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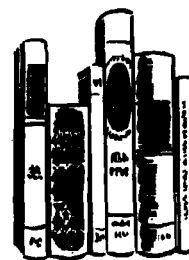
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## books reviewed

### Dictionary of Photography and Motion-Picture Engineering Vol. I: English-German-French

By Wolfgang Grau. Published (1958) by Verlag für Radio-Foto-Kinotechnik G.M.-B.H., Berlin-Borsigwalde, Eichborndamm 141-167, Germany. 644 pp. 6 by 8½ in. Price DM 37.50.

Because of the special problems of technical translation, and the rapid changes in technical arts as compared with general language, a new specialized technical dictionary is always welcome. In the motion-picture field, a glossary of some 250 entries in five languages was presented by C. C. Santini in this *Journal* in February and October of 1956. The *Annuario del Cinema Italiano*, 1954-55, contained a glossary of over 2000 words in four languages.

The present dictionary contains 16,000 entries in English, German and French. It is the first of three volumes, and has the terms arranged in alphabetical order in English. In the two volumes to come the alphabetical order will be respectively in German and French.

The author tells in a preface that this book is the outgrowth of a set of personal notes which he has kept nine years on terms in everyday work in photography and motion pictures. This has been augmented by friends and fellow-engineers and also enlarged to include terms on related topics. He does not claim completeness, but expects the book to be useful to readers of foreign technical literature, to photographic and motion-picture technicians and engineers, students, amateurs and dealers.

Americanisms are indicated as such in the English listing. These are surprisingly rare, considering the American weakness for jargon. Some examples are "sound recorders," "second cameraman" (which seem relatively colorless), and "tweeter" (which sounds more characteristic).

Of course in a work of this kind no one ever fully agrees with an author either on the choice of terms to be listed, or on their exact equivalents in the various languages. To this reviewer it seems that it might have been more profitable to extend more significantly into the auxiliary fields, say of visual optics, photometry and television, and less into such things as "tax," "hydrant," "music, Turkish," "paper cylinder" and "woman's voice."

On the matter of equivalence, confusion may be suspected in the translation of both "focal length" and "focus, depth of" by "Brennweite" and "distance focale." An understandable translation is given to the cross-listing "depth of focus" as "Tiefen-

schärfe" and "profondeur de netteté". Some confusion also appears in translating "H-type network (balanced)" as "circuit correcteur non balancé," and "T-type network (unbalanced)" as "circuit correcteur balancé." One wonders also if "to dub" can be rendered as both "doubeln" (and "doubler"), and "kopien" (and "contre-typer"). "Dupe-film" appears understandably as "Dup-Film" and "film pour contre-typage." Again, "efficiency, filament" is rendered "consommation d'une lampe électrique," where, if anything, the quantities are related inversely. These are a few examples of a number of puzzling translations.

In spite of these occasional idiosyncrasies, which really bulk very small in the total volume, the dictionary should be of great value to one who has much foreign technical reading (or perhaps writing) to do in these languages.—*Pierre Mertz*, Consultant, 66 Leamington St., Lido, Long Beach, L.I., N.Y.

### An Introduction to the Theory of Random Signals and Noise

By Wilbur B. Davenport, Jr., and William L. Root. Published (1958) by McGraw-Hill Book Co., 330 W. 42 St., New York 36. 393 pp. (including bibliography and index). Illus. 6 by 9 in. Price \$10.00.

The term "noise" was early introduced by telephone engineers to designate electrical interference turned into acoustic noise heard by the listener. It was then extended to mean erratic electrical interference into other communications systems, with interpretation by varied receivers. One such is a television image, seen by the viewer. More recently the work of Higgins, Schade, Blanc-La Pierre and others has indicated the same concepts to be utilizable in the evaluation of the optical images themselves, with or without electrical signals. A basic knowledge of the statistical techniques for evaluating noise and for distinguishing signal or pictorial information from it is therefore becoming of very wide application. To be fair with the present book, however, it deals specifically only with electrical signals, and extension to these further areas would really be the task of the reader.

The particular objective of the book is reached in its long last chapter, "Statistical Detection of Signals." This covers modern techniques and principles for the evaluation of significant information from a signal which is impaired by a variety of erratic corrupting influences, principally by additive random noise.

The three chapters which precede deal with the methods and design of physical aids which can be employed in separating the useful signal from the noise, namely linear filters (of Wiener and others) and nonlinear devices of various kinds.

All of the ten chapters before this point cover mathematical (and some electronic) background to prepare the reader for the tasks of the final four. The subjects include probability, random variables, probability distributions, averages, sampling, spectral analysis, shot noise, the Gaussian process, linear-system analysis, and the noise figure.

Two appendixes cover special mathematical discussions of the impulse function and

integral equations. An extensive bibliography is presented.

