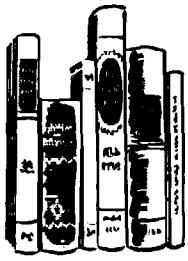

books reviewed

Transmission Lines for Digital and Communication Networks

By Richard E. Matick. Published (1969) by McGraw-Hill Book Co., 330 W. 42 St., New York, NY 10036. 360 + xxii pp. Illus. Diagrams. 6 by 9 in. Price $14.50.

Since the advent of transistors, integrated circuits, and the use of megahertz and gigahertz frequencies, difficulties are being found in circuit analyses that assume lumped elements interconnected with zero length wires. The distributed elements depart appreciably from lumped elements and the connecting wires become transmission lines.

This is the vein in which the author develops a treatise on "transmission lines." Although he starts with a 60-Hz power line miles in length, the author quickly indicates that he is not talking about long-haul lines. There is no discussion of noise problems, of equalization or correction in either relative amplitude or phase, or any mention of amplifiers.

Once the reader understands the field being covered he will find much useful information. The author covers velocity of propagation phenomena, including "anomalous dispersion" (in an analogy with optics), pulse reflection phenomena (reminiscent of power line transient studies), characteristics of a variety of hitherto unusual lines such as helical lines and several types of strip lines, and coupling and crosstalk phenomena. Effects of significant importance are skin effect and superconductivity, and the author collects much recent material that bears on these fields. It extends even into anomalous skin effect, which occurs when the depth of skin current penetration is less than the conduction electron mean free path, and which leads to a breakdown of Ohm's law. It even covers an "extreme" anomalous skin effect, which occurs when the penetration depth is much smaller than the mean free path and the conduction electrons separate into two types — thus further changing the laws.

In spite of a generally very good table of symbols, the self-study reader will find the going a bit hard. The author introduces terms like "rise time," and symbols like "TEM" and "cerf" without defining them. These can be guessed by an experienced engineer, but not by the self-study reader. He has a peculiar symbol, like a leaning sickle, for phase velocity. The index further leaves something to be desired. But there is a very fine citation of references.

The book should be of considerable interest to users of miniaturized circuits, especially if these have to be interconnected with wires of appreciable length, and even more especially if they are intended to be used at superconductivity temperatures.—*Pierre Mertz*, Consultant, 66 Leamington St., Lido, Long Beach, NY 11561.

Mathematics for Science and Engineering (2d. ed.)

By Philip L. Alger. Published (1969) by McGraw-Hill Book Co., 330 W. 42 St., New York, NY 10036. 374 + x pp. Diagrams. 6 by 9 in. Price $9.75.

Mathematical processes are at the base of all scientific and engineering activities. Thus the more an individual in these activities has mastered mathematics, the more he is likely to be equipped for other tasks beyond his immediate specialty.

In 1910 Charles P. Steinmetz published a book on *Engineering Mathematics* which lasted three editions between 1911 and 1917. Philip Alger followed Steinmetz's ideas with the first edition of the present work.

It is largely designed for the self-education of its readers. It contains many heuristic touches that may be redundant to the formal mathematics and thereby can appear inelegant to the professional mathematician, but that do improve the clarity for the lonely self-student — and even for other students.

An important problem in such an undertaking lies in deciding where to stop. This is of course a prerogative of the author. Some readers, in view of the title of the work, will consider the present author to have stopped early. For example, he describes the Taylor series in some detail, but stops short of the Laurent series (in negative powers) which is useful in some similitude problems. He omits vectorial quantities in more than two dimensions, because of noncommutative properties. He gives only very sketchy treatments of determinants and matrices. Boolean algebra, and the use of electronic computers. He ignores the large changes, in computing methods and formulas used, that these devices have brought about, and so on. All these subjects are seriously important in the various current fields of technology. A casual examination of the index suggests that it is quite skimpy — though references to the literature are generally ample.

The book will be of particular interest to the engineer who wishes to keep brushed up on his more elementary mathematics and apply it to continued use.—*Pierre Mertz*, Consultant, 66 Leamington St., Lido, Long Beach, NY 11561.

Technical Manual Writing and Administration

By Thomas F. Walton. Published (1968) by McGraw-Hill Book Co., 330 West 42 St., New York, NY 10036. 383 + xii pp. Illus. 6 by 9 in. Price $15.00.

Thomas F. Walton, a technical data manager for TRW Systems, needs no introduction to a majority of those engaged in the preparation of technical data in support of weapon or technical systems and equipments. Mr. Walton is a nationally known authority in the field of technical data and has worked closely with the Department of Defense, the Air Force and the Navy Department in the development of ad-

vanced organizations, methods, and techniques for data management. His book *Technical Data Requirements for Systems Engineering and Support* (Prentice-Hall, Inc., 1965) was a major contribution to modern concepts of technical data identification, preparation, acquisition and control. This book is an equally valuable guide in the more specific area of technical manual preparation and management.

