

Television for the Amateur Constructor. By H. J. Barton Chapple. Second edition. Pp. xxiii+266+54 plates. (London: Sir Isaac Pitman and Sons, Ltd., 1934.) 12s. 6d. net.

THE notable part played by amateurs in the early days of long-distance radio communication is mentioned in every history of the subject. In the hope that they will give similar help in the development of television, the author has written this book for amateurs. The transmission of vision by radio is now an accomplished fact. When developed further, it will provide the 'something new' which will prove a welcome tonic to several of the entertainment industries.

Although the developments that have taken place in the art during the last eight years have been marvellous, it has to be remembered that the ear will tolerate a good deal more than the eye. Although early loud-speakers gave travesties of music and speech, they were listened to by many with enjoyment. But as J. L. Baird says in his foreword, no amount of 'looking-in' at a television image will make a twisted line appear straight. The book can be recommended to those who want to make a start in experimenting on television.

Electrical Communication. By Prof. A. L. Albert. Pp. ix+448. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1934.) 31s. net.

THIS treatise gives a fairly complete account of electrical communication over long distances. We think that perhaps a little more space might have been devoted to explaining the elements of radio communication, but the subject is now so extensive that it is difficult to discuss all branches of it in one book.

After giving the history of the development of electrical communication, and chapters on sound, speech and hearing and the theoretical basis of telephony, a description is given of transmitters, receivers and loud-speakers. Telephone transmission theory is essentially mathematical, but much of what has been given will be intelligible to the ordinary engineer. The author recognises that most engineers in the communication industry are engaged in work which is not technical. Only a few are working at problems like filter design and improving transmission systems. He points out that submarine telephone cables are subject to interference by electrical and magnetic storms like the aurora borealis. At certain times these natural disturbances may render submarine telephone cables inoperative.

A Guide to Electricity: for Home and School. By Dr. Charles F. Smith. Pp. ix+73. (London: Oxford University Press, 1934.) 2s. 6d. net.

THIS book is an attempt to explain in simple terms the main principles underlying the supply and utilisation of electrical energy, so far as these are of practical importance in the ordinary household. We

think the author has been very successful. The definitions given are scientifically accurate, and the explanations given are novel and lucid. We liked the chapter on "Home Practical Work". It is shown how anyone, although he has no previous experience or mechanical aptitude, can carry out interesting and instructive experiments on an ordinary table without any equipment beyond a few electrical fittings, which can be purchased very cheaply, and the use of the domestic electric supply.

The Thermodynamics of Electrical Phenomena in Metals. By P. W. Bridgman. Pp. vii+200. (New York: The Macmillan Co., 1934.) 16s. net.

DOES any need exist to do more than tell the reader that Prof. Bridgman discusses, in this compact volume, thermo-electric phenomena, the thermodynamic analysis of the Volta effect, thermionic phenomena, the effect of surface charge on vapour pressure and electron emission, thermo-electric phenomena in crystals, transverse phenomena, and connexions with the electron theory of metals and photo-electric phenomena? Whatever he discusses, new or old, recondite or obvious, Prof. Bridgman can be trusted to invest with an added interest, for the matter under review has passed through the crucible of a vigorous and inquiring mind.

The volume may be heartily commended.

A. F.

Technology

The Manufacture of Gas. Edited by H. Hollings. In three volumes. Vol. 1: *Water Gas.* By Dr. R. H. Griffith. With a Section on Temperature Measurement, by H. C. Exell. Pp. xv+260. (London: Ernest Benn, Ltd., 1934.) 36s. net.

ONE of the welcome signs of the industrial revival in England is the increasing number of first-class technical books "made in England" replacing the former translations. This manual on water gas is an example of this trend: the author has practical knowledge of his subject and he has been permitted to use freely the information available at the works of the Gas Light and Coke Company, where there are several plants containing the latest modifications of design. Water gas to-day is required on the largest scale at a very low cost, so that there has been considerable urge to perfect the processes of its manufacture. Its use in the gas industry has been supplemented by other uses and may shortly be exceeded, as it is the cheapest raw material for making pure hydrogen for the synthesis of methanol and other chemicals and for the hydrogenation of coal.

The book is the first section of a new textbook on gas manufacture, and attention is consequently devoted also to oil cracking and the subject of the complete gasification of coal. The gas industry is known to be steadily developing technically under close scientific supervision and without any spectacular expenditure of capital, and the way is clear for