units, definitions, graphic symbols, letter symbols and applications methods.

A dual electronic timer in the form of a monolithic integrated circuit is described and illustrated in data sheets available from Signetics Corp., 811 East Arques Ave., Sunnyvale, CA 94086. The data sheets contain diagrams and explanations of the various applications of the timer, designated NE/SE 556.

books reviewed

Modern Sound Reproduction

By Harry F. Olson. Published (1972) by Van Nostrand Reinhold Co., 450 W. 33 St., New York, N. Y. 10001. 335 + xiii pp. Diagrams. 6 by 9 in. Price $18.50.

In the preface to this book the author states "that the main objective is to present a detailed technical exposition on the essential elements and systems of modern sound reproduction systems for a wide range of readers including scientists, engineers, technicians and audio laymen and enthusiasts." Insofar as covering the entire gamut of sound recording and reproducing systems, the author seems to meet his desired objective. The book covers in some detail the present fad of quadraphonic magnetic tape systems and appears to give it the author's blessing. His material on acoustically active architectural enclosures for sound reinforcement systems represents advance practices in the design of such systems.

In endeavoring to cover the whole sound reproduction field in a volume of 328 pages the author has had to eliminate much information which would have made the book a source of wider information. His elimination of the derivation of mathematical formulae limits the use as a textbook in engineering courses. The absence of practically all design data limits its value to design engineers. The most redeeming feature of the book is the excellent illustrations which will help make the text more understandable to audio laymen. However, the use of this book in conjunction with some of Dr. Olson's previous texts should prove enlightening to anybody engaged in the audio field.

In his discussion of quadraphone recording and reproducing systems he states that this system simulates direct listening in that it provides auditory perspective as well as the correct reverberation envelope. This is probably correct if two single microphones are used to provide the auditory perspective. But if, as he states later, 18 to 24 microphones may be employed to pick up individual instruments and the resulting tracks may be manipulated at will in the recording and re-recording process to produce artistic effect, it is doubtful if acoustic realism is retained in the final two-track or quadraphonic system.

Dr. Olson fails in a few places to recognize practices or techniques with which he has had little or no direct experience. Thus in Chapter 10 he makes no mention of the variable-density method of optical sound recording, which, although temporarily in eclipse, was the principal method of film recording for the first 30 years of sound pictures and which only awaits some new approach for renewed usage. It is, of course, assumed that this deletion was an oversight on Dr. Olson's part and that no personal bias in any way entered into his judgment to ignore the subject. — *John G. Frayne,* 1580 La Loma Rd., Pasadena, CA 91105.

Laufbildprojektion (in German)

By Herbert Tümmel. Published (1973) by Springer-Verlag, Moelkerbastei 5, 1010 Vienna, Austria (Springer-Verlag New York, 175 Fifth Ave., New York, NY 10010). 396 pp. Illus. Diagrams. 6½ by 9½ in. Price $71.20 (DM 158).

To come across these days not only an ordinary new book on motion-picture projection but one that is encyclopaedic in scope and tutorial in depth is more than any one in the profession could expect. *Laufbildprojektion (Motion Picture Projection)* is the sixth in the ten-volume series *Die wissenschaftliche und angewandete Photographie (Scientific and Applied Photography)* which in turn is a revival and an enlargement by Kurt Michel of Hay and von Rohr's *Handbuch des wissenschaflichen und angewandeten Photographie (Handbook of Scientific and Applied Photography)* presently carried on by Josef Stüper. The author is a renowned expert in Europe on motion-picture theater equipment and in the book he spans a century and a half of the visual aspects of motion-picture projection technology, from early in the 19th century to the present time. There is hardly a stone unturned about the visual projector. Newcomers to the field are liable to be surprised in reading the book that large screen techniques through wide film are not inventions of the fifties. Sound equipment, optical and magnetic, is mentioned only in passing.

The book has 15 chapters and starts with the human senses, concentrating on the sense of sight. Subsequent chapters, among other things, introduce the reader to photometry and explain the sense and purpose of the projector, its construction, its various methods of lubrication and the film motion through it. It covers optics, light sources, film formats and film materials and quality of projection. These aspects are explored not only for the professional projector with the most frequently used format of 35mm film but also for the 8mm home projector and through every intermediate format projector to the 70mm machine. Of special historic interest is the roundup of unusual vintage equipment such as left-handed, dual, twin and double projectors. At the other extreme the book discusses continuous loop, reverse motion, add-on, variable speed, two-film, NTSC and CCIR television

projectors. Peripherally, the newest large screen Eidophor system and video discs are also given attention. Even some far-out techniques such as smell-o-vision and subliminal flashing are accounted for.

The subject of intermittent movements is treated exhaustively and rigorously with mathematical formulas and tables. This topic takes up a rather long chapter that is profusely filled with photographs and sketches of mechanisms. The optically compensated continuous film motion equivalent is also examined and advantages and drawbacks are pointed out. The study is on the level of a treatise and only stops short of the recently introduced servo driven intermittent movement.

Film dimensions and sprocket hole shapes are also given detailed attention and historical notes are interspersed in the text. Tables showing the chronological development of the various film formats list the names of the people who invented or introduced them.

The book is a treasure of information for anyone who has a hand in motion-picture projection. Numerous standards are cited and although the majority of them are DIN,* US standards are also picked up quite frequently. Similarly, most photographs are of German equipment, especially that of the past, but some references are made to American equipment. There is a list of 640 references grouped by chapter. The majority of these are to German sources but a fair number are from the SMPTE *Journal* and a few refer to British publications. The book has a good sized index and would seem to be complete were it not for the absence of Panavision which is mentioned in the text on page 286. The book is easy to read and most of the material is treated qualitatively. (The prominent exception to this is the intermittent movement.) It is a worthwhile addition to the library of anyone with a serious interest in motion-picture projection. — *Leo Unger*, 4066 Inglewood Blvd., Los Angeles, CA 90066.