The book was originally written for teaching purposes. It is, however, also useful to the engineer who must deal with noise and image granularity. Quoting from the jacket, "The chief departure in treatment is the replacing of various *ad hoc* methods of treating random signals and noise by a consistent set of methods from the theory of random processes." The authors have gone to great effort to make the subject clear and intelligible, not only by including the extensive background already noted, but by using obvious care in the arrangement and wording of the presentation. Nevertheless this is still a complex subject, and the engineer who can solve his noise problems by straightforward procedure all the way through will probably be rather rare. It is more likely, especially in fringe areas of the field, that he will use the development to establish some heuristic background from which he will work informally.

One criticism must be made — the use of the book for reference will be handicapped by an inadequate index. To give casual examples, about a page and a half of descriptive text on the Jacobian function does not appear in the index. Parseval's theorem is enounced, and the Rayleigh probability density function is derived, but neither of these names appears in the index.

To conclude, the material discussed in the book is becoming of increasing importance in the treatment of noise and image granularity, and the background presenta-

tion given on it is becoming more and more essential to the well-rounded engineer.—*Pierre Mertz*, Consultant, 66 Leamington St., Lido, Long Beach, L.I., N.Y.

### The Transistor, 1948-1958

The June 1958 Bell Laboratories Record, a special issue. Published by Bell Telephone Laboratories Inc., 463 West St., New York 14. 48 pp. Price 35 cents.

Commemorating the tenth anniversary of the invention of the transistor, this special issue has ten articles which cover such highlights as: (1) Dr. M. J. Kelly, President of Bell Telephone Laboratories, states why the transistor is causing major changes in communications research and development, p. 190 (Issue's pages are 189-236). (2) Earth satellite transistors, developed at Bell Laboratories, are in both *Vanguard* and *Explorer*, p. 204. (3) Transistors now a 69-million dollar industry; dollar volume expected to exceed vacuum tubes by 1965, p. 205. (4) Electronic switching, now under study, may use large numbers of transistors, p. 215. (5) Automation is key to cost problem; Western Electric is solving many of the basic problems, p. 228. (6) The future? Transistorized electronic devices have wide applications in telephone plants, p. 233.

The papers and authors besides the introduction by Dr. Kelly are:

Semiconductor Research, Morgan Sparks Research in Circuits and Systems, R. L. Wallace, Jr.

Transistor Designs: The First Decade, W. J. Pietsenpol

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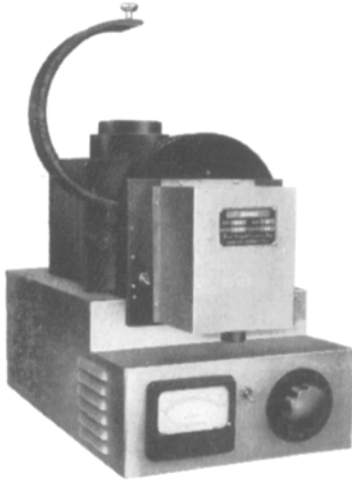
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## The Reproduction of Colour

By R. W. G. Hunt. Published (1957) by Fountain Press, London; distr. in U.S. by The Macmillan Co., 60 Fifth Ave., New York 11. 208 pp. Illus. (16 in color). 6½ by 8½-in. Price \$12.75.

To this reviewer the appearance of Dr. Hunt's book was a godsend. As a text for teaching an introductory course on photographic color reproduction it has no equal. Yet it has shortcomings which will be discussed later.

"The reproduction of colour," states Dr. Hunt, "is a fascinating subject; it involves physiology, psychology, physics, chemistry, and technology; it presents complexities which seem well nigh unfathomable; it involves a wide variety of industrial enterprises; yet its climax is an event of the utmost commonplace, looking at pictures." All the areas mentioned in this prefatory statement are touched upon by Dr. Hunt in his book, but emphasis is put on "color physics," to use a rather meaningless expression.

To give a general picture of the contents of Hunt's book, the practice of most reviewers can be followed by listing the chapter titles: Physical Colour Reproduction; Trichromatic Colour Reproduction and the Additive Principle; Additive Methods; The Subtractive Principle; Subtractive Methods in Colour Photography; Visual Appreciation; Some Problems in Colour Photography; The Colour Triangle; Colour Standards and Calculations; Colour Correction by Masking; Three and Four Colour Half-Tone Printing; The Transmission of Colour Television; Light Sources; and Assessing the Final Result.

From an instructor's standpoint the subjects included are all quite appropriate. But, considered as a basic reference work, several chapters, particularly the first three, could have been boiled down to about half the number of pages. Many existing books adequately cover the topics presented by Dr. Hunt in these sections.

This book is not the "how-to-do-it" type. It deals primarily with the *fundamentals* of color reproduction, including photographic, photochemical and television systems. In a sense, the book is a broad, technical review of the subject. But a review that requires for understanding a considerable amount of prior knowledge.

