

BOOK REVIEWS

Elements of Optics. JOSEPH VALASEK, PH.D. *McGraw-Hill Book Company, Inc.*, New York, N. Y., 1928, XIII + 215 pp., \$2.00. The author, associate professor of physics at the University of Minnesota, states in the preface that this book was "written to fill the need for a modern text-book of optics for a beginning course of college grade extending over three months." Within the short space of 191 pages of text, he has compressed a certain amount of information on an astonishing number of topics covering the entire realm of optics. There are fourteen chapters with chapter-headings as follows: (1) Light and Its Propagation; (2) Photometry; (3) Velocity of Light; (4) The Wave Theory of Light; (5) Reflection; (6) Refraction; (7) Lenses; (8) Optical Instruments; (9) Color; (10) Interference; (11) Diffraction; (12) Double Refraction and Polarization; (13) Radiation; and (14) The Theory of Relativity. The chapter on lenses contains 16 pages and the chapter on optical instruments 14 pages; it is obvious that this amount of space cannot permit a discussion of these subjects in sufficient detail to meet the needs of anyone who requires more than the most elementary principles. As the basis of a preliminary course in optics, designed to give a student in physics the basic principles of the subject and some comprehension of the range of the subject-matter content of the science, the book is admirable. As a reference book for the projectionist or cinematographer, it would generally be disappointing because of the meagerness of the information presented on the majority of subjects in which he would most likely be interested. It can be recommended, however, as a supplement to other books dealing more adequately with geometrical optics, lenses, and optical instruments as a source of very well presented and easily comprehended information on such subjects as the nature of light, interference, diffraction, *etc.*, concerning which the average projectionist or cinematographer may feel some interest but not enough to justify him in an attempt to read the more elaborate treatises dealing with these subjects.

W. B. RAYTON

Basic Photography. Training Manual No. 2170-5, U. S. Army Air Corps. *Government Printing Office*, Washington, D. C. This text-book on standard photographic practice, issued primarily for the training of officers and enlisted men, contains much valuable information of interest to the still photographer and technician. The subject matter includes a description of cameras and equipment, negative exposure and development, printing, enlarging, and the making of lantern slides. The use of filters is treated in connection with various types of reproduction problems. An adequate index adds to the usefulness of the volume.

G. E. MATTHEWS

Panchromatic Photography. F. H. WILDING. *Photo-Miniature No. 203*, 17, December, 1930, pp. 551-604, *Tennant & Ward*, New York, N. Y. In view of the increased use being made of panchromatic materials, this handbook should find a useful place in the library of most cameramen and commercial photographers. It presents in clear, concise language the fundamental principles under-

lying the use of panchromatic films or plates and the application of color filters. The characteristics of various illuminants such as incandescent tungsten, carbon arc, sun arc, flame arc, mercury vapor, and neon are dealt with briefly, although the author's practical knowledge concerning the application of the last two materials appears somewhat meager. A comprehensive section of the booklet discusses the composition and use of color filters, which are classified under their applications as taking, viewing, and safelight filters. The use of desensitizers is treated, and mention is made of a plate backed with a desensitizing material which dissolves in the developer and acts on the plate during the early stage of development. Consideration is given in a closing section to the use of panchromatic materials in several fields, landscape, portraiture, telephotography, aerial photography, etc. The manuscript was prepared, unfortunately, before the introduction of certain high-speed panchromatic materials, a discussion of the properties and uses of which would have made a valuable addition.

G. E. MATTHEWS

The Talkies. JOHN SCOTLAND. *Crosby Lockwood and Son*, London (The Industrial Book Co., Inc., New York), 1931, 194 pp. A popular and elementary account of the history and present technic of sound motion pictures, written primarily from a British view point. The author briefly traces the development of the art, beginning with the early experiments of Edison in 1888, and credits Eugene Lauste with "the first development of talkies as we know them today" in England twenty-three years ago. References to the early British talking picture productions by Cecil M. Hepworth are given. The remainder of the book is devoted to a description of the photographic and sound recording apparatus used in making sound pictures, with considerable emphasis on British equipment, and to a general review of the apparatus and problems of sound reproduction in theaters. The author next deals with color pictures, and closes with a chapter giving the reactions of various American stars to talkies as opposed to silent pictures. The book is of elementary character, suitable for reading by laymen who have an amateur interest in the technic of the art. It is entertainingly written, but its comparative lack of reference to American practice would render it of greater interest to the British rather than the American reader.

J. WEINBERGER

The Talkies. ARTHUR EDWIN KROWS. *Henry Holt & Co.*, New York, N. Y., 1930, \$2.00. Mr. Krows has attempted in this volume to present a summary of the history, mechanical technic, status as an art, and probable future of the motion picture, embracing both the silent and sound phases of the medium. The exposition of the artistic considerations is most praiseworthy, involving as it does the duties of the scenarist, director, film editor, and the difficulties commonly encountered by each. The evolution of the existing scheme of production is clearly shown, together with an appreciation of the economic factors which beset all departments of the film industry in attempting to elevate the motion picture to higher artistic levels. The history of picture and sound, preceding their union into the sound picture, is told in great detail, perhaps too much detail for the lay reader. That section which describes recording and photographic technic is not too satisfactory from the standpoint of the engineer. There are a number of glaring inaccuracies which could have been eliminated by submission to technical men for proof-reading. Though written for the layman, there is

no justification for creating misconceptions in the mind of the uninitiated. The excellence of this work in considering the dramatic factors is marred by the deficiencies in the technical section

J. L. CASS

Photography—Theory and Practice. L. P. CLERC. Edited by George E. Brown. *Pitman & Sons, Ltd.*, London, 1930, 556 pp. This voluminous text, which is an English edition of *La Technique, Photographique*, published as two volumes in 1926, represents a compilation of material giving the fundamental facts of photography. Yet no attempt has been made to make the work encyclopedic, or to load it down with references; rather it has been the purpose “. . . to bring into one volume as complete a treatise as possible on modern working methods and apparatus . . .” For more than thirty years, the author’s professional duties have necessitated his reading a good share of the literature published on photography as well as to conduct experiments in many fields of photographic work. He is thus particularly well equipped for the task which he so admirably has completed. The volume has been written to emphasize the practical aspect of photography and therefore should prove a valuable addition to the library of every serious photographic worker. The first fifteen chapters deal with light, perspective, optical systems, diaphragms, shutters, lenses, types of cameras, and the negative. Subject matter taken up in the following ten chapters is related to the properties of negative materials, darkroom design and equipment, chemicals, lighting, and focusing. Then, in ten succeeding chapters, the author discusses exposure, development, fixing, washing, drying, negative failures, reversal processes, after-treatment, classification, and storage. Concluding the treatment of negative materials, the next five chapters are devoted to printing. The last 175 pages are reserved for a consideration of special subjects including, among others, pigment processes, trimming and mounting prints, copying, enlarging, lantern slide making, color photography, an outline of cinematography, photo-mechanical processes, and radiography. An excellent chapter is included on the theory and practice of stereoscopy. G. E. MATTHEWS