The Focal Dictionary of Photographic Technologies

By D. A. Spencer. Published (1973) by Focal Press Ltd. in Great Britain. Distributed in the United States by Amphoto, East Gate and Zeckendorf Blvd., Garden City, NY 11530. 726 + xvi pp. Illus. Diagrams. 5 by 8½ in. Price $39.95.

The Focal Dictionary of Photographic Technologies offers definitions of more than 3,500 terms (many illustrated) from virtually all the technologies relating to communication via images. Household words from a century ago appear along with concepts that did not exist before 1973. The author notes in his introduction that his prime objective was "to assist young newcomers, to any brand of photographic science and technology, to grasp the meaning of the frequently used but specialized terms in the particular field they are entering and whose significance writers in that field tend to take for granted." A second goal is "to assist cross-fertilization by helping workers in one field to acquire at least a basic understanding of the relevant terminology used in other fields of present or potential interest." Both of these goals are well-served.

Perhaps some idea of the scope of this work can be gained by considering a random sample of the terms that are concisely and clearly defined. Ranging from "A & B printing" to "zone plate" and "Zoopraxiscope," the dictionary covers about 100 terms related to color and 14 terms dealing with exposure; it also deals with Kerr cells and information theory, treats processing with a score of entries, and defines Q-switched laser, scotopic luminous efficiency and spatial frequency filtering.

The Dictionary also has a section of appendices covering: the Electromagnetic Spectrum, Symbols and Abbreviations, Photographic Effects, Nomograms; a selective list of British, American and ISO Standards; and a Bibliography with several hundred entries. The appendix of Symbols might upset a physicist who is a stickler for accuracy: "m. sec." is not the accepted abbreviation for either "millisecond" or "metre second"; however, one might be helped greatly to learn that "IBK" in the German literature stands for "International Beleuchtung Kommission" or what we call the CIE.

Although the price of nearly $40 may seem excessive for some individuals, technical libraries, laboratories and studios should certainly acquire a copy. Anyone who must consult, understand and evaluate specialized texts, papers and patents should have *The Focal Dictionary of Photographic Technologies* at hand as a reference.

Aside from being an extraordinarily useful reference work for anyone — veriest novice or seasoned expert — in any branch of the photographic sciences, technologies and applications, the book has its own delights for the general reader in the beautifully written Introduction, the apt quotations from *Alice in Wonderland* and the compact but clearly put and extremely informative definitions.

A few examples chosen at random:

Apochromat — lens which brings three chosen colours to the same focus. Apochromats used for colour reproduction processes and microscope objectives are corrected for primary red, green and blue light.

Optical Printing — the process of re-photographing one cine film or another using an optical printer in which the separation of the two films permits enlargement, reduction, displacement, motion reversal or lateral reversal of the image, frame stretch, the introduction or removal of anamorphic compression and a wide range of special effects called opticals.

Zoopraxiscope — instrument by which drawings or photographs recording phases of a movement could be projected on to a screen in rapid succession producing the illusion of 1 moving picture. A forerunner of cinematography (Edward Muggeridge (Muybridge) 1880).

There are thousands of definitions (explanations), many of them illustrated with pictures or diagrams, and there are numerous cross references.

As the author points out in the Introduction," . . . terms in all branches of technology proliferate faster than techniques . . ." It is a temptation to quote at length from the Introduction, but we shall limit ourselves to pulling one quotation from its context (a deplorable, but unfortunately, an expedient practice). "To insist that the correct spelling of English words demands retention of the vestigial remnants of their ancient origin seems . . . pointless to me . . . Spatial frequency is not frequency in spate but in space and the knowledge that 'spatial' derives from the Latin 'spatium' does not clarify communication. If you

* Deutsche Industrie Normen (German Industry Standards)

think it does, should not the Americans be exploring spate rather than space?"

The author, D. A. Spencer, is a Past President of the Royal Photographic Society and former Managing Director and Deputy Chairman in charge of Research at Kodak Ltd. — *Edit.*

Preserving the Moving Image

By Ralph N. Sargent. Published (1974) jointly by the National Endowment for the Arts and the Corporation for Public Broadcasting, 888 Sixteenth St, N.W., Washington, DC 20006. 152 pp. Illus. Diagrams. Tables. 10½ by 8½ in. Price $3.95.

A study on moving image technology and preservation began in December 1971 at a meeting of representatives of the Library of Congress, the Museum of Modern Art, George Eastman House and the American Film Institute. Objectives of the study were defined as (1) to determine the ideal archival conditions under which to store film; (2) to discover more reliable tests to predict the remaining life of the nitrate films now in storage; (3) to find out if new materials or methods now being developed in manufacturers' laboratories might have better archival qualities than present-day systems; and (4) to establish priorities for funding more research and development of promising materials. (Incidentally, it should be noted here that proceeds from the book's sales will be used to fund additional projects in film and tape preservation.)

Although it can be described as a "report" the book is directed to a much wider audience than the usual report on a project or survey. Although its tone throughout is carefully objective, it serves to make the reader fully aware of the tragic loss of historical records and films of artistic importance because of the decay of nitrate-base film (used until 1951) as well as of the possibility of spontaneous ignition which is a clear and present danger of which every film-conscious individual should be aware.

