

seem to us to be exaggerated, and the present moment is a particularly unfortunate one for such a departure.) With this broad historical treatment is happily combined an essentially modern outlook when dealing with the details of the subject. The new lines of advance opened up by the development of physical chemistry receive their full meed of recognition, and short chapters are devoted to explaining the principles on which these methods of investigation are based. Some of these chapters are less satisfactory than others. That on voltaic cells, for example, comprising eleven pages, deals with a great range of topics in what is necessarily a compressed and scrappy fashion, and will not convey much to a reader new to the subject.

The descriptive portions of the book have been critically compiled, though we think that more scepticism might have been displayed in assigning definite formulæ to such classes of compounds as basic salts, hydrated oxides, etc. Much recent work is included, and the same applies to the sections dealing with technical processes, where it is pleasant to find an up-to-date treatment of such subjects as sulphuric acid concentration and the Deacon process, and a mention of electrostatic precipitation, flotation processes, and electromagnetic separation. The relative importance of a process is not, however, always reflected by the amount of space it occupies in the text. Blast-furnace copper smelting is less adequately treated than the Welsh process, and electrolytic alkali processes are represented by one obsolete and one obsolescent cell.

Mistakes appear to be very few. Attention may, however, be directed to the fact that in practice calcium cyanamide is not produced in an arc furnace (p. 544); also that Alfred, not Alphonse, Werner was the author of the co-ordination theory of valency (p. 1011).

The only criticism of the book, as a whole, that we are inclined to make is that the author has perhaps been too loath to omit details of minor importance, or, as already indicated, subjects the adequate treatment of which would demand considerably larger space. The volume is large in size, and the price correspondingly high. It contains more material than is required for the average Pass degree, but not enough for the average Honours degree; and these circumstances may adversely affect the use made of it by university students, for whom it is professedly designed. But the book is so good that one must hope that this will not be the case.

It remains to congratulate the publishers on their share of the work.

A. J. A.

### Our Bookshelf.

*The Subject Index to Periodicals. 1917-19. B-E. Historical, Political, and Economic Sciences.* 496 cols. (pp. 248). (London: The Library Association, 1921.) 1l. 1s. net.

THIS section of the "Subject Index to Periodicals," indexing papers on historical, political, and economic sciences, contains above 12,000 entries taken from more than 400 English and foreign periodicals published during the years 1917-19. Though it is not a catalogue of science, the economic problems affecting the development of industrial science are indexed. Folk-lore is no longer included in this list, but has been transferred to List A: Theology and Philosophy. Headings relating to Prehistoric Man and to local Topography are to be included in List G: Fine Art and Archæology. Among the subjects indexed in the present list are "Commercial Aeronautics," "Agriculture," "Chemicals: Manufacture and Industry," "Coal Trade," "Industrial Efficiency," "Electric Industries," "Ethnology," "European War," "Factories," "Fisheries," "Forestry," "Food Supply," "Iron Industry," "Labour," "League of Nations," "Military Art and Science," "Railways," and "Sociology."

Those who are interested in problems connected with the changed economic conditions brought about by the war will find in this list the titles of most of the papers that have been published on these subjects during the three years indexed. The catalogue will also have an historical interest as showing what we were all thinking about during the second half of the war period.

*Year-Book of the Scientific and Learned Societies of Great Britain and Ireland. Thirty-seventh Annual Issue.* Pp. vi+354. (London: Charles Griffin and Co., Ltd., 1920.) 15s.

WE welcome the thirty-seventh edition of this useful annual, which is invaluable as a guide to the many scientific societies, of local as well as of more general interest, in the United Kingdom. In it will be found a record of the work done in science, literature, and art during the academic year 1919-20, and it is gratifying to note that the small increase in price is balanced by an increase in size of nearly twenty pages, which testifies amply to the further activities of our men of science. The volume is divided into a number of sections dealing respectively with science generally; astronomy; mathematics and physics; chemistry; geography and geology; biology; economics; mechanical sciences; naval and military science; agriculture; law; literature and history; psychology; archæology; and medicine. A noteworthy feature is the inclusion of particulars from scientific institutions and departments connected with Government service. Among these are the Meteorological Office, the National Physical Laboratory, the Geological Survey, the Natural History Museum, the Ministry of Health, the Medical Research Council, the Royal Observa-