

Nature of Life: Earth, Plants, Animals, Man and their Effect

By Lorus J. and Margery Milne; 316 p. + 208 illustrations. Crown Publishers, Inc., New York. 1971. Available in Canada from General Publishers Co., Don Mills. \$21.95.

The title of this book could well suggest that the reader will be led into a philosophical and scientific discussion on the nature of life. Or, because of the large format and the profusion of black and white and colour photographs, one may think that this is another good "picture book".

Perhaps, then, the title is somewhat misleading; the subject of this publication is essentially the distribution of life on earth, and it consists in much more than the mere presentation of good photographs.

After a brief chapter on "The Long Evolution of the World and its Life", where they deal with continental drift and the evolution of life through the geological timetable, the authors begin to present information on the major biomes of the world, including isolated islands, the seas, the sea floors, brackish and fresh waters. Distribution by radiation and adaptation is the theme, based on the theory of continental drift and the formation (and disappearance) of land bridges. Seen in that light, the book is an interesting account of how species have spread in the world, being assisted or hindered in their progress by topography and climate.

The reader gets the impression that the Milnes have wanted to pack into their book all the observations they made and recorded as they travelled. This is an account of what they saw, not of what they did and little of what they think. So much so that reading is generally arduous; the reader would appreciate an anecdote here and there, as a rest!

The outlines of evolutionary studies and the descriptions of biomes, added to the originality of many of the observations, make this an interesting book. The illustrations are good and well reproduced and the print is of good quality. The zoogeographer will want to have "Nature of Life" in his library.

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Environment, Power, and Society

Howard T. Odum. Wiley-Interscience, New York and Toronto. 331 p. 1971. \$9.95 cloth; \$6.50 paper.

A less eye-catching but equally descriptive title might be "energy flow through the biosphere". The author defines power in terms of the rate of flow of useful energy, e.g. calories per day.

"In recent years studies of the energetics of ecological systems have suggested general means for applying basic laws of energy and of matter to the complex systems of nature and man. In this book, energy language is used to consider the pressing problem of survival in our time — the partnership of man in nature. An effort is made to show that energy analysis can help answer many of the questions of economics, law, and religion, already stated in other languages. Models for the analysis of a system are made by recognizing major divisions whose causal relationships are indicated by the pathways of inter-change of energy and work. Then simulation allows the model's performance to be tested against the performance of the real system".

Some books grip the reader from moment to moment. They are usually categorized as the kind you cannot lay down. Odum is not that kind of writer. It is not the style and magic of the word flow that grips you; it is the succession and variety of ideas and examples he presents. Each point raised receives a heading and is disposed of with an economy of words that produced, in me at least, a habit of reading a section, pausing to absorb it, and then turning to study the accompanying diagrams. Mathematics are avoided but figures are scattered profusely throughout the text and form an essential part of it. The reader with a high visual component in his memory structure will be particularly appreciative: "Energy diagramming helps us consider the great problems of pollution, power, population, food and war free from our fetters of indoctrination".

The combination of text and diagrams projects a series of mental pictures: the earth as a globe receiving solar radiation and emitting waste heat; energy driving the inanimate transportation and temperature control systems we call weather, climate and the water cycle; and the one-way passage of energy through the biosphere driving the ever cycling and recycling flow of the material elements that constitute life.

Man learned to garner energy surplus to his immediate metabolic needs and to employ it as a multiplier. The spear he manufactured returned



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