The study also encompassed videotape, the author noting that: "Attempts (at preservation) for future generations are hampered by how little we know about the archival qualities of videotape." At the conclusion of the study, the author noted (p. 149): "It now seems clear that for television originated programming, videotape cannot be relied upon as the master archival medium for permanent storage. Programs chosen to be held for long-term storage must be transferred to film. The best method for accomplishing this — for both black-and-white and color — is to make color separations by means of Electron Beam Recording because it produces a directly accessible silver image of known archival value. Equipment for this purpose is now readily available."

One of the important survey techniques used in the study consisted of interviews with individuals intimately associated with the problems of manufacturing image recording materials and those charged with preserving them. The interviews, conducted by Ralph Sargent, took place in the United States, Canada, England, Belgium, The Netherlands, East and West Germany, Italy and Japan. The interviews are reported verbatim in the form of questions and answers. Subjects of the interviews (more than 30 in all) include such highly qualified and well known authorities as Dr. Edith Weyde who, among some 100 patented inventions, developed the "W.B." process for cutting down the silver content in photographic materials; Wilton R. Holm, Director of the Motion Picture and Television Research Center of the Assn. of Motion Picture and Television Producers; Jacques Ledoux, Curator of the Cinematheque Royale de Belgique in Brussels; Peter C. Goldmark of Goldmark Communications and others equally distinguished.

The book is divided into three sections (1) Keeping Film; (2) New Approaches and (3) Videotape. Section 1 is divided into: Base, Binder Image; Treatment and Storage; Conditions in the Field; and Recommendations. Section 2 is divided into Vesicular Films and Dry Processes; New Technologies; and Recommendations. Section 3 includes Magnetic Recording Systems; Videotape Storage; and Recommendations.

In addition to interviews and discussions the book contains papers on various aspects of film preservation. A paper by Thomas T. Hill, "Photographic Gelatin and Synthetic Colloids for Emulsion Use" (reprinted from the November 1968 issue of the *Journal*) in Section 1 under Base, Binder, Image, describes the importance of gelatin as a binder. Relevant papers also appear in Sections 2 and 3.

The book is well illustrated — a delight to the eye. It is also well arranged, well written and conveys information of paramount importance. — *Edit.*

The Film Business: A History of British Cinema 1896–1970

By Ernest Betts. Published (1974) by Pitman Publishing Corp., 6 East 43 St., New York, N.Y. 10017. 349 pp. 8½ by 5½ in. Price $14.95.

Nearly fifty years ago, Ernest Betts published his first book on the movies, *Heraclitus, or the Future of Films,* in which he expressed the conviction that cinema needed only recognition to prove itself an artistic medium. "There is no future for the films," he wrote, "until somebody believes in them."

Between *Heraclitus* and his just published *The Film Business,* Betts acquired first-hand knowledge of the motion picture, beginning as film critic for numerous British publications, then, from 1947 to 1957, as production executive in various London studios. His lengthy experience in these diverse jobs has given him the authority and perceptiveness that abound in this new book.

The Film Business surveys England's film industry from 1896 to 1972, tracing its course from the purely British "threepenny cinema" to its present condition of an Anglo-American conglomerate. This theme of "piratical process of Americanization" is pursued throughout the book in a factual way, devoid of chauvinistic spirit and with strong supportive evidence.

The contribution of the author's compatriots is legitimately emphasized. He points to Friese-Greene's 1889 patent for a projector that predates Edison's 1893 patent, while acknowledging some prior Edison projection experiments. Betts's chronology of original commercial film showings assigns a first to the Lumière Brothers (Paris, Dec. 1895), fol-

lowed by R. W. Paul (London, March 1896) and then Edison (New York, April 1896).

From these beginnings, Betts follows the British film industry's financial and corporate evolution, showing the awareness by succeeding governments of the need to support it, but often producing the opposite effect and hindering its free development. The 1927 Films Act is cited as an example, as it attempted to increase British production but resulted only in further penetration of the British market by American "quota quickies."

Betts discusses in detail many outstanding British filmmakers, analyzing the style and contents of their work, assessing the extent to which they reflect reality, or fire the imagination, and spotlighting their place in Britain's culture. The documentary movement is described as "one of the most fruitful and brilliant chapters in British film history," with John Grierson's definitive article on the subject reproduced in full.

The Film Business provides an exceptionally valuable balance sheet of an industry whose ambitions often overshot its economic potential. Its leaders, both industrial and artistic, are pictured in terms that reveal their characters, aspirations and doubts. Its films are appraised in their relation to life. Its technical plant is knowledgeably discussed. All these elements combine to make Ernest Betts' *The Film Business* a notable contribution to our understanding of the British motion-picture world. — *George L. George*, Directors Guild of America, 110 West 57 St., New York, NY 10019.

Talking Back: Citizen Feedback and Cable Technology

Ed. Ithiel de Sola Pool. Published (1973) by the MIT Press, 28 Carleton St., Cambridge, MA 02142. 324 pp. Diagrams Tables. 7 by 10 in. Price $9.95.

The community antenna television (CATV) system has come a long way from its original function of merely supplying one antenna, favorably situated, to deliver good television signals incidentally, (not always via a "cable") to a community that was generally poorly located to receive the signals directly from the air (say a group of houses in the shadow of a hill, or a large apartment building, or some similar situation). The first step added was on the obvious initiative of the organizer to initiate programs of his own — including local community advertising — to supply his customers. Then another step was to supply, for an extra fee, higher quality programs without commercials, to his more exigent customers. From then on "piggy-back" services were invented, such as reading electrical supply meters, etc., to help pay the costs. The latest is a two-way, or "talking-back" service. This book contains papers presenting a variety of points of view on the accumulation of topics which have developed around cable service. There are fifteen authors, ranging from engineers in universities and government service to free-lance writers and journalists, who present chapters on various aspects of the subject.