Dr. Hunt's reputation in the field of color theory, and his position in the Kodak Ltd. Research Laboratories, might lead readers to believe that everything he states is beyond question. However, this reviewer found Hunt's discussions on some aspects of color reproduction less disciplined than those which have been presented by certain of his contemporaries. Evans, Hanson and Brewer, for example, in their book on the principles of color photography, were more cautious generally, and considerably more fussy about points of detail. A few examples

will bear out this criticism, but these should not be regarded as a condemnation of the book. The book is a worthwhile contribution, and well deserving a place on one's library shelf.

Hunt's statement on p. 13 that Maxwell demonstrated "for the first time trichromatic colour reproduction" ignores the much earlier practical demonstrations of Jakob Christoffel Le Blon. Le Blon's *Coloritto*, and the commercial production of three-color reproductions produced by the method he disclosed (early 1700's), robs Maxwell of any basic claim to the discovery of trichromatic color reproduction, per se. (Possibly the fact that Le Blon — German by birth — failed financially after organizing a mechanical color print reproduction factory in Chelsea, England, has something to do with his lack of recognition by most English authors.)

Dr. Hunt's references (pp. 23, 51, etc.) to neutrals as "colorless" are inconsistent with other discussions in his book, and inaccurate. An object that one perceives as hueless is not considered colorless. If I were asked, for example, the *color* of my telephone, I should not hesitate to reply, "black." It would be absurd to say that it was "colorless" and then describe its low reflectance properties in an attempt to convey the fact that it is not white or gray.

The distinction of additive and subtractive color reproduction processes is not made clear. On p. 35 reference is made to the subtractive principle being used in the printing industry; on p. 142 it is stated that an integral tripack color material exhibiting a granular image structure is partly additive; on p. 143 it is said — although incorrectly — that gravure color printing tends to be truly subtractive, whereas letterpress and lithographic color printing represent a cross between a subtractive and a mosaic (additive) process. A student, without proper guidance, would not gain from such statements the fundamental difference between additive and subtractive color reproduction principles.

Finally, Dr. Hunt's unqualified acceptance of the retinal tri-receptor theory of color vision should not be taken for gospel. —Lloyd E. Varden, Columbia University, New York, N.Y.

## Posing Patterns

By L. E. Broome. A Focal Press Book, published (1958) by Hastings House Publishers, Inc., 151 East 50 St., New York 22. 199 pp. incl. 1226 illus. 6½ by 9¼ in. Price \$10.00.

## Animals in Motion

By Eadweard Muybridge. Published (1957) by Dover Publications, Inc., 920 Broadway, New York 10. 416 pp. incl. 340 pp. plates (with about 4000 individual photographs). 8 by 10¼ in. Price \$10.00.

The bibliographical data speak for each of these richly illustrated books. Receipt of *Posing Patterns* has reminded us that *Animals in Motion* has until now been neglected in these columns. The highly commendable publishing service of Muybridge's *The Human Figure in Motion* was noticed in the *Journal* in September 1956.

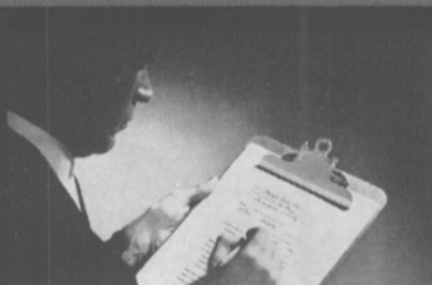
Muybridge's eleven-volume work *Animal Locomotion* was published in 1887, and from it the present volume of plates has been

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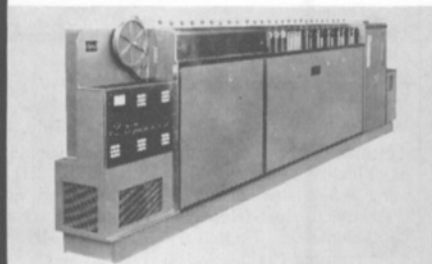
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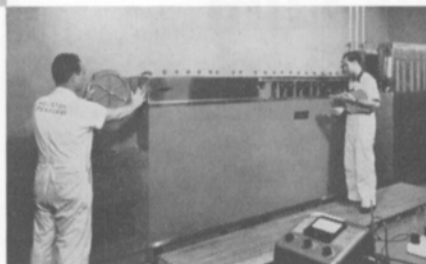
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selected to make an inspiring and instructive reference. Typical actions of 34 different animals and birds are depicted. One favorite is Plate 99: Sow Trotting — a study of mixed comic motion and dignified intent.

