

## REVIEWS

**The Technique of Radio Design.** By E. E. Zepler. (Chapman and Hall, London), 1943. Pp. xii + 311. 21sh. net.

Receiver design has now developed into a highly skilled art. Most of the circuits and their peculiarities are patented. In some cases, the design peculiarities are kept so secret that only an expert service engineer can get an idea of such peculiarities after carefully handling the receivers. Consequently, the literature on the subject is scanty and is made available only in the technical pamphlets issued by the manufacturers. The book under review is an attempt to give a very elementary introduction to the subject. It abounds in numerical examples, a feature that is most welcome in books on design.

The book is divided into fifteen chapters dealing with a.c. theory, the different stages of a modern receiver and such peculiarities as selectivity, noise, screening, hum, feed-back, distortion, parasitic resonances, and power supply. There is a chapter on routine measurements and one on fault-finding. The treatment in every chapter is very clear and lucid. The subject-matter of each chapter is most logically and systematically presented. The experience of the author as a research engineer has enabled him to mention a few interesting points in every chapter and this is perhaps the one reason for the reviewer to commend the book. The printing and get-up of the book are excellent.

None of the topics treated in the book comes up for an exhaustive or complete treatment. Many of the chapters are rather defective from the point of view of a design engineer. The materials in chapters on routine measurements and fault-finding will be considered out of date for a book written in 1943. The approach to the whole problem seems to be solely based on the author's experience. This method of handling the problem may be unacceptable. The reviewer may perhaps suggest two alternative methods more universally recognised: (a) designing from the point of view of catering to a price market and (b) designing from the point of view of high fidelity reception, good selectivity and sensitivity, and easy and systematic servicing. The author has made no attempt to establish distinct criteria for either point of view and follow them up.

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**Chromatographic Adsorption Analysis.** By Harold H. Strain. (Interscience Publishers, Inc., New York, N.Y.), 1942. Pp. x + 227. 37 Illustrations. Price \$3.75.

It was in 1906, that Tswett devised a simple and ingenious method of adsorption analysis which was destined to play an important role in the advancement of many and varied a branch of science. To quote the picturesque language of Tswett, "Like the light radiations in the spectrum, so is a mixture of pigments systematically separated on the calcium carbo-

nate column into its constituents, which can then be qualitatively and quantitatively determined". The method has since been extended to mixtures of constituents which are colourless.

In cases where the orthodox methods of separation, isolation and purification have failed, chromatographic methods have proved successful. The ease, elegance and simplicity of the method and the inexpensiveness of the equipment for carrying out the technique, are factors which have favoured its extensive employment in various branches of science.

The possibilities of the technique and its application have by no means been fully explored; its applications to industry are still in a stage of infancy. There are still a good number of potentially valuable adsorbents whose adsorbabilities and specificities have yet to be determined, while the fundamental aspects of the method need elucidation.

The volume under review is a valuable contribution to the subject, written by one who has added to the field by his own researches. In a series of nine chapters, the author has covered the entire field; the last chapter is devoted to a discussion of the industrial applications of the method so far known. Practical details of the technique, the choice of adsorbents, solvents and eluants, methods of locating colourless constituents in adsorbed columns, are all discussed in sufficient detail. The volume is a treatise which will not only introduce the investigator to this fruitful technique but also inspire him to achieve greater advances in the practice and application of this method of analysis.

**The Indian Sugar Industry. 1942 Annual.** Editor: M. P. Gandhi. (Gandhi & Co., Publishers, Fort, Bombay), 1943. Pp. lxvi + 133. Price 5-14-0.

The sugar industry in India is now firmly established as a major industry and is the second largest national industry—second only to the cotton textiles. The protection afforded has been fully utilised to expand it from a moderate size in 1932, when India was a sugar importing country depending upon Java and other places for its requirement of sugar to the extent of ten lakhs tons, to its present status when it can consider exports after meeting her internal demands. But no attempt was made to stabilise the industry and organise it on sound and scientific lines. By-product industries have not been developed. There has been a lack of foresight in not promoting the production of alcohol from molasses. War or peace, to India especially, power alcohol has great potentialities. She has yet to start her automobile industry and she could as well design and manufacture engines for burning alcohol. If the quantity of molasses is insufficient other sources of power alcohol can be developed. Plants for manufacturing rectified spirits and power alcohol need not be imported.