The contributions range from down-to-earth and realistic discussions of the problems that have arisen in the development of this sort of enterprise, to others that seem to lean heavily on "pie-in-the-sky" dreams of what the undertakings might become.

The major problem in the business has been its financial viability. A number of enthusiastic entrepreneurs have already faced bankruptcy in their undertaking in the field. The really serious problem has of course been the size and extent of the costs as compared with the usefulness of the service and the revenues that can realistically be collected under present conditions.

One of the authors says, "The most extensive study of audiences ever made came to the conclusion that "the total ticket-buying public for the performing arts, amateur or professional, comes to about four per cent of the population aged eighteen or over. And this is for all the performing arts put together — concert, opera, dance, theater ... For any one of the arts, the total ticket-buying audience must be under two per cent of the adult population." To meet this shortage of interest extensive discussion is given by some of the authors to the field of programs of political interest or promotion, or also news supply, that now are channeled via the broadcast TV.

Other authors describe extensively the subsidiary commercial uses that the CATV system could supply as by-products. These include general data transmission, securities information, bank operations, crime control, facsimile document transmission, credit card operations, retail displaying of goods to prospective customers, gas and electricity meter reading, market research programs, a consumer information data bank, reservation making, real estate and insurance operations, "on-demand" information (such as requests for immediate weather information from an immediately available taped source). In some of the chapters competition with established telephone companies is discussed, and the inference is occasionally drawn that a cheaper or better service could be obtained than from the established communications industry. However none of the authors are employed by such established companies.

Coming back to political subjects, and also the matter of "talking back," one point that is much discussed is that cable technology could assist in vastly extending the principles of a "town meeting" by providing technical communication devices that would permit enlarging all of the democratic features of such a meeting to the point that it could be much larger than is the case in the old-fashioned town meeting. Extending the speaker's presence and voice to many more auditors is easy and has of course been done. But a "talking back" service to communicate reaction effects of the audience participants gives serious problems. One author says, "One can imagine a computer-aided feedback and participation system taking on a variety of forms all of which are more or less characterized" as he describes further. But all of these come out too complex and none of them sound really very good.

Another author says, "The notion that every city council meeting and school board meeting or Congressional hearing should be on the air with electronic feedback influencing its processes is an absurdity whose consequences would be the opposite of the intent of those who propose such processes." And the inference is further given that even if "every meeting" is changed to merely "a meeting," retaining the immediate audience feedback

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Advertisement placed by WQAD-TV in Moline's Daily Dispatch (May 20, 1974).

WQAD-TV, serving the Quad Cities (including Moline, Illinois), is typical of local affiliate stations, whose serious and imaginative treatment of local news has been rewarded by appreciably higher ratings.

At a recent semi-annual Illinois News Broadcasters Association convention, WQAD-TV picked up five Associated Press *first place* awards for TV-newsfilm coverage, all shot with the CP-16/A. Included in WQAD's award sweep was the Feature Photography award. On two other award categories there was an added notation: "Judges were moved to comment on excellent cinematography."

Also shot with the CP-16/A is WQAD's special on open heart surgery facilities in the Quad Cities — a documentary currently up for a National Heart Association award. Management at WQAD-TV is so pleased with the capabilities of the CP-16/A camera that it is planning to buy another one.

Shown below are two members of WQAD-TV's award-winning news team: News Director Jim King (left) and TV-Journalist/Cameraman Bob Wilford.

influence, one could still be left in doubt of its wisdom. One who has attended corporation stockholders meetings can sympathize with the problems of "talking back." The more vocal talkers-back there are not necessarily the more knowledgeable, and their points can be minor or irrelevant. The decisions in the larger stockholders' meetings are largely made by the proxy votes.

One complicating purely technical matter in CATV engineering relates to the FCC regulations on television broadcating that have included a fairly large number of restrictions in frequency and station allocations to prevent various cross-interferences that can run from annoying to disastrous. When ambitious projects from multiple simultaneously operating channels are set up for cable transmission, some of these transgressions may be encountered. They can often be cured technically, but at a cost that can be serious.

There has been a great deal of activity of late on the general subject of cable television and associated "piggy-back" and "talking-back" services including a 1970 SMPTE symposium in New York City. The present book will be of interest to those who keep in touch with this material. New ideas are following each other closely, and readers who strive to keep up with them have a chore. So much activity presages the likelihood of really vital changes in our communications habits. However the many serious problems involved make it difficult to forecast just what new directions these important changes will take. — *Pierre Mertz*, Meadow Lakes 9-01, Hightstown, NJ 08520.

Cable Television: Acquisition and Operation of CATV Systems

By Charles C. Woodard, Jr. Published (1974) by McGraw-Hill Book Co., 1221 Ave of the Americas. New York, NY 10020. 274 + x pp. Diagrams. 8½ by 11 in. Price $27.50.

The book seems intended mainly for individuals who have little knowledge of the technical and financial requirements of owning and operating a CATV station but who are considering investing in this comparatively "young" industry.

The author notes that: "It is not possible to make an exact determination in advance as to the cost of building a CATV system. When money is borrowed for plant construction, plenty of margin should be left for cost overruns." That the author has in mind the investor of very limited funds is indicated by his advice that: "Minor ways to add revenue include selling used cable reels to decorators, do-it-yourself craft shops, etc., and selling pieces of cable that are too short to be economically used in construction to junk dealers."

Within its limitations the book contains a great deal of practical information and suggestions. A down-to-earth warning (on page 153) is that: "The ingenuity of the cable signal thief knows no limits and passes all belief." The author describes some of the shenannigans of the "unbelievable" signal cable thieves and tells how to deal with them.

