

## Short Reviews

*Handbuch der physikalischen und technischen Mechanik.* Herausgegeben von Prof. Dr. F. Auerbach und Prof. Dr. W. Hort. Band 5: *Mechanik der Flüssigkeiten, nebst technischen Anwendungsgebieten.* Lief. 1. Pp. ix+472. 45 gold marks. Lief. 2. Pp. vi+473-718. 24 gold marks. Lief. 3. Pp. xxi+719-1152. n.p. Band 5, complete, 120 gold marks. Band 6: *Mechanik der Gase und Dämpfe, nebst technischen Anwendungsgebieten.* Lief. 1. Pp. viii+460. n.p. Lief. 2. Pp. xviii+461-918. n.p. Band 6, complete, 76 gold marks. (Leipzig: Johann Ambrosius Barth, 1927-1928.)

Two further volumes of this remarkable compilation of physical and technical mechanics are now to hand; they are devoted to fluids (liquids in vol. 5—1,152 pages—and gases and vapours in vol. 6—918 pages). Besides the more classical parts of hydromechanics (summarised in about 300 pages by F. Auerbach, who also deals with aeromechanics—175 pages—in vol. 6) the volume on fluids contains articles on particular developments. These include ocean currents (Ekman), tides (Gutenberg), turbulence (Lorenz), fluid friction (Graetz and Stockl, who also contribute to vol. 6 a valuable article on gaseous friction), heat-transfer in moving liquids and gases (Schmekel), ships (Horn), the integration of the Navier-Stokes differential equations (Noether), lubrication (vom Ende and Duffing), hydraulic machines (Hahn), cavitation (Weinig) and hydraulics (Nemenyi, Safranez and Weinig). Vol. 6 includes articles on air pumps and vacuum technique (Gaede), atmospheric motions (Exner), technical gas-measurements (Block), explosions and explosion waves (Bollé), solid and liquid bodies in gases (Deutsch), wind mills, steam and gas turbines (Flügel), air forces on moving bodies, aircraft and balloons (Everling, also Fuchs), sails and rotor-funnels (Crosock), pneumatics (Wagner), compression and rarefaction of gases (Seligmann), and energy transformation in steam and internal combustion engines (Hort). The volumes are profusely illustrated by diagrams and photographs. As works of reference they are of great value, though probably few individual workers can afford to purchase them.

*A Manual of Practical Inorganic Chemistry: Qualitative Analysis and Inorganic Preparations.* By Prof. Dr. E. H. Riesenfeld. Translated by Prof. P. Ray. An authorised translation of the latest German edition of "Anorganisch-chemisches Praktikum", revised in collaboration with Dr. R. Klement. Pp. xxiv+471. (Calcutta: Chuckervertty, Chatterjee and Co., Ltd., 1933.) 6 rupees; 9s.

THIS translation has, on the whole, been very well done, although there are one or two minor inaccuracies, such as the translation of *Kohle* by 'coal' instead of 'carbon' on p. 136, and the

second footnote on p. 40 is not very clearly worded. A good feature of Riesenfeld's book is the inclusion of a large number of exercises in inorganic preparations, some of which are very simple but many are more elaborate and provide excellent training in manipulation. Some of the preparations are unusual, such as that of nickel carbonyl on p. 207. Theoretical sections, such as an account of Werner's theory, are introduced into appropriate places in the text. The accounts of qualitative tests and separations are good, but it seems doubtful whether a student would find such a book so easy to use in the laboratory, for this part of the work, as a straightforward set of analysis tables. Most of the modern tests and reagents are introduced. The printing, done in Calcutta, is very creditable indeed and the paper is good, but the binding is not quite satisfactory, although the low price of 9s. for a book of nearly 500 pages must be considered.

*Jahrbuch des Forschungs-Instituts der Allgemeinen Elektrizitäts-Gesellschaft.* Band 3: 1931-32. Pp. 205. (Berlin: Julius Springer, 1933.)

THE third year-book of the Research Department of the Allgemeine Elektrizitäts Gesellschaft maintains the very high standard both in pure and applied science of its predecessors. This volume contains a report on the work of the Department from January 1931 until April 1933. We notice that the prefatory reviews explaining the present position of the various branches of science discussed have been discontinued. On the other hand, several of the papers which are reprinted have been appreciably altered. The papers are divided into several sections covering acoustics, the winding of sound films, electrotechnics, the physics of electrons and atoms, physical chemistry, the physics of matter, electro-optics, etc. The book is excellently printed, the diagrams being specially clear. It contains a good deal of original matter.

*Lehrbuch der Astronomie.* Von Prof. Dr. Elis Stromgren und Dr. Bengt Strömgren. Pp. viii+555. (Berlin: Julius Springer, 1933.) 32 gold marks.

THIS textbook covers practically the whole range of astronomy. The object of the authors is to provide a sufficient technical and mathematical introduction to the various departments of astronomical work as will enable the reader to take an intelligent interest in the present rapid developments. The book is partly descriptive and partly mathematical. Clearly, in a book of this size, the mathematical sections can but touch the fringe of the subjects treated; for example, the sections on celestial mechanics form but a bare and very specialised introduction. Altogether, the authors have been very successful in their aim.