

that should give no trouble to the average college freshman. In it, the scientific name follows the common name for almost every organism mentioned. (I find this practice tedious when it is used for man and his common domestic plants and animals.) The book is well illustrated, and there is an adequate index. It is an excellent book for its intended use.

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**ECOLOGY, EVOLUTION, AND POPULATION BIOLOGY.** Readings from *Scientific American*. 1974. W. H. Freeman & Co., San Francisco. 315 p. \$5.95 softback, \$12.00 hardback.

Edward O. Wilson introduces this latest collection of *Scientific American* reprints with the statement, "It is in the study of adaptation that evolutionary theory and ecology are joined. One discipline no longer makes much sense without recourse to the other." The articles are grouped into four sections which build upon each other. "Evolutionary Process" presents a background of genetics and an example of its importance in the specific study of protein structure as related to the tracing of a population. Today research is being done to trace evolution to speciation variations. Using available data from birds or mammal studies is applicable, but studies of the age of dinosaurs do not correlate with such theories as adaptive radiation. Thus in the second section, "The Multiplication and Dispersal of Species," selections on continental drift have been included to tie together the fossil records with the present. Bjorn Kurten brings out in his article the idea of two supercontinents of the Mesozoic era, Laurasia and Gondwanaland, that lead to the proof of the evolution of mammals and the continental drift. As a continuation of the evolution of species, the next section, "The Growth and Interaction of Populations," shows how population studies have uncovered some of the problems of survival. Only man seems not to have a natural control of population growth. In other populations, such factors as food, space, and predators automatically determine the size of the group. Concluding this section, Lynn Margulis' article on symbiosis and evolution brings up the idea that organelles such as chloroplasts and mitochondria might once have been independent organisms. To complete the compilation of articles, the last section, on "Ecosystems," shows the relationship of life with the planet Earth. The vital impact of man can be seen through agriculture—how man has simplified the living environment by supplanting forest, grasslands, and other habitats once rich in species favorable

to man's own survival—and in the alteration of the material cycles. "Trace-Element Deserts," gives a vivid account of how man has been able to turn a barren wasteland into fertile fields.

The articles chosen for each section seem to carry out the themes stated in each prefatory introduction. The articles describing evolutionary changes by color and the concept of mimicry would have been much more useful if there were colored plates to illustrate the varieties. Color is used sparsely throughout the articles and could be more effective. For each article a bibliography is listed at the conclusion of the book to provide a more inclusive study, and the articles themselves date from 1950 to 1972. The collection provides a small grouping of articles helpful to anyone doing research on the relationship of ecology, evolution, and population biology.

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#### Education and Professional Concerns

**STRUCTURE AND PROCESS IN SECONDARY SCHOOLS: THE ACADEMIC IMPACT OF EDUCATIONAL CLIMATES,** by Edward L. McDill and Leo C. Rigsby. 1973. Johns Hopkins University Press, Baltimore. 201 p. \$8.50.

McDill and Rigsby have compiled a wealth of data, collected from a detailed evaluation of numerous learning conditions across the nation. Supported by grants from the U.S. Office of Education, HEW, the Ford Foundation, and NSF, the study concentrated upon the origins and consequences of traditional relationships existing in secondary classroom environments. The impact of the home influence—an interesting and often ignored dimension of the total learning environment—has not been overlooked.

The book is presented in characteristic research report form, with a statement of the problem, related literature, review, statistical analysis, discussions, conclusions, and assorted appended questionnaires. Perhaps the statement of the problem and the conclusions will be of greatest interest to educators other than those who intend to incorporate portions of this study into one of their own. Nevertheless McDill and Rigsby have established, by means of this horizontal study, validity for many assumptions which to date may not have been accompanied by the necessary documentation. Strengths which are lacking for the want of longitudinal analysis are readily acknowledged by the authors.

Heavy reliance on the questionnaire method has produced data pertaining

to students' relationships to their peers, teachers, schools, communities, families, past academic success, and future plans. It is significant to note that these data were collected nine years before the book was published.

The beauty of the book lies in the accessibility of the data it presents and the rather readable style in which it is written. I do not consider it a book that all biology teachers will—or should—rush out and buy. In fact it is for the few educators who desire to further study the specific relationships established and who may be in a position to cause change across total school systems and other broad educational settings.

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#### Evolution

**DARWIN AND DARWINISM,** ed. by Harold Y. Vanderpool. 1973. D. C. Heath and Co. Lexington, Mass. 220 p. \$2.50 (softback).

Charles Darwin and his work have created a variety of intense and fascinating reactions throughout the years. The current furor of creationism vs. evolutionary theory demonstrates that the 100-year-old controversy is far from dead. This book is timely and should provide the reader with insights concerning science, religion, and society.

Vanderpool has compiled an interesting list of original papers which are grouped in three categories: before the origin of species; evolution, nature and religion; and, evolution, man and society. The introductions, both to the book and to each paper, provide the reader with historical data and a focus for reading. Vanderpool does a masterful job of describing the setting in which the papers were written and the social context of the issue. The collection is a usable and critical mechanism for assessing the impact of Darwin as well as encouraging the probing of contemporary problems. This latter result may be of particular value to the reader grappling with personal concerns.

This is not a book about biology. Rather this publication illustrates the interrelationship of biology and society as seen through the works of poets, philosophers, and theologians, as well as scientists. These perspectives indicate both the impact and scope of the theory of evolution on the Western intellect.

The book will be of interest and use in a variety of ways. It will prepare the teacher of biology to better teach evolutionary theory and its significance beyond the realm of biology. This book might serve as a basic textbook for a course for members of the community at large or a general education course. The research scientist might gain some