Day-to-day problems likely to beset the new owner and operator of a CATV station are described in meticulous detail and the author offers suggestions as to how to cope with them.

The book covers all facets of CATV operation. The first chapter (Technology) is described by the author as "a complete technical primer for the layman involved in making crucial CATV management decisions many of which are influenced or limited by industry technology."

There are 10 chapters, the other chapters being (2) Acquiring Systems; (3) Organization; (4) Programming; (5) Marketing; (6) Installation; (7) Plant Maintenance; (8) Material Control; (9) Accounting; and (10) Revenue.

The author was formerly with the legal department of Columbia Broadcasting System where he served as Senior Television Attorney. His involvement with cable television began in 1965 when he became President of Westinghouse CATV and microwave relay subsidiaries. He is presently a Vice-President of Broad Street Communications Corp. and President of Covenant Cable Inc., a subsidiary of Broad Street Communications. — *Edit.*

The Work of the Industrial Film Maker

By John Burder. Published (1974) by Hastings House Publishers, Inc., 10 E. 40 St., New York, NY 10016. 256 pp. Illus. 6 by 9 in. Price $14.50.

Dealing in practical terms with industrial film applications and production techniques, the book should be of special interest to sponsors of industrial films and to others involved on a nonprofessional level with industrial film production. Useful also to the professional producer as a means of "getting it all together," that is, lining up all the details of planning, pre- and post-production and selection of filmstock and equpment, the book will serve as a ready reference and may, in addition, promote a better understanding between producer and sponsor.

There are seven chapters: Why Film?; Preliminary Planning; Pre-Production Stage; Film Stock and Equipment; In Production; Post-Production; and Using Industrial Films.

The author is especially distressed by the "penny wise, pound foolish" attitude displayed by many producers who attempt to cut corners by hiring nonprofessional photographers and editors and also by attempting to make a film with too few technicians. As Mr. Burder says, "The ideal situation would of course be for one man to make the whole film. Unfortunately it is not a practical proposition from any point of view . . . if you can find a man with three heads, twenty arms and four pairs of legs, with a science degree and an appreciation of music he may be able to make a one-man film; (otherwise) try the normal way of using a film production team." He cites several "horrible examples" that had come under his observation of sponsors who provided "absurdly low" budgets, one example being that of a board of directors of a shipping line who "put the vital shooting stage in the hands of a man used to making 8mm home movies — their own sales director." The upshot was that "a lot of useless material (was) produced and valuable time wasted." The author notes, however (in the chapter on The Pre-Production Stage), that "If the Amount of money available is small, limit the number of locations and opt for a simple film. It can be just as effective. . . . A well-made film with a simple treatment and interesting script will usually prove worthwhile." (The operative word here seems to be "well-made".)

The chapter on the Pre-Production Stage also shows in meticulous detail the importance of the step-by-step plans with every contingency taken into account before the filming starts.

In the chapter on Film Stock and Equipment the author devotes considerable space to a discussion of the choice of rawstock and why, in certain situations, a film should be made in black-and-white rather than in color. He also presents a general guide to filmstock prices and laboratory costs and describes various makes of cameras in terms of their usefulness in certain types of filming.

In the chapter on Production, among other interesting information, the author points out that "Often the people appearing in an industrial film are not professional actors and have never appeared in front of a camera before. The director must make them feel relaxed to get a good performance on film."

A selected bibliography and a glossary are included. The illustrations (most of them photographs from industrial films) add a great deal to the book. — *Edit.*

Van Nostrand Reinhold Manual of Television Graphics

By Ron Hurrell. Published (1974) by Van Nostrand Reinhold Co., 450 W. 33 St., New York, NY 10001. 136 pp. Illus. and diagrams (color and black-and-white). 6 by 9½ in. Price $9.95.

The Manual of Television Graphics explains both visually and verbally the techniques and the subtleties of captioning and titling for television. The book contains more than 250 delightful drawings and designs by the author in both color and black-and-white. Although of special interest to commercial artists and designers, the book makes pleasant reading (and looking) for anyone with any interest at all in how the more bizarre or even how the familiar effects are achieved.

The author notes that the "problem of designing visual symbols for the television screen points logically to the development of a new and exciting form of imagery." Chapter 1 (the introductory chapter) discusses caption sizes and cutoff and explains scale, tone and color for the designer. The following chapter is on Lettering — mechanical, hand, photographic and electronic lettering. Other chapters deal with handdrawn captions, photography, program titling and television animations.

The chapter on Programme Titling contains an especially interesting 18-page section on Film Animation. The author describes various methods of producing artwork for animation, "some relatively simple, other exceedingly complicated and very time-consuming." The exact procedures involved in the various methods of animation are clearly explained but the most interesting part of that section (to this reviewer) — as indeed of the whole book — is the use of the many photographs and drawings in color and black-and-white with captions that convey to the merest novice how sound for an animated sequence is analyzed, how it is related to the artwork, what a storyboard is, how it looks in color and how it is used. One of the most charming of the color illustrations (p. 102) is a still from an animated film for children based on an adaptation of "The Nun's Priest's Tale" from Chaucer's *Canterbury Tales.*

The last chapter (Chapter 6) on Television Animations explains how "TV animations rely on the electronic device of 'black crush' — the altering of the black end of the tone scale by electronic means."

The author, Ron Hurrell, is the Senior Lecturer in charge of Film and Television Design in the Faculty of Art and Design at Leeds Polytechnic, England. — *Edit.*

Visual Aids and Photography in Education

By Michael J. Langford. Published (1973) by Hastings House Publishers, Inc., 10 E. 40 St., New York, NY 10016. 350 pp. Illus. Diagrams. 5½ by 8½ in. Price $13.95.

