

Book Reviews

The Planet Earth. D. R. Bates, Ed. Pergamon, London, 1957. v+312 pp. Illus. 35s. (Published in U.S. as *The Earth and Its Atmosphere*. Basic Books, New York, 1958. 324 pp. Illus. \$6.)

This is a stimulating, even exciting book, summarizing recent additions to the rapidly growing body of knowledge about the physics of our planet. It is addressed to the scientifically well-informed general reader, and to specialists in other branches of science who wish to be brought up to date on progress in geophysics. Its audience should be similar to that reached by *Scientific American*, although some parts require slightly greater scientific sophistication.

One purpose of the book is to describe for a wide public the multifarious scientific activities of the current International Geophysical Year. Most of the chapters mention measurements to be made during this period, and some consist chiefly of outlines of Geophysical Year projects. In the introductory chapter, S. Chapman gives an excellent summary of what geophysicists hope to accomplish during the Year.

Each chapter covers a single branch of geophysics, and each is written by a recognized authority. G. P. Kuiper writes on the origin and ultimate fate of the earth, K. E. Bullen on the deep interior, G. E. Vestine on the geomagnetic field, E. T. Eady on the circulation of the atmosphere, J. A. Ratcliffe on the ionosphere—to mention only a few of the 17 chapters. The majority of the authors are British.

The editor has succeeded admirably in keeping the general tone and scientific level consistent from one article to the next, in avoiding duplication, and in providing cross references between articles. Inevitably, some of the chapters are more successful than others. I was particularly impressed with the clarity of the chapters on the oceans, on atmospheric circulation, on the ionosphere, and on meteors. The authors of these chapters have a knack for presenting their subjects as living fields of science, for bringing the reader into the heart of current controversies, and for showing

what new developments in research are likely to prove fruitful. Some of the chapters, particularly those on geologic subjects, are marred by a tendency merely to recite conclusions dogmatically without specifying where the conclusions come from or how firmly they are based. One can sympathize with the writers' desire to crowd as much as possible into a limited space, but a nonspecialist would get a truer concept of science from a less detailed treatment and a more careful separation of fact from theory.

The illustrations are few but effective. A bibliography of both technical and popular articles provides the reader with ample suggestions for further exploration into recent work on any of the 17 topics discussed.

KONRAD B. KRAUSKOPF
*School of Mineral Sciences,
Stanford University*

Economic Analysis and Policy in Underdeveloped Countries. P. T. Bauer. Duke University Commonwealth-Studies Center. Duke University Press, Durham, N.C.; Cambridge University Press, London, 1957. xiii + 145 pp. \$3.

This book contains three lectures given at the Duke University Commonwealth-Studies Center by the author, who is Smuts Reader in Commonwealth Studies at Cambridge University. The chapters discuss the scope, method, and potentialities of the science of economics in the study of underdeveloped countries and the impact upon that discipline of the increased interest in such areas; some of the characteristics of underdeveloped economies; and certain issues of economic-development policy. The major interest is in theoretical aspects of the problems. Illustrations are drawn for the most part from Asia and Africa.

The terseness and simplicity of the language used tends to hide the profundity as well as the originality of the thoughts presented. The author stresses the necessity of giving greater attention to methodology in social science generally. While indicating that there are certain processes which are universally

similar, he points out that there are certain differences (particularly in the institutional aspects) between areas, which must be carefully studied. In underdeveloped countries, for example, there are likely to be particularly severe limitations on the amount of statistical evidence available, and this makes direct observation more important. Moreover, political considerations are likely to influence not only the findings but also the selection of problems.

It is pointed out that the problems relating to rapid and uneven growth are quite different from those of stagnation and that, for various reasons, such as an unsympathetic attitude toward agriculture and an inclination to confine attention to easily measurable economic categories, there has been neglect, in contemporary literature, of the establishment, extension, and improvement of agricultural properties as a form of capital formation. There has been a similar neglect with respect to traders' inventories.

The important contribution of migrants to economic development in emerging economies is discussed at some length in the second chapter, but it is not indicated how what has been termed "international demonstration effect" or "increase in the desire for higher consumption" stimulates internal as well as international population movement and thereby further removes some of the major obstacles to change.

A case is made for cheap labor as an asset of underdeveloped countries, but in opposing the establishment of minimum wages and maximum hours, Bauer does not make it clear that it is real costs which must be considered, or wages in relation to productivity, as well as the promotion of local or individual well-being as a possible stimulus to greater effort.

It is pointed out that development, as such, is not necessarily of benefit to a people or to all segments of a society and that costs which may not be evenly distributed are always involved. As I can testify, so-called humanitarians are frequently extremely insensitive to the results of their proposals and conduct.

In discussion of the merits and disadvantages of an emphasis on cash crops in promoting development, no mention is made of benefit distribution, which, while to some extent an independent problem, is nevertheless frequently if not always related to development processes.

The importance of governmental intervention in development is admitted, but great caution is advised in the adoption of both restrictive and promotional measures.

ROBERT CUBA JONES
Mexico City, Mexico