and in some cases misleading. Dr. Daglish is first an artist and enthusiastic natural historian, for neither book will bear close scrutiny for its biological truths. As examples chosen at random, we read that a corm is "an underground stem which differs from a bulb in being solid and showing no leaves" and that an ovary is "the lower part of the pistil containing the seeds". Tendrils are loosely described as "growths from the stem which enable plants to climb", and transpiration as "the process whereby water and gases are given off through the stomata". The dahlia tuber is a modified root, not a stem as Dr. Daglish states.

It is a pity that the text of these books does not conform more to the exactitude demanded by science, because the author has a charming style of writing which undoubtedly goes far in stimulating the enthusiasm of the lay reader; besides, the books are beautifully produced. But neither of them can be recommended without reserve to the discriminating reader.

Some American Trees:
an Intimate Study of Native Ohio Trees. By William B. Werthner. Pp. xvi+398. (New York: The Macmillan Co., 1935.) 21*s*. net.

THE preface and foreword, both very brief, indicate that this attractive book is the work of a life-long lover of trees: a work he unfortunately did not live to finish, but it has been completed by his widow. Although dealing with the trees of a comparatively small area, the book is of wide general interest. The quotation from Kingsley which faces Mrs. Werthner's preface that "He is a thoroughly good naturalist who knows his own parish thoroughly" is very apt.

Two introductory chapters deal with trees in general and the forests of Montgomery County. The richness of the United States in native trees—more than 700 compared with 85 in Europe (exclusive of the U.S.S.R.) is discussed and reasons for it given.

The main part of the book deals with the 89 trees of Montgomery County. Each is described fully, but in non-technical language, and information given concerning distribution, soil preferences, uses of its wood and also any other parts of economic value, historical associations, etc. The author was evidently not merely a skilled but also an artistic photographer; the book containing 302 excellent illustrations of habit, bark, foliage, flowers and fruit of the trees he studied so closely.

Applied Entomology:
an Introductory Text-Book of Insects in their relations to Man. By Prof. H. T. Fernald. (McGraw-Hill Publications in the Zoölogical Sciences.) Third edition. Pp. x+405. (New York and London: McGraw-Hill Book Co., Inc., 1935.) 21*s*. net.

NINE years have elapsed since the appearance of the second edition of this text-book. In its present edition the work has been re-written in places in order to bring it up to date, while a certain amount of new matter has been incorporated. Great advances have been made in knowledge of pest control, certain new pests have appeared in the United States and sundry other problems in applied entomology have come into prominence. The chief facts respecting these and other subjects are referred to in the text, but the important subject of the insect transmission of plant viruses seems to have been almost overlooked. Of the introductory chapters, those on pest control provide a good elementary statement of the position. In the rest of the book, the method of dealing with the chief pests, order by order, is followed as in the previous editions. The book is a useful elementary treatise for North American students, in that it provides the essential facts and thereby paves the way for more detailed study.

South African Butterflies:
a Monograph of the Family Lycaenidae; with a Description and Illustration of every Species and Figures of many of the Larvae. Edited and drawn by Desmond P. Murray. Pp. viii+195+18 plates. (London: John Bale, Sons and Danielsson, Ltd., 1935.) 25*s*. net.

THE usefulness of the volume under review rests on the additions to our knowledge of the life-histories of the Lycaenidae, and the excellent and beautifully reproduced illustrations. The inadequacy of references detracts from its value as a systematic work, and the manner in which many of the author's statements are presented leaves much to be desired. There are too many misprints for a treatise of this size, and had the author taken the trouble to consult a taxonomist he would have avoided committing himself to such unfortunate solecisms as: No. 49a. *Phasis clavum* var. nov.; and No. 131a. *N. Major* var. nov.

Chemistry

A Comprehensive Treatise on Inorganic and Theoretical Chemistry
By Dr. J. W. Mellor. Vol. 14: Fe (Part 3), Co. Pp. viii+892. (London, New York and Toronto: Longmans, Green and Co., Ltd., 1935.) 63*s*. net.

THIS new volume completes the chapter on iron and includes also a chapter on the element cobalt. Two more volumes, already in the Press, will complete the series. The concluding portion of the chapter on iron includes the halides, sulphides, sulphates, nitrates and phosphates. It is characteristic of the author's method that, although the space-lattice of iron pyrites is reproduced, and its structure as a ferrous disulphide is thereby demonstrated in the most convincing way, more than a page is given up to the speculations of an earlier period, most of which depend on the hypothesis of "highly polymerised molecules". Indeed, the conclusion finally reached by modern workers is stated so briefly, in less than four lines of text, and is wedged so tightly between the purely speculative formulæ Fe=S=S and S=Fe=S, that the casual reader who did not know the correct answer would be unlikely to discover it, or even to recognise its correctness when reading through the text.

