

### The Systematic Identification of Organic Compounds

By Prof. Ralph L. Shriner and Prof. Reynold C. Fuson. Third edition. Pp. ix+370. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1948.) 32s. net.

IT is probably no exaggeration to say that every monthly issue of the American Chemical Society's *Journal* contains at least one footnote reference to 'Shriner and Fuson'; this is a striking tribute to what is primarily a students' text-book.

Considerable expansion has occurred since the first relatively slim volume appeared fifteen years ago, the present edition being practically twice the size of the original. Basically, the same system has been followed, namely of effecting a first classification, after the usual preliminary observations, by means of solubility (physical and chemical), which is then followed by the more orthodox group reactions. Much of the subject-matter has been re-grouped and re-written; additional classification reagents have been introduced and the preparation of further derivatives described. The tables have been increased in length but not in breadth, so that some of the derivatives for which procedures are given are not tabulated. This seems to be deliberate, since literature references to group reagents are given; but it does mean that derivatives recorded incidentally will probably not be encountered. A minor criticism, which applied equally to the first edition, is that densities, in the few places where they are given, are quoted for an assortment of temperatures ranging from 0° to 25° C.; this is occasionally unavoidable, but for most of the compounds in question, and particularly for hydrocarbons, reliable figures for 20° C. are available. Further, it is strange to see (p. 236) diphenylamine placed among the liquid amines as well as the solid. On the other side, it was formerly difficult to trace the position of a particular compound in the tables, even when the page was known from the index; this has now been overcome by a very simple device.

Gmelins Handbuch der anorganischen Chemie  
Achte völlig neu bearbeitete Auflage. System-  
Nummer 18: Antimon. Teil B2: Schluss des  
Elements verbindungen bis Antimon und Jod. Pp.  
129-496. 83.60 D. marks. Teil B3: Schluss der  
Verbindungen. Pp. xxi+xvi+497-564. 24.75 D.  
marks. (Clausthal-Zellerfeld: Gmelin-Verlag G.m.b.H.,  
1949.)

PART B2 of this section on antimony deals with a few iodine compounds and compounds of antimony with sulphur, selenium, tellurium, boron, carbon, silicon, phosphorus and arsenic. As usual, the physical and chemical properties are very fully covered. Phase rule diagrams are given.

The second of these two publications, Part B3, begins in the middle of the electrical properties of antimony, including a section on the antimony electrode, then deals with the chemical and analytical properties of antimony, and the antimony compounds with hydrogen, oxygen, nitrogen and halogens as far as part of the iodine compounds. It thus covers much of the interesting and important parts of the chemistry of antimony. The section on the antimony electrode, which is fully illustrated (an unusual feature in "Gmelin"), is particularly noteworthy. The section on antimonous acid includes the modern formulation as a hexahydroxy compound; but the individual

antimonates are not included, these being treated in other volumes under the metals concerned. Compounds quite unknown in the separate form and assumed only from spectra, such as SbF<sub>6</sub>, receive as detailed treatment as the known compounds. This volume is an excellent example of the high standard of the whole work. J. R. P.

### Geometry

By Prof. H. G. Forder. (Hutchinson's University Library, No. 19.) Pp. 200. (London: Hutchinson's University Library, 1950.) 7s. 6d.

THIS is a book of an unusual kind. It is not a text-book, giving a detailed treatment of a limited part of the subject, but an attempt to give a general outline of almost every kind of geometry, from the most ancient and elementary to the most modern and abstruse. It is intended for non-specialists; most of the book assumes only a knowledge of elementary geometry and algebra, though the later chapters require some differential calculus. The first chapter deals with Euclidean geometry by means of displacements and transformations. The second and third chapters deal with plane curves and co-ordinate geometry. The fourth deals with projective geometry. In the fifth and sixth we come to non-Euclidean geometry, with a discussion of the logical structure of different geometries. The seventh and eighth deal with solid geometry, algebraic and differential. The ninth has some of the properties of higher plane curves. The tenth and eleventh give an account of geometry of  $n$  dimensions, including Riemann's work, which has attained such prominence in the theory of relativity. Results are given; but it is, of course, impossible to give, in a small book, even a sketch of the proofs of the theorems in the last chapter.

### A Bird Photographer in India

By E. H. N. Lowther. Pp. xii+150+79 plates. (London: Oxford University Press, 1949.) 21s. net.

HERE Mr. E. H. N. Lowther gives us the results of many years work with camera and hide among the birds of India. Bird photography in the best of climates and under the best of conditions has its trials and difficulties. The heat prevailing in the plains during the main breeding season provides an adverse factor likely to daunt all but the most enthusiastic of bird photographers; but it never daunted Mr. Lowther, who has worked year after year on a diversity of species and with remarkably successful results.

The seventy-nine plates in this book testify not only to Mr. Lowther's zeal and skill but also to the very wide field he has covered. To refer to even a few of the birds he has 'shot' would make a lengthy list. It must suffice to say they are numerous and various—we begin with a crested swift on its nest and conclude with a king vulture; jungle nightjars, skimmers and hornbills being among those encountered as we turn over these fascinating pages. But it must not be thought from this that Mr. Lowther's volume is only a picture book, for such is far from being the case. His observations are many, of high interest and afford excellent reading. In short, despite his photographs having received first mention, they take their proper place as fine illustrations to the record of a naturalist's observations on the bird-life of India, a record on which we congratulate him. FRANCES PITT