

in tie bar joints, cotter joints, and coupling boxes. The following chapters deal in succession with other engineering details, such as belt and rope pulleys, chain drives including sprocket wheels, bearings of various kinds, and details of shafting, cylinders, and pistons. Finally, structural details involving the usual angles, tees, and channels with the more elaborate columns, girders, and roof truss joints in which the sections are employed give the student a useful introduction to this side of engineering practice.

The book covers much ground in its 158 pages. It is very clearly written, and the publishers' part, in so far as concerns the type and diagrams, is quite perfect. For the purpose of familiarising the budding engineer with the elements of machines and structures the author has produced a most excellent book.

*Juvenile Delinquency.* By Henry Herbert Goddard. Pp. vi+120. (London: Kegan Paul and Co., Ltd., n.d.) 3s. 6d. net.

No student of modern life can fail to be perturbed by the number of juveniles who come before the courts yearly for offences covering a very wide range. That our present system does not deal with them adequately is obvious.

Delinquent behaviour is fundamentally unsocial behaviour, *i.e.* the child is obeying his own instincts instead of modifying them according to the demands of society. It becomes therefore necessary to ask why a child behaves unsocially. These unsocially behaved children fall into at least two groups, (*a*) those who are mentally too unintelligent to understand social behaviour; and (*b*) those known as psychopaths, who, while having normal intelligence, have not normal control.

The author suggests that these children should be cared for by some bureau organised by the State, which should undertake research work, be able to diagnose cases before the behaviour has become seriously wrong, and also to control the lives of those who will never be able to control them for themselves. He describes in this connexion the Ohio Bureau of Juvenile Research which, although only established in 1914, has yet justified itself by its work.

*Outwitting our Nerves: A Primer of Psychotherapy.* By Dr. Josephine A. Jackson and Helen M. Salisbury. Pp. viii+403. (London: Kegan Paul and Co., Ltd., n.d.) 7s. 6d. net.

THE stream of books concerned with explanations of modern psychologists in general, and of Freud in particular, for people of little or no psychological knowledge, still flows on. Many fail entirely in their avowed object, being either too condensed to be intelligible, or too popular to be scientific. The effect of a conversion to Freudian doctrines is, only too frequently, of the nature of a wholly uncritical acceptance of much that Freud would call problematical. It is therefore a relief to turn to this book, which not only gives a very fair and balanced account of the findings of psycho-analysis, but also keeps these findings in perspective, showing them in relation to the known laws of biology and psychology. The whole book is characterised by a sense of humour foreign to many writers on the subject, and by sanity of outlook. Written in

an easy and popular style it can be safely recommended to the student of, or sufferer from, "nerves," and even to the reader already cognisant with the literature of psycho-analysis it will prove helpful and interesting.

*Imperial Institute: Monographs on Mineral Resources with Special Reference to the British Empire: Silver Ores.* By Dr. H. B. Cronshaw. Pp. ix+152. (London: John Murray, 1921.) 6s. net.

THIS addition to the useful Imperial Institute Monographs gives details and statistics of the sources of silver throughout the world. In 1918 the British Empire produced nearly one-fifth of the world's supply, Canada being responsible for the larger part of this amount. The United States headed the list of producers during the war period, but has now been passed again by Mexico. About two-thirds of the world's silver comes from base metal ores, and much of the remainder is obtained from ores worked primarily for gold, so that silver is mainly a by-product of other metallurgical operations. The extraction and uses of silver are dealt with only very briefly in this monograph, and some information as to the metallurgical processes employed in the most important mining regions would have added to its value. This remark applies particularly to the account of the rich and metallurgically interesting Cobalt district of Ontario, which is responsible for the greater part of the Canadian production. These monographs provide much information in a handy form.

*A Systematic Qualitative Chemical Analysis: A Theoretical and Practical Study of Analytical Reactions of the more Common Ions of Inorganic Substances.* By Prof. G. W. Sears. Pp. vi+119. (New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1922.) 8s. 6d. net.

THE introductory part of the work under notice contains a brief account of such matters as equilibrium, ionisation, and solubility product. The section on the detection and separation of the metals is in the form of numbered experiments, and is much less clear and useful than the usual arrangement in tables. The explanations of the reactions, however, are very clearly and fully described, and would be useful in supplementing analysis tables. The section on acids relies on precipitation methods with a single sample, and all preliminary tests are omitted. This seems to be a mistake, as many acids are readily found by simple preliminary methods. There appear to be no features which would indicate any marked superiority of the book over existing treatises.

*An Introduction to the Chemistry of Radio-Active Substances.* By Dr. A. S. Russell. Pp. xi+173. (London: J. Murray, 1922.) 6s. net.

THERE is at present a real need for a small but up-to-date book on radioactivity, in which the subject is dealt with from the chemical as well as the physical side. Dr. Russell's book would seem to supply this need very satisfactorily. It is not overburdened with detail, but gives a balanced account of the subject, which will be found very useful to students. A particularly good feature is the inclusion of the chemical methods of separation and analysis, which sometimes tend to get lost in theoretical speculations.