

Morley, Thompson, and Rowe on the reference shelves of my professional colleagues. Von Hagen is our best-known popularizer in this field; he writes well and lucidly, and knows his stuff well. Compared with the volume's great amount of information and data, errors are few, and most of those pointed out in reviews on the paperbacks, published in professional journals, have been corrected. However, contrary to modern opinion for the last decade or more, Von Hagen still considers Teotihuacan as Toltec and denies any trans-Pacific influence.

Errors in the spelling of names and native words, such as Chichanel for Chicanel, are still too frequent, though most of those in the earlier editions have been corrected. In the map on page 34, Tabasco is an error for Tarasco.

The many drawings by Alberto Beltran, in the style and spirit of native artists of the period, illustrate the native life so well that, in the words of one professional reviewer, "The [Aztec] book can be strongly recommended on the basis of them alone."

J. ALDEN MASON

*University Museum,  
University of Pennsylvania*

## Perceptive Analysis

**Fertility and Survival.** Population problems from Malthus to Mao-Tse-Tung. Alfred Sauvy. Translated by Christine Brook-Rose. Criterion Books, New York, 1961. 232 pp. Illus. \$7.50.

In this easily read and informative book the population problem is put in perspective by Alfred Sauvy, the French demographer and scholar who has contributed so remarkably to the development and organization of modern demographic research in France. His findings reflect his years of experience on the Population Commission of the United Nations and many of the able inquiries carried out by the National Institute of Demographic Studies (of France) under his directorship.

The book is divided into three main parts. In the first, devoted to data and "vain solutions," the population problem is represented as existing primarily in the underdeveloped world. The problem has been greatly accentuated in this world by the marked decline in mortality which began some 20 to 30 years

ago. For fertility has declined little if at all, with the result that natural increase has risen to 2 to 3 percent per year, even in densely populated countries; and emigration can provide little if any relief. Accordingly, if man's lot is to improve appreciably, output must be increased much more rapidly or fertility must be reduced.

In the second part, Sauvy shows the "economic solution" to be inadequate. It is seldom possible for underdeveloped countries to maintain high current rates of natural increase and at the same time supply enough capital and other prerequisites for economic growth to permit per capita income to rise notably and continuously. Nor is foreign aid likely to be in sufficient volume. "The economic solution is not enough." There is need also, he indicates in part 3, for the demographic solution, control of births and reduction of the rate of natural increase to manageable dimensions; but this solution must be accompanied by economic development.

Sauvy devotes some attention to the demographic situations of communist countries, to the bearing of communist ideology upon demographic practice, and to the probable impact of the perfection of sterilizing pills. Near the bottom of page 22 the number cannot be "3,000 millions"; the underdeveloped-country densities reported on page 110 incorrectly refer to 1800.

JOSEPH J. SPENGLER

*Department of Economics,  
Duke University*

## Theory and Application

**Separation of Heavy Metals.** Anil K. De. Pergamon, New York, 1961. 308 pp. \$9.

This is a compilation of methods for separating certain metals by immiscible solvent extraction and ion exchange. The metals considered are, to a large extent, those which are important in the nuclear energy field, and the book will interest radiochemists and chemical analysts. Approximately 50 metals are treated, namely those included in the series Rb to Te ( $Z = 37$  to  $52$ ), Cs to Bi ( $55$  to  $83$ ), and Fr to No ( $87$  to  $102$ ).

The book is divided into four parts. Parts 1 and 2 deal with extraction and ion-exchange separations, respectively; common procedures are given in brief

form, with some consideration of the elementary theoretical aspects of these methods. Analytical procedures for determination of the separated heavy metals are compiled in part 3. The treatment is very compressed; for example, under uranium we find directions for two gravimetric, one volumetric, one polarographic, one fluorimetric, and three colorimetric methods presented in approximately three pages. In part 4 a number of well-known separation schemes for processing spent reactor fuels and for producing radioisotopes are outlined. The appendix contains tables of fission products, properties of organic solvents and of some chelating agents, and characteristics of ion-exchange resins. All this material is covered in a little less than 300 pages of rather large type.

It is useful to have a one-volume list of both liquid-liquid and ion-exchange methods for separating the metals mentioned, but users of this book should know that separation procedures published in the last 3 or 4 years are, for the most part, not included. Only a dozen or so literature references are dated later than 1957, and most of these are for 1958.

E. B. SANDELL  
*School of Chemistry,  
University of Minnesota*

## Aa to Zoophyte

**A Glossary of Geographical Terms.** Prepared by a committee of the British Association for the Advancement of Science. L. Dudley Stamp, Ed. Longmans, Green, London; Wiley, New York, 1961. xxix + 539 pp. \$10.

This work, in a genetic sense the 50-odd-year-old scion of a near-published glossary by Hugh Robert Mill, represents a contemporary terminological "blood, sweat, and tears." The issue is as fortunate as was the Battle of Britain, despite the "divergencies of usage between North American and English English."

The volume is a refreshingly honest evaluation of consent, dissent, and bewilderment relative to the import of the common, and not-so-common, terms of the geographical tongue. For the careful peruser, it also is an adventure in geographical terminology, from *aa*, on page 1, to *zoophyte*, on page 496. Those disposed to consult this volume