This work is addressed primarily to the working teacher who desires to specify, purchase or, if necessary, produce audio-visual materials for use in his classroom. Such an individual is not supported by a media department or an A-V specialist in his school, and may in many cases have to resort to do-it-yourself production methods due to lack of funds. The book attempts to be all-inclusive, containing a general discussion of visual aids followed by specific mini courses in still photography and motion pictures as well as a section devoted to the utilization of photography in student projects. For the teacher with no photographic background whatsoever, this is a sensible arrangement, although he may get into trouble attempting some of the advanced procedures which will be beyond his technical skills. The person with some background will be better advised to seek out separate books in each area which have the space to treat these subjects in more detail.

The first section deals with equipment. All types of projectors are described and illustrated with line drawings. Included are still, slide, movie, overhead, and micro. Other items include a group of copying and duplicating machines including photostat, diazo, heat, electrostatic and offset; a selection of equipment for still photography and processing; and a survey of movie equipment. Also covered are teaching machines, flannel boards and models. This section (100 pages) is quite exhaustive and the author is quite correct in noting that it might well be skipped over by anyone who is generally familiar with this material.

The second section discusses briefly the characteristics of the various kinds of software and the general principles that should govern their choice for particular teaching tasks. A 20-page discussion, it is conducted in plain English rather than in the jargon to be found in contemporary books on Education and Instructional Media.

The rest of the book is devoted to the planning and production of visual aids, with chapters on (1) Preparation of Artwork and Basic Photography, (2) Step by Step Methods for Copying Slides, (3) Still Photography, (4) Motion Pictures and (5) Presentation and Use of Software. There is a final Chapter on the organization of photographic projects for student participation. All of the chapters are very inclusive and detailed. For instance, the chapter on Copying Slides lists 15 methods for making monochrome slides, six methods of making color slides, 21 ways of making overhead transparencies, and similar data on

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For the last 10 years, Super-8 film has been "silent". Without sound, your Super-8 movies were "incomplete".

Today, there is "Ektasound" film, a revolutionary film which provides the means to record sound (directly on the film) as you're filming. You, therefore, can shoot "complete" movies.

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Professional Sound Quality

Pop in a new Super-8 sound ("Ektasound") film cartridge. Focus. Then, plug in the mike. That's all the preparation you need. With the Beaulieu "5008S", you're now ready to start filming professional quality Super-8 single system sound movies.

An amplifier is built into the camera which records the sound directly onto the magnetic stripe of your sound film. The camera records high fidelity sound, both in treble as well as bass (*frequency response:* 50-12,000 Hz ± 1.5 dB; *distortion:* less than 0.75%; *signal-to-noise ratio:* 57 dB; *wow and flutter,* attenuated peak: less than 0.4%).

The "5008S" modulates the single system sound recording automatically. However, there is also a "manual" setting so that you can modulate the sound as you are filming (by using the VU meter).

"XL" (Existing Light) Filming Capability

The "5008S" has "XL" (Existing Light) filming capability which is provided by: a *super-fast* lens (f1.2, 6-80mm Angenieux zoom), a longer exposure time for the image (1/40 second), and a through-the-lens metering system that sends 100% of the available light to the film.

Since many of your sound movies will be filmed indoors, this feature will enable you to shoot films in the available light of your scene (whether that "light" is bright or not).

From the "Widest" Wide Angle Shot . . . To the "Closest" Close-Up

For the lens, Beaulieu turned to the professional and technical "know how" of Angenieux (which supplies NASA for all their space missions).

Angenieux succeeded in creating a new zoom lens that covers all the focal lengths from 6-80mm (a 13.3 to 1 zoom ratio).

Imagine such a lens in 35mm still photography. It would go from a 35mm wide angle to a 500mm tele.

In addition, the lens opens to f1.2 (an *unprecedented feature* on a zoom lens with such a wide focal length range).

New Dolly Shot Style

The power zoom of the Beaulieu "5008S" is continuously variable. You can travel the full focal length range in 4 seconds, or 12 seconds *(or any speed in between).*

Macrocinematography – Without Touching the Subject

To film macrocinematography with the "5008S", just zoom to 80mm and focus. At the minimum focusing distance of 2 feet, 8 inches, you get all the light available since the lens doesn't actually touch the subject. For example, at this distance, a postage stamp (1½" x 1-1/5" in size) completely fills the viewfinder (and consequently, the screen–when projecting).

Forget the Exposure

With the "5008S", you can concentrate totally on framing and sound recording. The diaphragm operates automatically and stops instantly at the right aperture. (This feature has "Manual Override".)

Lens Interchangeability

The "5008S" is the only single system sound camera with an interchangeable lens. It accepts 35mm still photography lenses (by means of an adapter), as well as all 16mm "C" mount lenses.

The choice is yours. You can interchange an unlimited amount of different lenses in order to create a certain "feeling" or effect in your films.

