions of evolutionary adaptation; and that "the animal kingdom" (the "other animals") includes such things as rotifers and clams, not just non-human mammals. More serious is the neglect of recent (1964 to present) advances made by biologists in the evolutionary interpretation of caring behavior — altruism, reciprocity, and parental manipulation. The absence of these ideas is surprising in a book purporting an evolutionary approach, especially since "sociobiology" has been so widely publicized to the reading public for whom this book is written. However, *Caring* is refreshing and unusual among books on human psychology in viewing beneficence as a biological adaptation, and in pointing out that a long dependent period makes young humans especially "vulnerable to neglect" — that learning and flexibility can be harmful as well as advantageous to individuals.

MARY JANE WEST-EBERHARD, *Biología, Universidad del Valle, Cali, Colombia, and Smithsonian Tropical Research Institute*

LES MÉCANISMES ÉTHOLOGIQUES DE L'ÉVOLUTION. *A Colloquium in Honor of Theodosius Dobzhansky, Organized under the Auspices of the Société Française pour l'Étude du Comportement Animal (Université de Rennes, 12-14 November 1974). Collection de Biologie Évolutive, Number 3.*

*Edited by Jean Médioni and Ernest Boesiger. Published in conjunction with the Centre National de la Recherche Scientifique by Masson, Paris and New York. 65F (paper). xvi + 167 p.; ill.; author and subject indexes. 1977.*

Although increasing numbers of French scientists are publishing papers in English, the scientific literature in French seems to be growing still faster. The multiplication of French books that are collections of articles may be a case in point. The contents of such books are typically aimed at fellow French-speaking scientists; such books may nevertheless be informative on matters of interest within the *francophone* scientific community.

This book falls far short of evenly covering all major aspects of behavioral evolution, or even of evolu-

tion by behavior. Only four of the 21 papers, those by Georges Le Masne (Introduction), Claudine Petit (sexual selection), Aubrey Manning (isolating mechanisms), and Yveline Leroy (sound emissions and speciation), deal unambiguously with the subject proper — ethological mechanisms of evolution. Fortunately the latter three are review papers and are among the best of the book. An article by Jean David as well as Dobzhansky's avowedly impossible attempt at a synthesis, tackle the evolution of behavior. Ten extremely uneven papers concern behavior genetics, and the remaining five articles are largely or wholly irrelevant to evolution, not to mention the ethological mechanisms involved. It is ironic that subjects basic to behavior evolution were not taken up. A major topic such as the evolutionary role of social relationships is missing. While no fewer than 12 papers deal with insects (seven of which refer only or mostly to *Drosophila*, while none refer to social insects), papers dealing with primates are absent. Birds are represented but by two summarizing papers, one of which deals with heart-beat! The subject index is good, but one looks in vain for such words as, for instance, "épinoche" (stickleback) or "planaire."

Since Ernest Boesiger was a population geneticist, it may be that he was reluctant to invite many European ethologists who, poorly trained in evolutionary matters and genetics, held more or less backward ideas regarding evolutionary mechanisms. Swiss-born Boesiger was in a good position to know that his countryman, Jean Piaget, is an unrestrained Lamarckian. Piaget, a leading figure in animal and human psychology, is so revered in the U. S. that one of us saw him lecture in French to an overfull house in the Rockefeller University's main lecture room. Still, between highly specialized research reports of very narrow scope, as were many papers of the Rennes colloquium, and possibly unorthodox lectures on topics otherwise missing, there were plenty of useful and provocative lectures in French that could have been invited.

Dobzhansky clearly felt the imbalance and concluded, with typical benevolence (p. 142), "In the realm of science, synthesis is generally more difficult than analysis. Synthesis reaches utmost difficulty in the biology of behavior, a discipline more noticeable for its diversity than for its unity." The two Dobzhansky contributions to *Mécanismes Ethologiques de l'Évolution* are among his last writings. They reflect his preoccupation for understanding human behavior and its genesis through population genetics results. In this field, Dobzhansky paved the way toward useful experimental directions. The editors could not make a better choice than to patronize the first meeting in France on the evolutionary study of behavior. This meeting attracted an important attendance and was instrumental in triggering novel interest and rethinking in evolutionary matters among behavior scientists