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The chapter on cobalt is of the usual detailed character, but is largely occupied with co-ordination compounds. These are discussed under the simple salts from which they are derived, for example, $CoCl_3$, $CoBr_3$, CoI_3, etc., with the result that the different salts of a complex ion such as the hexammine $[Co.6NH_3]^{+++}$ must be looked for in different sections. The red and blue colours of cobalt chloride are discussed in paragraphs extending over several pages; but in this case the author has given a clear lead by interpolating his own conclusions in paragraphs printed in smaller type. The structure of the anhydrous blue crystals is also discussed.

The well-established characteristics of the "Treatise" are retained in the present volume, and no further approbation is needed to commend it to those who are already familiar with the earlier volumes.

A Systematic Handbook of Volumetric Analysis: or the Quantitative Determination of Chemical Substances by Measure, applied to Liquids, Solids and Gases. By Francis Sutton. Twelfth edition, revised throughout, with numerous additions, by Dr. A. D. Mitchell. Pp. xvi+631. (London: J. and A. Churchill, Ltd., 1935.) 35*s*.

"THE energies of scientific men have been taxed to devise new and rapid methods of chemical analysis to meet the wants of these high pressure times"—so wrote Francis Sutton seventy years ago: it might have been written by Dr. Mitchell to-day with equal truth. The output of analytical methods is more numerous than ever, and personal experience of all those described is no longer possible; but Dr. Mitchell's reputation is such as to ensure that all the methods described are trustworthy.

Readers may be reminded that the scope of the work is a wide one: it includes volumetric methods applied to inorganic and organic substances, to urine, blood and water and to gas. Many of the old methods are still practised, some new ones are creeping in, for example, potentiometric titration. The last "Sutton" is eleven years old, and must in most laboratories be very nearly worn out by constant use; there will be many who hasten to put the new volume in its place.

The Chemistry of Synthetic Resins By Carleton Ellis. Vol. 1. Pp. 829. Vol. 2. Pp. iii+830–1615. (New York: Reinhold Publishing Corporation; London: Chapman and Hall, Ltd., 1935.) 2 vols., £4 17*s*. 6*d*. net.

DR. CARLETON ELLIS is an indefatigable worker: his text-books in other fields of chemical technology are indispensable to the workers therein and the same will undoubtedly apply to these volumes which, although labelled second edition of a work which appeared twelve years ago, have, like the subject treated, grown from infancy to adolescence. To-day there is no end to the uses or importance of the various synthetic resins or plastics as they are also called.

It is perhaps opportune to summarise the development, for it is a striking one. To be able to make constant products, often with very special properties, from semi-solid complex mixtures of amorphous organic substances, is no mean achievement. The original phenol formaldehyde condensation patents have now expired, with the result that such resins are made at less cost to the public and in greater diversity, including forms which have the property of dissolving in drying oils and yielding varnishes which dry with rapidity.

A second, now universal, type of resin is that made from a polybasic acid such as phthalic anhydride and a polyhydric alcohol such as glycerol, which produces durable plastic lacquers. A third type are the vinyl resins, and a fourth those represented by chlorinated rubber. Finally, there are the urea resins which are to-day developing so rapidly. The work deals exhaustively with these and many others in seventy chapters, in which the scientific and technical aspects of the subject are given equal weight.

Organic Solvents: Physical Constants and Methods of Purification. By Arnold Weissberger and Erich Proskauer. Translated from the German Manuscript by Randal G. A. New. Pp. vi+212. (Oxford: Clarendon Press; London: Oxford University Press, 1935.) 15*s*. net.

ALL sorts of organic solvents are now in use in the laboratory as well as in industry. The users often require to know something about their properties, and they will welcome the fact that, thanks to the collaboration of an organic and a physical chemist, a collection has been made of the physical constants in handy tabular form, separate for each substance, of 157 different solvents selected in an arbitrary fashion but covering a wide variety of requirements.

In addition, about half the book is devoted to a summary of the best methods of purification and often of preparation of the solvents, with copious references to the original literature—in all, 1,406 citations are given.

A very valuable book is thus put in the hands of the scientific worker, who will be able in future to make even better use of this large variety of solvents. In passing, it is to be hoped that efforts will be made by the chemical manufacturers to supply many of them in Great Britain at prices comparable with those charged in the United States and Germany.

Handbook of Chemistry and Physics: a Ready-Reference Book of Chemical and Physical Data. Editor-in-Chief: Prof. Charles D. Hodgman. Twentieth edition. Pp. xiv+1951. (Cleveland, Ohio: Chemical Rubber Publishing Co.; London: A. Harvey, 1935.) 6 dollars; 25*s*.

THIS volume, now in its twentieth edition, really needs little introduction to readers of NATURE. It gives in a most convenient form an excellent set of mathematical tables and mathematical aids to chemists and physicists. The data concerning the physical and chemical properties of the elements are well set forth, and the arrangement of data in connexion with inorganic compounds is most helpful.