For full information on the new Beaulieu "5008S" Super-8 Single System Sound Camera, please write to:

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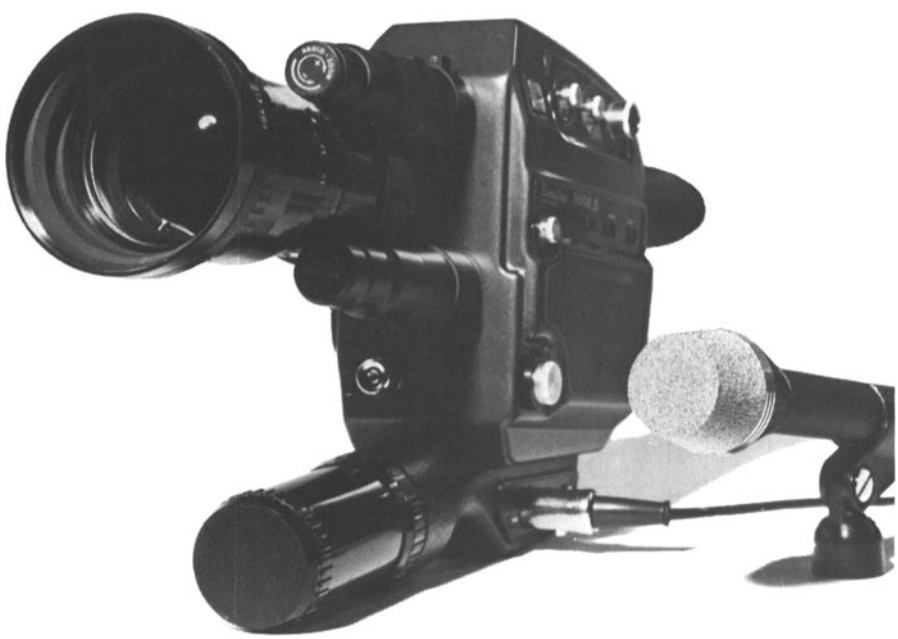

The Beaulieu "5008S" Sound Movie Camera

paper prints and filmstrips. The chapter on Still Photography covers macrophotography, special lighting problems and advanced techniques as well as the basics. The discussion of film likewise covers all the bases, albeit in a much abbreviated fashion.

The work is concluded with 10 appendixes — a glossary, bibliography, lists of suppliers, and some charts of film types, exposure data and the like. These lists would be especially helpful to someone working in the United Kingdom, as virtually all the references are to British books, magazines, suppliers, societies and organizations. The terminology and the specific equipment described throughout the text are also strictly British, and while the general procedures and principles are valid, they may not always easily be translated into action by the American teacher with the equipment, materials and jargon employed in his educational system. — *Murray Duitz*, Producer, Consultant, 1004 Barth Dr., Baldwin, NY 11510.

Graham Greene: The Films of His Fiction

By Gene D. Phillips, S.J. Published (1974) by Teachers College Press, Teachers College, Columbia University, 1234 Amsterdam Ave., New York, NY 10027. 204 + xxvi pp. Illus. 6 by 9 in. Price $10.50 (Paperbound $5.95).

This is an excellent book of special interest to people interested in the technical aspects of how a novel or novella is transmuted into a motion picture. Graham Greene is one of the few major literary talents who have approached such a transmutation other than reluctantly and even Mr. Greene has expressed considerable dismay at the screen treatment of at least one of his novels — *The Power and the Glory* which was made into the film *The Fugitive* in which the subtle characterizations of the priest and the Mexican revolutionary in the novel were oversimplified in the film to become a "simple drama of good and evil." Greene said that he could not bear to see the film.

In spite of what he felt was the fiasco of *The Fugitive* Greene respected the film medium and he approached screen writing as an exercise of the writer's creative abilities. He often wrote directly for the screen and also adapted a number of his own novels for the screen including the unforgettable *The Third Man* and *The End of the Affair, Our Man in Havana* and *The Comedians*. A more recent film made from one of Greene's novels is *Travels with my Aunt* (the screenplay was done by Jay Presson Allen and Hugh Wheeler).

The author points out that there are very few really important writers who have taken seriously to writing for the screen; however, Graham Greene, a prolific and undoubtedly an extremely gifted novelist, for more than 40 years has been closely associated professionally with the world of cinema, thus throwing some doubt on the generally accepted view that screenwriting is (a) destructive of the talent of a gifted writer of fiction or (b) that it is a trivial and rather distasteful occupation engaged in by the serious writer because he needs the money.

The book contains brief descriptions of the plots of Greene's novels and includes a number of quotes from Greene himself and others who worked on the films to explain the problems involved in the transmutation from one medium to another.

To this reviewer the book throws considerable light on the differences between writing a work of fiction and creating a motion picture. Writing a novel is a solitary occupation — although the writer's research may involve many people in many countries when it comes to the actual creative work of writing he is alone. The making of a motion picture is a matter of teamwork i.e. many people working together to bring forth the finished product. — *Edit.*

The Broadcast Communications Dictionary

Ed. Lincoln Diamant. Published (1974) by Hastings House, Publishers, Inc., 10 E. 40 St., New York, NY 10016. 128 pp. 5 by 8 in. Price $6.95.

Some 2000 technical and slang words commonly used in television and radio production and videotape recording are defined in *The Broadcast Communications Dictionary*, making it an especially useful handbook for anyone new to the broadcasting industry as well as a useful reference for people already in the field.

The difference in British and American usage of certain terms is noted and quite likely some confusion is thereby prevented. For example a *basher* in the United States is a 500-W circular floodlight; in Great Britain it is a camera light. A *cucaloris*, or *cookie*, in the United States a cutout screen placed before a light source to cast random-patterned wall shadows, is called a gobo in Great Britain, while in the United States a gobo is defined as "a sound-absorbing material or screen, also, small black screen to keep stray light from striking the camera lens."

Most of the terms, however, have the same definition on both sides of the Atlantic. A *glitch* is a random television picture noise appearing as an ascending horizontal bar; *golden time* is Sunday, holiday or other special overtime compensated under union agreements at more than normal overtime rate; a *gopher* is a production assistant who "goes for" coffee, etc.

Lincoln Diamant, who compiled this useful dictionary, is President of Spots Alive, Inc., a New York-based broadcast advertising firm. He has been a writer/producer for both CBS and NBC and is a producer of short films which have been shown internationally at various film festivals. — *Edit.*

Terms for Technicians: A Glossary of Camera Repair (Revised Ed.)

