

the more extensive application of processes of carbonisation and gasification, thus eliminating the waste resulting from burning raw coal.

Water gas by itself is too low in calorific value to be used as town's gas, accordingly it is enriched with the gas produced by cracking oil: both the theory and practice of this operation are fully described in the book. A desideratum of the gas industry is often said to be a process by which raw coal may be gasified in a single stage, thus combining the ordinary processes of carbonising to coke and the conversion of coke into water gas: the state of knowledge in this subject is set out by Mr. Griffith. A section on temperature measurement is contributed by Mr. H. C. Exell.

Elements of Heat-Power Engineering. By Prof. William N. Barnard, Prof. Frank O. Ellenwood and Clarence F. Hirshfeld. Part 2: *Steam-Generating Apparatus and Prime Movers, Fuels, Combustion and Heat Transmission.* Pp. xi + 871. 34s. net. Part 3: *Auxiliary Equipment, Plant Ensemble, Air Conditioning and Refrigeration.* Pp. ix + 781-1200. 28s. net. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1933.)

TWENTY-TWO years have passed since Prof. Barnard, of Cornell University, and Dr. Hirshfeld, of the Detroit Edison Company, brought out the first edition of their "Heat-Power Engineering". In that interval power station practice has made enormous strides; stations are far larger, units more powerful, installations more complex and thermal efficiencies much higher. With these advances there is every need for frequent revision of textbooks, and in the rewriting of this work Prof. Ellenwood, also of Cornell, has collaborated.

Part 1 of the work, it may be said, deals mainly with thermodynamics; Part 2 is devoted to steam turbines and engines, boilers, heat transmission, fuels, furnaces, combustion, superheaters, economisers and

other plant found in central stations, and Part 3 to auxiliary equipment, plant ensemble, air conditioning and refrigeration. There are plenty of sketches, graphs and problems, and though the field covered is necessarily a very wide one, an excellent index makes reference easy. It is a mine of information and should be on the bookshelves of every technical college.

The Alloys of Iron and Tungsten. By J. L. Gregg. (Alloys of Iron Research Monograph Series.) (Published for the Engineering Foundation.) Pp. xii + 511. (New York and London: McGraw-Hill Book Co., Inc., 1934.) 36s. net.

As a result of the rapid growth of metallurgical knowledge, the difficulty found by new workers in collecting the existing information on any branch of the subject is becoming increasingly great. In an endeavour to overcome this, the American Engineering Foundation is publishing a series of monographs on the alloys of iron with the more important elements. So far, two volumes, dealing with molybdenum and silicon respectively, have appeared, the latest being concerned with the ferrous alloys containing tungsten. The abstracting is excellently done, and the information is clearly and logically presented. At the end of each chapter, the author has summarised the main conclusions which have been reached, not always an easy task as there is here and there some lack of concordance between the results of different workers. For the most part, however, the individual researches are considered uncritically—an eminently desirable procedure in the production of a book of the present type—and as a result it is at once clear where there is room for further work. The service which is being rendered to metallurgy by the publication of these monographs can scarcely be overestimated. This latest addition is most heartily to be welcomed, whilst the others in course of preparation on pure iron and its alloys with carbon, nickel and copper will be eagerly awaited.

F. C. T.

Forthcoming Books of Science

Agriculture, Forestry and Horticulture

Longmans, Green and Co., Ltd.—Gardening in East Africa, edited by Dr. A. J. Jex-Blake.

Macmillan and Co., Ltd.—The Diseases and Curing of Cacao, Prof. H. R. Britton-Jones; Diseases of the Banana, Dr. C. W. Wardlaw; Genetics in Relation to Horticulture, M. B. Crane and W. J. Lawrence.

McGraw-Hill Publishing Co., Ltd.—The Theory and Practice of Silviculture, F. S. Baker; Forest Mensuration, D. Bruce and F. X. Schumacher; Economics with Applications to Agriculture, E. F. Dummeier and R. B. Hefebower.

Oxford University Press.—Silviculture of the Mixed Deciduous Forests of Nigeria, W. D. MacGregor.

Anthropology and Archæology

Philip Allan and Co., Ltd.—A West Indian Pepper Pot, Sir Reginald St.-Johnston.

George Allen and Unwin, Ltd.—Coral Gardens and their Magic, Prof. B. Malinowski.

G. Bell and Sons, Ltd.—The Progress of Archæology, S. Casson.

Jarrols, Ltd.—Thirty Years with the Philippine Head-Hunters, S. E. Kane.

Macmillan and Co., Ltd.—The Palace of Minos, vol. 4, Sir Arthur Evans.

McGraw-Hill Publishing Co., Ltd.—Race and Culture Contacts, E. B. Reuter.

Methuen and Co., Ltd.—Orpheus and Greek Religion, W. K. C. Guthrie.

Oxford University Press.—The Stone-Age Races of Kenya, Dr. L. S. B. Leakey; From Fetish to God in Ancient Egypt, Sir E. A. Wallis Budge; The Musical Instruments of the Native Races of South Africa, Percival R. Kirby; The Alaskan Natives: a Survey of their Sociological and Educational Status, Dr. H. Dewey Anderson and Dr. Walter Crosby Eells; Topographical Bibliography of Ancient Egyptian Hieroglyphic Texts,