## Technique of Organic Chemistry

Edited by Arnold Weissberger. Vol. 3: Heating and Cooling, Mixing, Centrifuging, Extraction and Distribution, Dialysis and Electrodialysis, Crystallization and Recrystallization, Filtration, Solvent Removal, Evaporation and Drying. Pp. ix+661. (New York and London: Interscience Publishers, Inc., 1950.) 80*s*.

THIS volume surveys the techniques used in the isolation and purification of compounds, and is the third in an Interscience Series of which the first, dealing with the measurement of physical properties, is now well known.

The articles by the various authors differ greatly in length. The chapters on extraction and distribution and on crystallization and recrystallization occupy 142 and 122 pages respectively, that on solvent removal, evaporation and drying occupies thirty pages, and that on centrifuging requires merely twenty-eight pages. The selection of material for certain of these articles appears to have presented a difficult problem, and in some chapters a rather peculiar balance has been struck between chemical engineering theory and laboratory technique. For example, in the section on heating and cooling (98 pages) a short account is given of the chemical engineering approach to heat transfer theory, and later in the same article space is devoted to bunsen and other burners with descriptions and illustrations such as can normally be found in laboratory furnishers' catalogues. The chapter on filtration (120 pages) is similarly constructed.

The articles on extraction and distribution, written by L. C. Craig and D. Craig, and on crystallization and recrystallization, by R. S. Tipson, give very useful surveys of the literature and contain European as well as American references.

The binding conforms to that of the earlier volumes, and, while the price may deter individuals from purchasing this work, yet the book will probably find a place in most scientific libraries. E. F. G. H.

## Ore Genesis

A Metallurgical Interpretation; an Alternative to the Hydrothermal Theory. By Dr. John Stafford Brown. Pp. 204. (London: Thomas Murby and Co., 1950.) 12*s*. 6*d*. net.

IN this stimulating book, first published in the United States, a serious challenge is offered to the established hypothesis that most sulphide ore deposits were precipitated from aqueous solutions, the last residues of consolidating magmas. Dr. J. S. Brown argues that the agreed facts of paragenetic order among sulphides could be explained were the minerals derived from an anhydrous sulphide magma, stratified like the immiscible layers in a non-ferrous smelting furnace (from top to bottom: slag, matte, speiss, galena-lead). Gaseous transfer is postulated, aided by water only at epithermal levels. The sulphide magma is pictured as a global layer beneath the basaltic shell, formed during primeval differentiation by separation of immiscible liquids, settled upon the top of an already-crystalline peridotite substratum. The primary oxide ores are considered to come from magma-pockets higher in the sima. To the end-stages of granitic plutonism are ascribed only the pegmatites. Gangue minerals—boron, fluorine and barium minerals excepted—come from the country rocks.

The physical data presented reveal the need for investigation of the vapour phases of the sulphides and oxides under high pressure. The idea of hypothermal and even mesothermal mineralization by vapours will be more favourably received in Great Britain than in Dr. Brown's own country, for the British have not abandoned their belief in pneumatolysis; indeed, some British petrologists ascribe far greater importance to diffusing fluids than is here implied. That the peridotite substratum was crystalline before the sial and basalt layers is harder to reconcile with current views on the primordial earth.

K. C. DUNHAM

## Practical Physics

A Collection of Experiments for Upper Forms of Schools and Colleges together with the Relevant Theory. By Sir Cyril Ashford. Pp. xii+175. (Cambridge: At the University Press, 1950.) 10*s*. 6*d*.

FOR most of this collection of experiments for upper forms of schools and colleges, the author has used problems set during the past fifteen years in the higher school certificate papers of the Cambridge University Local Examinations Syndicate, and has transformed and amplified them to fit into a teaching course. Although the fifty experiments included deal with all branches of physics with the exception of sound, the book is not adequate for a normal two-year course such as is usually carried out in schools, nor is it suitable for this purpose. Its greatest value would be to the more brilliant and scholarship pupils in their last year at school, for they would undoubtedly derive great benefit by performing the experiments and following the excellent treatment of results given by the author.

The student is invited, not merely to do the experiment for the sake of practice in experimenting, but to act more as a pioneer who obtains results and then analyses them exhaustively; the writer thinks this is the right course to adopt. A very valuable introduction is provided dealing with the reduction of observations, and stress is laid on graphical methods with particular emphasis on linear equations. Altogether this is an excellent book which should be in the hands of all teachers of physics.

## Principles of Human Geography

By P. Vidal de la Blache. Edited by Emmanuel de Martonne. Translated from the French by Dr. Millicent Todd Bingham. (Reprint.) Pp. xv+511+6 plates. (London: Constable and Co., Ltd., 1950.) 20*s*. net.

PROF. P. VIDAL DE LA BLACHE died in 1918, several years before this book was originally published. The translation first appeared in 1926, and the present volume is a reprint of that book. It says much for an unfinished book that it can bear unaltered reprint twenty-four years after its original appearance. But no other book on human geography has quite the standing of this volume, with the author's width of knowledge and wealth of examples of his principles. In the original manuscript, Prof. E. de Martonne had to correct minor mistakes and smooth out confused statements. But this could be done, and, despite a few obsolete statements and doubtful facts, the book is homogeneous and reliable. Prof. Vidal de la Blache surveys the world from a historical and evolutionary point of view. At times he is assertive; but he is always vivid and illuminating. Towards the end the book is fragmentary and all the more suggestive to the serious student. There are several maps showing various distributions. It is a book free from jargon and one that the general reader can easily follow, while no serious student of geography can afford to neglect it. R. N. R. B.