By Samuel L. Love and Lawrence C. Lyells. Published (1973) by National Camera Supply, 2000 West Union Ave., Englewood, CO 80110. 128 + iv pp. 5½ by 8½ in. Paperbound. Price $6.95.

More than 3400 terms used by technicians in photography, cinematography and related fields are defined in the new glossary. The terms range from "A — Auf, the mark on German cameras indicating the 'open' position" to "zoom — the effect of changing lens coverage between distant and close-up views without interrupting

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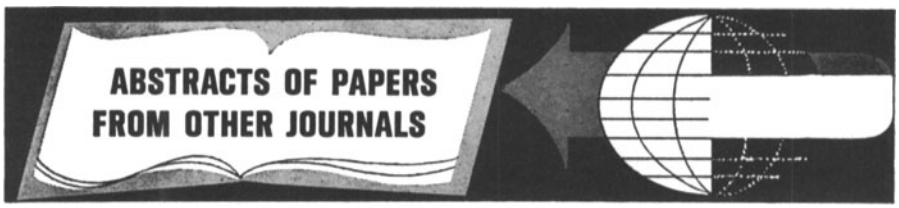
continuity or changing camera position." Both these terms are "new" — or, at least new to this glossary. The first edition, published in 1959 as *The ABCs of Camera Repair* (reviewed in the November 1960 issue of the *Journal*) began with "ac" and ended with "zoetrope."

Designed specifically for camera repair specialists, it can also be useful to students and may well serve as a convenient reference book for professionals.

The terms included in the glossary range over a wide field, some of them seeming almost too elementary even for a "do-it-yourself" repairman, and others reaching an almost abstruse level. For example, there is "Blade, screwdriver — the end of a screwdriver bit which actually engages the slot in the screw" and then, for contrast, there is "Doppler effect"; "Motion, Newton's laws"; "Katoptrical"; and many other scientific terms explained briefly but adequately.

This glossary is undoubtedly useful. As the authors note in the Preface, "An effort has been made to provide current usage and certainly to indicate the ever-increasing relationships between the sciences that are to be found in photographic equipment." — *Edit.*



Abstracts of papers appearing in other journals chosen for their importance and possible value to researchers, as well as those of timely interest, are published in the *Journal* from time to time. Many translations of abstracts from foreign journals, chiefly those of the USSR, are made available to the *Journal* by the Research Laboratories of the Eastman Kodak Company. As a rule, translations are made of the abstracts and not of the papers. The journals in which the papers appear can be consulted at some libraries. Current issues of *Tekhnika Kino i Televideniya* can be consulted at, or borrowed from the Society's Headquarters Office.

The subject areas are grouped below:

Cinematography
General
High-Speed Photography and Instrumentation
Holography
Optics
Photographic Theory and Materials
Sound
Television

CINEMATOGRAPHY

A study of the causes of errors in linear measurements and the frame frequency necessary for the filming of subjects moving in a three-dimensional space (in Russian), V. V. Vasnedovich, S. P. Podual'nyĭ, and F. I. Rybakevich. In *Vsesoyuznaya Nauchno-Tekhnicheskaya Konferentsiya,* "Sovremennoe Sostoyanie i Perspektivy Vysokoskorostnoĭ Fotografii i Metrologii Bystroprotekhayushchikh Protsessov." *Tezisy Dokl,* Moscow, 1972, pp. 114-115; *Ref. Zh., Fotokinotekhnika,* Abstract No. 8.46.239, 1973.

Formulae are given for calculating absolute and relative magnitudes of errors in plane and perspective cinematography, and also formulae for calculating the frame frequency in plane motion pictures. — S.C.G. (Translated from *Ref. Zh., Fotokinotekhnika.*)

The use of cinematography in meteorology for the study of the general circulation of the atmosphere (in Russian), V. M. Mikhel', in *Vsesoyuznaya Nauchno-Tekhnicheskaya Konferentsiya,* "Sovremennoe Sostoyanie i Perspektivy Vysokoskorostnoĭ Fotografii i Kinematografii i Metrologii Bystroprotekhayushchikh Protsessov." *Tezisy Dokl,* Moscow, 1972, pp. 92-93; *Ref. Zh., Fotokinotekhnika,* Abstract No. 8.46.238, 1973.

An experiment has been made to study atmospheric synoptic processes by making a motion picture of them in the form of a narrow-gage color cartoon film based on material from weather charts. It is noted that this method of filming synoptic processes makes it possible to analyze the large-scale spatial and temporal features of atmospheric circulation. — S.C.G. (Translated from *Ref. Zh., Fotokinotekhnika.*).

GENERAL

Training for the film industry, Colin Young, *BKSTS Jour., 56:* 83-84, Apr. 1974.

In the last 20 years there have been two very different approaches to the provision of training for the film industry. In the socialist countries systematic training was possible because their film production industry was under government administration as were the film schools; there was no difficulty in arranging for the graduates to secure employment after training. It was all part of a planned system. In the capitalist countries of Europe there was little systematic training until quite recently when Denmark, Sweden and Britain have all been able to find national support for training institutions and devise some means of collaboration between the training schemes and the working profession though they cannot guarantee employment for those who have been trained. The solutions differ widely and no one scheme would be suitable for all countries.

HIGH-SPEED PHOTOGRAPHY AND INSTRUMENTATION

The use of high-speed cinematography for the study of the breaking of ceramic materials (in Russian), V. G. Bravinskiĭ and M. V. Osipov. in *Vsesoyuznaya Nauchno-Tekhnicheskaya Konferentsiya,* "Sovremennoe Sostoyanie i Perspektivy Vysokoskorostnoĭ Fotografii i Ki-