

selected physico-chemical data, or to 'look up' an organic compound. Most chemists have learned the use of the literature in the school of necessity, so that although its appearance as an exercise may seem to them somewhat strange and curious, they will all the more readily perceive the advantage of early systematic direction. A. A. E.

*Radiomovies, Radiovision, Television.* By C. Francis Jenkins. Pp. 143. (Washington, D.C.: Jenkins Laboratories, 1929.) 2.50 dollars.

C. F. JENKINS, the author of this work and one of the pioneers of television, took up inventing as a profession about thirty years ago. He now possesses more than four hundred patents in America and other countries, and has a private laboratory in Washington for carrying out his researches. He has done an immense amount of work in developing 'radiomovies,' both by using wires (television) and by transmitting them by radio waves (radiovision).

In July last, Mr. Jenkins began broadcasting radiomovies at fixed times. He thus gave the amateurs something for which to 'angle.' A few weeks later more than a hundred amateurs had finished their receivers and could reckon with certainty on getting their regular picture stories. At first only silhouettes were broadcast, as it was essential to keep the frequency band less than ten kilocycles. The Radio Commission has now assigned to his company a band 100 kilocycles wide (4900-5000 kilocycles), and at the present time thousands of amateurs receive half-tone 'movies' on their receiving picture sets. The pictures transmitted are mainly pantomime pictures, but Mr. Jenkins expects that his new machine, which is practically finished, will revolutionise the art and make it possible to transmit pictures of theatrical performances, outdoor games, inaugural ceremonies, and even grand opera with full vocal accompaniment.

This book describes how to make and work a receiving set. It concludes with descriptions of other of Mr. Jenkins's inventions, including a landing altimeter which enables an airman to glide his machine to a landing in a fog, a novel method of predicting hurricanes by means of the snapping noises they produce in a radio receiver, and a method of guiding an aeroplane on its course in a fog. He is the inventor of the motion picture projector, the principle of which is in use all over the world. The Franklin Institute awarded him a gold medal for this invention in 1895.

*The Journal of the Institute of Metals.* Vol. 40. Edited by G. Shaw Scott. Pp. xii + 877 + 37 plates. (London: The Institute of Metals, 1928.) 31s. 6d. net.

REPORTS on the corrosion of condenser tubes and on the properties of alloys for die-casting occupy a prominent position in the new volume. The work on corrosion has had a definite result in showing that cupro-nickel and a special aluminium brass have a high resistance to attack by streams of air bubbles carried off by the water, perhaps the most frequent cause of damage. The researches of

this committee have proved particularly valuable to the tube industry.

Die-casting has made great progress in recent years, although even now it is far less used in Great Britain than in America, and the present papers contain valuable information as to the metals best suited to this class of work. W. Hume-Rothery describes the methods most suitable for the preparation and study of alloys containing highly reactive metals, such as sodium and calcium, and F. Hargreaves continues his investigations of alloys which are softened by cold working instead of being hardened. An example of the detailed study of a complex alloy system is that of the alloys of aluminium with copper, silicon, and iron by A. G. C. Gwyer, H. W. L. Philips, and L. Mann, illustrated by very good photomicrographs and by numerous diagrams. Under ordinary conditions of cooling, these alloys depart considerably from equilibrium, so that they are used in a metastable condition. An unexpected result is recorded by D. R. Tullis, who has freed aluminium alloys from the gases causing unsoundness by passing a stream of chlorine through the molten metal, this process, unpromising at first sight, having proved to be technically successful.

The volume contains many other papers and the usual abstracts.

*Travels and Settlements of Early Man: a Study of the Origins of Human Progress.* By T. S. Foster. Pp. 320. (London: Ernest Benn, Ltd., 1929.) 21s. net.

MR. FOSTER has worked over the data of palæontology and prehistoric archaeology in their bearing upon the distribution of man with considerable ingenuity, and still greater enthusiasm, which have involved him in frequent departures from the orthodox view. He is both stimulating and provocative. He is an ardent supporter of what he calls the Anatolian strain, that is, a race originating in the Anatolian plateau of what is more usually called the Armenoid type, as a factor in the development of civilisation. He has allowed full play to his theory when working out racial strains in the culture of the Pacific. Although it cannot be said that this is entirely assumption, the evidence is a very slender support for so elaborate a superstructure. His view of the origin and growth of American culture depends upon the acceptance of the Calaveras and New Jersey skulls—which are more than doubtful—and the Central and South American early civilisations seem to be left hanging in the air.

*New Worlds for Old: the Realm of Modern Physics.*

By Robert G. Lunnun. Pp. v + 106. (London: Methuen and Co., Ltd., 1928.) 2s. 6d. net.

THIS little book is intended for those of the general public who are not acquainted with the modern developments of physics. It is a perfectly accurate, though necessarily incomplete, account of the discoveries of the last twenty-five years. The writing is most suitable for a book of its kind, and the average reader is not likely to arrive at false conclusions, as is so often the case, through the fact that the terminology is beyond him.