

Book Reviews

Acoustic Measurements, by Leo L. Beranek

Published (1949) by John Wiley & Sons, 440 Fourth Ave., New York 16. 896 pp. + 17 pp. index + VII pp. 519 illus. $6 \times 8\frac{3}{4}$ in. Price, \$7.00.

This much needed book is a comprehensive collection of techniques and of tables of constants which the acoustic engineer requires for measurements and calculations. Of interest is a brief history of acoustic measuring instruments; and of reference value is a glossary of terminology. Dr. Beranek presents the solutions of the sound wave equations in various forms, with complete data on the velocity and attenuation in a great variety of media including effects of wind, jungle growth, etc.; and he also gives the experimental and calculated diffraction effects due to variously shaped bodies placed in the path of a plane.

Then follows an excellent treatise on techniques of calibrating microphones as standards for measuring sound pressures with particular emphasis on the reciprocity method. The methods generally used for measuring frequency are clearly presented with some good photographs of commercial instruments available.

The chapter on the principles of calibrating pure tone audiometers is timely because of current efforts to develop specifications for a standard audiometer. The author discusses various types of meters for measuring quantities related to sound intensity such as peak meters, V. U. meters, level recorders, RMS meters, and also meters for analyzing transient and steady sounds into various sorts of components. The basic tests for the efficiency of communication systems to transmit speech are itemized and described, such as methods of measuring frequency and nonlinear response characteristics, repetition counts, syllable, word, and sentence articulation tests, and threshold measurements of received speech.

Methods are given in detail for testing the three basic elements of a communication system: the microphone, the line (including amplifier), and the headphone or loudspeaker. In each case the author has outlined the method of testing the frequency response, the power efficiency, the impedance, the nonlinear distortion, and overload capacity. With the discussion on loudspeakers there is a useful set of curves for determining power rating to give satisfactory loudness of speech or music in rooms of any size and treatment. There is one chapter on real voice testing methods of determining response characteristics of microphones and earphones. It is shown how these principles can be applied in a convenient form for testing the important characteristics of hearing aids. Methods of making articulation tests are outlined together with lists of syllables, of words, and of sentences, including the P. B. and Spondee tests.

The last three chapters are devoted to measurements of the acoustic properties of rooms, including the various methods of measuring the absorption properties of materials for treatment of such rooms. References throughout the book are numerous and should permit a student to pursue very satisfactorily any special phase. Many engineers will be grateful to Dr. Beranek for bringing together in such a convenient form so much technical information bearing on acoustic measurements.

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Painting with Light, by John Alton

Published (1949) by Macmillan, 60 Fifth Ave., New York 11. 191 pp. + XIV pp. 292 figs. • $7\frac{3}{4} \times 10\frac{1}{4}$ in. Price, \$6.00.

It has been said that the mechanical techniques of an art should be learned, then forgotten. More properly stated, they should become an unconscious part of the work of an artist. The author of *Painting with Light* frankly describes the techniques and devices he uses to obtain his effects. He does not assume that a novice may become a Director of Photography by reading his book and studying the copious layouts and illustrations, but he does describe his work with a straightforwardness that is refreshing as well as instructive.

While the book may seem to be an oversimplification of a very complicated art form to his brother workers in motion picture photography, it will serve as a means of conveying some of the problems of the cinematographer to many other departments of the industry, as well as to the associated organizations which design and manufacture equipment and materials for the industry.

The motion picture industry has a language of its own for describing the various workers and accoutrements used in motion picture set lighting and the book acts as an interpreter for the uninitiated.

The various types of lamps and lighting control equipment are described and illustrated. Lamp placement and manipulation are explained and illustrated with layouts as well as with photographs of the end results.

Chapters cover both indoor and outdoor photography, the close-up, long-shot, process work, and miniatures. For the most part, the author does not deviate from his subject and, while some of his techniques such as the "testlight" are not universal, he has spared neither time nor expense to cover the subject as completely as possible in so far as black and white photography is concerned, from his own viewpoint and within the covers of one book.

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Feininger on Photography, by Andreas Feininger

Published (1949) by Ziff-Davis, 350 Fifth Ave., New York 1. 409 pp., 360 illus. (approx.), 50 charts (approx.). $8\frac{1}{2} \times 11$ in. Price, \$15.00.

It is rare that a reviewer for a technical journal can go all out in praise of a basic book on photography with no fear that he is exposing himself to criticism. But this book is one that even the astute technician will consider well done for the purpose intended.

Mr. Feininger has put down for the amateur and professional still photographer what his 20 years of experience have shown to be essential to good picture making. Although he de-emphasizes matters of a strictly technical nature, he advocates systematic working methods based on fact and not folly. In reading the text one cannot help but be impressed by the unusually clear and, for the most part, accurate, insight into technical matters that the author has gained from his experience. It even appears that he may have studied the better technical literature to a greater extent than he recommends.

The book covers the subject thoroughly in 16 chapters. Little time is wasted anywhere in getting to the point, for the author is no believer in secrets or mystery in the photographic process; but he does stress that technical knowledge alone will never make a good photographer. This requires an "eye" for pictures which you either do or do not have. This attitude explains why Part I on technique consists of but seven chapters, whereas Part II on the art of making a photograph contains nine chapters.

Little would be gained by giving the usual list of chapter headings. The real value in the book will be found only in reading it page by page. It is highly recommended, especially to the motion picture engineer who seldom takes pictures, but who now and then gets the yen to "show up those guys at *Life*." Here's your chance, for Feininger, one of *Life's* most famous and able photographers, has left very little unsaid.

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The Complete Projectionist, by R. Howard Cricks

Published (1949) by Odhams Press, 6 Catherine St., London, W.C. 2. 335 pp. + 38 pp., including 14-page index. 209 illus. + tipped-in folded insert. 5 × 7½ in. Price, 10/- post free.

This work, obviously intended as a handbook for British projectionists, covers projection from every angle. By virtue of the fact that the author does cover the entire scope of the craft in 335 pp., comprehensive description of any single phase of projection is necessarily lacking. The numerous tables, charts, and illustrations are extremely well presented and will prove valuable to any projectionist or projection engineer.

Mr. Cricks' inclusion of television and several experimental developments will prove interesting to the craft as a whole. His chapters on projection practices in other than theater locations (process projection, 16-mm projection, etc.) are more descriptive of the job than of the technical operation of the equipment.

Despite the fact that data on equipment, rules, and regulations are necessarily limited to the British, the work will prove an informative addition to the library of any member of the craft.

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