A Background of Physical Geography

By George P. Kellaway. Pp. viii+232. (London: Macmillan and Co., Ltd., 1945.) 8*s*. 6*d*.

THERE is need for more attention being given to the physical basis of geography in school work; too great attention to the human side, with neglect of the background, may encourage a subjective approach. This short volume is an attempt to supply the physical background for higher school and intermediate university geography.

The book covers a wide field with different degrees of emphasis. Broadly speaking, half of it deals with land features and the oceans, and half with the atmosphere. After the usual introductory matter on the earth as a planet, there follow a few notes, rather too brief, on theories regarding the earth's origin and kindred matters; Wegener's theory and isostasy, each in one page, are compression carried to excess. Of the chapters on land forms and land sculpture, the least satisfactory is that on islands, where some revision is required in the sections on volcanic islands and coral islands; Darwin's theory of reef growth is not the only one. The chapter on the oceans is short and comprehensive, but the author should note that icebergs are never formed from sea-water. The term is not used for sea-ice. Since the temperature and salinity of ocean water are discussed, it would be well to consider the bottom water and its origin.

The final chapters, on climate, are the best part of the book, though it is not clear to the reviewer why a discussion of climatic regions should be headed "Natural Regions of the Earth". Reliable information concerning the true polar regions is not so scanty as the author suggests, and is quite adequate for a clearer view of polar climates, both north and south, than is given here. It is high time that the old well-worn and misleading diagram of the planetary winds, as they would be on an ideal water-covered globe, was abandoned. The notes on vegetation, given for each major climate, should, for students of geography, be more explanatory and not merely descriptive.

The book is well illustrated, and on the whole may serve the purpose for which it is intended.

Introduction to Quantum Mechanics

By D. E. Blochintsev. (In Russian.) Pp. 484+79 plates. (Moscow and Leningrad: Unified State Publishing Co., 1944.) 18 roubles.

THIS modestly named volume is in fact a comprehensive treatise covering the whole subject of quantum mechanics. It summarizes the relevant basic discoveries of Planck, Compton, Einstein and Bohr in convenient mathematical form.

The chief sections are: basic principles of quantum theory; wave mechanics; relations between quantum mechanics, classical mechanics and optics; theory of movement of particles in a field of force; movement of charged particles in an electric field; theory of continuous spectra; radiation, absorption and dispersion of light by atomic systems; secondary quanta and quantum statics; magnetic phenomena.

A series of appendixes summarizes and clarifies the mathematical framework of the treatise. There is an adequate subject index. Bibliographical notes are interspersed as footnotes.

In spite of the poor-quality war-time paper, the volume is a dignified one. The printing of extremely complicated mathematical functions has been well done.

Five-Figure Logarithm Tables

Containing Logarithms of Numbers and Logarithms of Trigonometrical Functions with Argument in Degrees and Decimals. Pp. iii+188. (London: H.M. Stationery Office, 1944.) 7*s*. 6*d*. net.

THIS collection of five-figure tables has been compiled, as a war-time measure, to meet the ever-increasing demand, both in industry and elsewhere, for accurate numerical information of this kind.

The book is divided into three distinct parts. The first of these (occupying seventy-three pages) is a reproduction, from stereotype plates, of Chappell's table of logarithms, which gives five-figure logarithms of the numbers 10,000 to 40,000 and then those of 4,000 to 10,000 in that order. The second section is a photolithographic copy of von Rohr's table of five-figure logarithms of sines and tangents of small angles, over the range from 0° to 5°, for intervals of one thousandth of a degree in each case. Lastly there is a similar reproduction of Bremiker's table of five-figure logarithms of sines, tangents, cotangents and cosines of angles from 0° to 45°, for intervals of one hundredth of a degree in all cases. A table of constants is also appended.

Having regard to the urgent necessity for conserving paper supplies, it was considered unnecessary to provide a continuous pagination and the pagination of the three component tables has therefore been preserved unchanged. The original prefaces and explanations have also been omitted, and no instructions for the use of any of the tables have been supplied. The von Rohr and Bremiker tables have been reproduced with the authority of, and under licence from, the Custodian of Enemy Property.

It is worthy of note that the standard of reproduction and printing is very high.

J. H. PEARCE.

Gardener's Earth

An Introduction to the Study of Soils for the Everyday Gardener. By Dr. Stanley B. Whitehead. Pp. viii+231+24 plates. (London: J. M. Dent and Sons, Ltd., 1945.) 7*s*. 6*d*. net.

THIS is an interesting production, one of the better class of books on gardening written for the non-technical reader. Although it is mainly about soil, it covers a wider ground, including manures and fertilizers, pests and diseases and crops. In conformity with the title of the book, the discussion of these subjects is based on their soil aspects; this form of treatment has led to some repetition, both between and within chapters, that calls for pruning when a new edition is prepared.

In his discussions of soil moisture and cultivation, the author has fairly presented the results of modern research and technological investigations; in consequence, the alluring but inadequate picture of the soil pore-space as a bundle of capillary tubes finds no place in his exposition. The discussion of organic manures and artificial fertilizers is less happy. The non-technical reader may well wonder why the full (and excellent) account of artificials and their uses is included, in view of the blunt statements about them in the chapters on the virtues of organics; and it is a little unfortunate that the objective and scientific treatment maintained over the greater part of the book is occasionally obscured in these chapters. With these reservations the book can be given a welcome. A special word of praise is due for the excellent illustrations.

B. A. K.