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Considerable pains have been taken with the nomenclature of organic compounds, and an extensive summary of the rules laid down by the Committee on Organic Nomenclature of the International Union of Chemistry is given. The section on X-ray spectra has been revised by Prof. Cork, and much valuable data included. The magnetic data have also been enlarged, additions in magneto-optics being particularly noticeable; the magnetic susceptibility of liquid mercury is, however, incorrect, and it is suggested that data on the magnetic anisotropy might be included in later editions. On the whole, teachers and research workers will find that the possession of this volume will relieve them of much searching for scattered data, and it is strongly recommended.

Thorpe's Dictionary of Applied Chemistry

Supplement. By Prof. Jocelyn Field Thorpe and Dr. M. A. Whiteley. Vol. 3: Glossary and Index. Pp. vii+166. (London, New York and Toronto: Longmans, Green and Co., Ltd., 1936.) 21*s*. net.

THE third supplementary volume of Thorpe's "Dictionary" contains the index to the supplement; but a hundred pages are devoted to a glossary of terms used in the dictionary, ranging from A-acid and Abderhalden's reagent to the Zeeman effect, Zeisel's method, zero-point energy and the Zwitterion hypothesis. This glossary provides a guide to the meaning of a large number of important terms, which do not happen to form the subject of independent entries either in the original or in the supplementary volumes. In some cases, but not in all, the index gives a reference to a passage in the text in which these terms are used or discussed.

Geography and Travel

Men and Gods in Mongolia (Zayagan)

By Henning Haslund. Translated from the Swedish by Elizabeth Sprigge and Claude Napier. Pp. xvi+358+40 plates. (London: Kegan Paul and Co., Ltd., 1935.) 15*s*. net.

IN "Men and Gods in Mongolia" Henning Haslund, author of "Tents in Mongolia", carries further the story of his wanderings in central Asia. Of this narrative the detail in part will already be known to those who follow the literature of Asiatic travel. In 1927 he joined the famous expedition of exploration to Sinkiang (then Chinese Turkestan) led by Sven Hedin, in the capacity of assistant in charge of transport. This is the point at which the present narrative opens, and thenceforward a breezy style carries the reader rapidly through a varied scene. The story includes a description of a Madarai devil dance festival which led to a friendship with that incarnation of the Buddha, Yolros Lama, to Etsingol, to Lop Nor, across the Black Gobi, to arrest in Hami and detention at Urumchi and, finally, to the home of the Western Turguts, where a prolonged stay was made for the study of this little-known people and their culture.

Südsee: Travels in the South Seas

By Hugo Adolf Bernatzik. Translated from the German by Vivian Ogilvie. Pp. xvi+158+80 plates. (London: Constable and Co., Ltd., 1935.) 10*s*. 6*d*. net.

DR. BERNATZIK is an explorer who has been in turn big game hunter, photographer and ethnologist, completing his anthropological studies and taking his doctorate at the University of Vienna with a thesis on a West African tribe. In 1932–33 he visited the Solomon Islands, New Guinea and the Island of Bali, and while he promises that the scientific results of his observations will appear elsewhere—the *Geographical Magazine* of December contains an account by him of a stone age tribe in New Guinea—he here gives his readers a foretaste of his quality in a series of sketches dealing with the natives and incidents of travel in the localities visited. They make lively and interesting reading, and give some informative glimpses of plantation as well as native life, especially in the Solomons. Anthropologists will probably find the remarkable series of very fine photographs, more than a hundred in number, of greater interest than the text.

Moved On! from Kashgar to Kashmir

By P. S. Nazaroff. Rendered into English from the Russian Manuscript of the Author by Dr. Malcolm Burr. Pp. 317+24 plates. (London: George Allen and Unwin, Ltd., 1935.) 12*s*. 6*d*. net.

"MOVED ON! FROM KASHGAR TO KASHMIR" is the story of a refugee, but none the less a keen observer of lands and peoples on the way. The author, P. S. Nazaroff, in a sequel to an earlier volume, writes first of the people of Kashgar and then of his travels and adventures when, after finding sanctuary in Kashgar for four years, he was compelled to move on once more, owing to the recognition of the Soviets by the Chinese authorities. In the second part of his book he tells of his journey and the peoples he encountered when he crossed the Karakorum to Srinagar in Kashmir, where he was succoured by the British Resident.

Geology

The Triassic Fishes of Brookvale, New South Wales

By the Rev. R. T. Wade. Pp. xiv+110+10 plates. (London: British Museum (Natural History), 1935.) 10*s*.

THIS small octavo volume of some eighty pages, ten plates and forty-seven text figures is in effect a catalogue *raisonné* of the known fish fauna of the locality. The fauna is of interest and importance in that it is intermediate in age between the well-known Hawkesbury and Gosford formations. A considerable number of new species and genera is described, adequately figured, and the present situation of the type specimens recorded, so that the work will be of definite use to other workers in similar fields of research.

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