*Posing Patterns* is described by the publisher as a dictionary of posing and poses for creative (still) photography but over a thousand illustrations can hardly sustain the label of stereotypes, even if they are intended to be; and such a collection of illustrations cannot but repeatedly remind us of motion up to, and after, the still pose. If the motion-picture maker does not already have his own clipping collection, in mind if not in file drawers, this book may become his "swipe" file. It has diagrams and explanations as well as the many photographs.

As packages of stilled motion the Muysbridge books will continue to give animators, illustrators and other artists a hand up in their efforts to depict bodies into space in time.—V.A.

### Psychological Effects of the "Western" Film: A Study in Television Viewing

By F. E. Emery and David Martin. Published (1957) by Dept. of Audio-Visual Aids, Univ. of Melbourne, Melbourne, Australia. 47 pp. 9 by 5½ in. Paperbound. Price 2s.6d.

The first of a series of studies in mass-communication, this volume examines the effects of a Western, *The Lone Hand*, on a

child audience, "to determine the nature of the psychological changes produced and further to determine which aspects of the film caused such change." One of the aims of the study in mass-communication, of which this book represents a part, is to find an answer to the question: "Will television lead to the deterioration of cultural standards or will it become a powerful civilizing influence, awakening a sense of greater social responsibility?" This book has a comprehensive bibliography. The book is highly recommended to those interested in the various aspects of television.—R.H.

**International Screen Production Handbook**, to be published by International Screen Production, Inc., 507 Fifth Ave., New York 17 (tentative publication date, Sept. 1, 1958), is a combination directory and working manual containing information for producers, sponsors, directors and others interested in TV film production. Among other categories of information, the *Handbook* will include concrete civic and labor information on each of 24 producing centers in the United States, 4 in Canada and 1 each in Cuba, Mexico and Puerto Rico. The information will include working rules and wage scales for all production crafts and performers in each center, descriptions of location sites and names of authorities from whom photographic permits and police assistance are obtained. Classifications range from Accounting Services to Writers. John E. Allen is General Manager of the enterprise, and Editor-in-Chief is Charles W. Curran.

## current literature



The Editors present for convenient reference a list of articles dealing with subjects cognate to motion-picture engineering published in a number of selected journals. Photostatic or microfilm copies of articles in magazines that are available may be obtained from The Library of Congress, Washington, D.C., or from the New York Public Library, New York, N.Y., at prevailing rates.

- American Cinematographer** vol. 39, July, 1958  
 Expert Photography Lends Production Value to Ford Commercials (p. 428) *J. Forbes*  
 Sound Dubbing—A Specialized Recording Technique (p. 432) *B. Weatherford*  
 Animated Film Techniques (p. 434) *C. Fallberg*  
 Filming the Blast at Ripple Rock (p. 438) *R. A. Francis*  
 vol. 39, Aug. 1958  
 Animated Film Techniques. Pt. II. (p. 488) *C. Fallberg*  
 Single-System Sound for the Arriflex "16" (p. 491) *J. Forbes*  
 Movie Systems in the Future (p. 492) *A. Mosby*  
 Fastest 35mm Film Processor (p. 494) *J. Henry*  
 Streamlining Production with "Picturized" Scripts (p. 496) *A. D. Roe*  
 vol. 39, Sept. 1958  
 Anamorphic Lenses (p. 522)  
 Animated Film Techniques. Pt. III. (p. 558) *C. Fallberg*  
 Underwater Cinematography (p. 560) *E. S. Waxholt*  
 A Camera Housing for Underwater Photography (p. 566) *J. V. Mascelli*  
 Exposure Evaluation (p. 564) *D. Norwood*  
**Audio** vol. 42, July, 1958  
 Hearing, the Determining Factor for High-Fidelity Transmission. Pt. 1. (p. 24) *H. Fletcher* (Pts. 2 and 3 in Aug. and Sept., respectively) (Reprinted from Bell System Telephone Technical Monograph-B1351—Presented 1941)  
 vol. 42, Aug., 1958  
 Hearing, the Determining Factor for High-Fidelity Transmission. Pt. 2. (p. 45) *H. Fletcher*  
 vol. 42, Sept. 1958  
 Measurement of Amplifier Internal Impedance (p. 22) *W. H. Anderson*  
 Stereophonic Recording and Playback Amplifier (p. 24) *W. B. Denny*  
 Sound Reproducing Systems—Monaural, Binaural, Monophonic, and Stereophonic (p. 28) *H. F. Olson*  
 Hearing, the Determining Factor for High-Fidelity Transmission. Pt. 3. (p. 34) *H. Fletcher*  
**Bolex Reporter** vol. 8, no. 3, Fall 1958  
 Three New H-Cameras (p. 8)  
 The Whys and Wherefores of Wide Screen Movies (p. 10)  
**British Journal of Radiology** vol. 31, Sept. 1958  
 The Value of Cinematography in the Diagnosis of Malignant Strictures of the Oesophagus. (p. 465) *F. R. Berridge, D. McC. Gregg*

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