

Conservation

Nature Conservation in the Pacific. Proceedings of a symposium, Canberra, Australia, Aug. 1971. Australian National University Press, Canberra, 1973. xvi, 338 pp., illus. \$18.75.

The erosive forces of human activity have left their scars on the natural ecosystems of the Pacific Basin over thousands of years. A counterthrust for preservation and conservation of these same ecosystems has been provided through a conscious but often weak effort of man and through intrinsic isolation or inhospitality of units of the vast Pacific region. This dynamic relationship between man and the environment will intensify as technology and numbers of humans increase. It is to be hoped that the result will be greater social awareness of man and selective application of technologies for the betterment of human welfare by assuring preservation and wise management of numerous examples of natural or semi-natural biotic units. There is some room for optimism that this may come about.

The 29 essays, project reports, and research papers making up *Nature Conservation in the Pacific* promote an important advance in understanding the status of Pacific lands, waters, and biotas. A. B. Costin and R. H. Groves have succeeded in their task as editors of providing a logical sequence of the subject matter, which is integrated by a brief introduction and conclusion. They have selected five themes as a framework for the wide variety of topics presented.

Briefly, the themes are: techniques for selection of reserve areas, conservation of fauna in relation to conservation of vegetation, ecology of Pacific-ranging biota, conservation status of and problems with islands, and conservation as related to mining and land development. The point is well made that conservation should and does include not only preservation or non-consumptive use but also economic management or multiple use. Virtually the entire spectrum of macrobiotic entities is treated in some way, with the exception of pelagic forms.

Decision-making supported by ecological analyses is rising in technologically advanced countries, particularly in Australia and North America. Many a reader may wish to know, however, whether the U.S. Forest Service is really about to reform some of its

exploitative philosophies that are costly to total environments, as is implied by the paper of Camp, or whether these same philosophies will be perpetuated behind the screen of a highly complex linear programming technique. There is reason to suspect that the human factor is universally similar in dealing with conservation programs, with only the modifying factors of social, technological, and economic advancement, and of positive governmental action, differing. Thus, for Latin America, Southeast Asia, and New Guinea, technology has not yet outrun the supply of unspoiled natural resources. We should like to expect that ecological awareness will advance along with technology and result in improved care of surviving natural and man-modified ecosystems. At the moment an accelerated test case appears to be occurring in Japan, as reported by Asahina.

The overall impact of the book is one of encouragement. The International Union for the Conservation of Nature and the International Biological Program are frequent in reference by the contributors, and the beneficial effects of their activities are reflected. Whether one has cause to struggle voluntarily for the preservation of remnant ecosystems in his own neighborhood, is charged with responsibility for instructional programs, or is involved with broad regional endeavors for the environment, *Nature Conservation in the Pacific* is a volume that will provide forceful and useful guidelines for action.

P. QUENTIN TOMICH
Research Unit, Hawaii Department of Health, Honokaa

Explaining Psychopathology

Aversive Maternal Control. A Theory of Schizophrenic Development. ALFRED B. HEILBRUN, JR. Wiley-Interscience, New York, 1973. xvi, 324 pp. \$15.95. Wiley Series on Personality Processes.

This book is essentially a monograph summarizing a large body of research carried out by the author and his graduate students. Its central thesis is that a necessary condition for the development of schizophrenia is a particular type of mother-child relationship, termed "aversive maternal control." The author recognizes current thinking and research that emphasize genetic and biochemical facts in schizophrenia,

but prefers to emphasize social learning forces that might influence the probability or form of the psychotic disorder.

Heilbrun's research program builds strongly on a basic model developed at Duke University in the 1950's by Rodnick and Garmezy. His review of this and allied literature supports the reasonableness of the original Rodnick-Garmezy thesis of heightened response by schizophrenics to censure, particularly from maternal sources. He extends this notion further by suggesting that a heightened sensitivity to censure, prodromal to schizophrenic development, grows out of a mother-child relationship characterized as high in control and low in nurturance (HC-LN). The rest of the book presents an extensive series of tests of this hypothesis, initially with schizophrenics but mostly with college student subjects. The bulk of the book, therefore, presents data derived from the typical pool of undergraduate psychology students. This is a strength of the book in some ways, as it permits tests of specific hypotheses with populations uncontaminated by psychotic states, medications, and so on; but it is also a weakness, as the lines between these findings and data on schizophrenic patients are often tenuous, buttressed only by analogical reasoning which appears overdone.

The basic strategy of the research program is first to divide samples into four groups, high and low on perceived maternal control and nurturance, and then to search for relationships between these groupings and other measures, primarily through laboratory experiments. Heilbrun relies heavily upon retrospective self-reports of parent-child relationships, dismissing arguments concerning the validity of such reports rather cavalierly. This is disappointing, in view of the current status of research on families of schizophrenics, in which direct observational techniques are considered vital. The type of questionnaire Heilbrun uses to ascertain parental attitudes has often been discarded in intensive family studies because it lacks correspondence to direct family measures of interaction.

Despite this obvious limitation of the research program, Heilbrun does present an impressive number of studies testing hypotheses concerning behavioral correlates of perceived maternal attitudes. At times these studies support his hypothesis that HC-LN subjects are more disrupted by maternal criticism than his other three groups. In a number of