The book is a detailed treatise on the development of technical manuals from the establishment of requirements, through the actual writing, illustrating and editing stages, to final production and control. Modern concepts are featured throughout, a marked improvement on most current texts on technical writing, which continue to present information more appropriate to 1920 than to 1969.

Chapters 1 through 7 (226 pp.) are devoted to the practical, realistic aspects of technical manual development: requirements, specifications and standards; writing and illustrating; data research; generation of procedural data; and editing and quality proofing. Chapter 8 covers manual validation and verification, factors often neglected in other books of this nature. Chapters 9 through 13 present much useful information on change processing, data automation, publications program management, data in relation to systems engineering, and the preparation of proposals and contracts.

One of the most difficult problems encountered by the producers of technical publications is that of estimating time and cost, based on known requirements and specifications, and on the technical data available at the time the estimate must be made. In this regard, technical publications at the inception stage resemble icebergs; the readily available data upon which to base a cost estimate may not stand in reasonable proportion to the totally unknown factors which only tend to appear after the job is well under way. In the last chapter, Mr. Walton has included several pages on the problem of time and cost estimating which should be of value to those concerned with such matters. He discusses the preparation and use of cost estimate forms, the making of page count estimates, comparison pricing, direct analysis pricing, level-of-effort pricing, and cost standards.

While it does not detract from the book's usefulness, the editing of the manuscript was apparently a rather hasty and superficial effort. This is especially unfortunate when, as in this case, the basic subject matter is technical writing. Reader comprehension is often impeded by murky sentences (example: "Centers are established to monitor and coordinate all operational activities using status boards and records.") and by words which have a meaning other than that intended (example: "The technical manual profession's *intrigues* and benefits have interest to many skills,. . .").

Intrigues notwithstanding, this book is recommended as an extremely useful guide to anyone engaged in the preparation or program management of technical manuals.
—*Keith S. Williams*, Pacific Missile Range, Point Mugu, CA.

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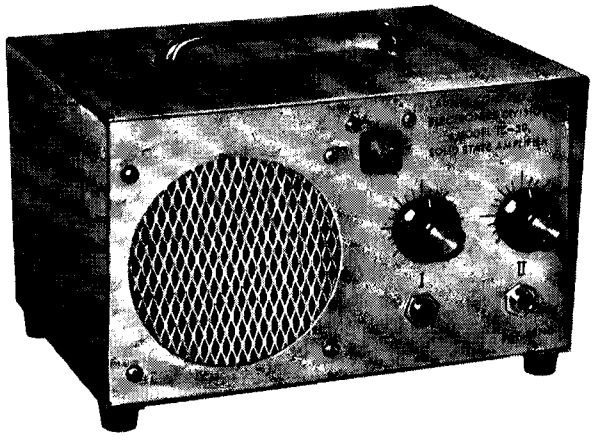

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The Parade's Gone By

By Kevin Brownlow. Published (1969) by Alfred A. Knopf, Inc., 501 Madison Ave., New York, NY 10022. 580 + xiii pp. Profusely illustrated. 7 by 10 in. Price $13.95.

The author of this monumental work defines the Golden Era of films as the period from 1916 to 1928. "It is a neglected period," he says, "forgotten often by the very men who enriched it... Even at their worst, American silent pictures were technically competent. At their best the photography glistened and gleamed; lights and gauzes fused with magical effect until the art of lighting reached its zenith. It was not merely the stories or the stars that gave magic to the silent screen. It was the patience, hard work, tenacity and skill of the silent-film technician — the man who in less than ten years had developed a craft and perfected an art."

The book contains some 300 stills, many of them never before published. The book also contains verbatim interviews with a hundred or more of the actors, directors, cameramen and others who were a part of the Golden Era, among them (a random sampling), Mary Pickford, Minta Durfee Arbuckle (ex-wife of Roscoe Arbuckle), Buster Keaton, Fritz Lang, Arthur Miller (author, with Fred J. Balshofer) of *One Reel a Week* (reviewed in the March 1968 issue of the *Journal*), Charles Rosher (cameraman noted for the special effects in *Little Lord Fauntleroy*), King Vidor, Adolph Zukor and many more of the pioneers who together created this great period of cinema history.

Although this book is based on the verbatim accounts of the survivors of the Golden Era, it is infinitely more than a mere pastiche. The author has woven these accounts and his own comments in an historical narrative that recreates a whole glittering era. The magnitude of the task accomplished by Mr. Brownlow (himself a director and film editor) is impressive. In a sense it may be regarded as a life work, since he started collecting pictures in 1949 when he was eleven years old.

One of the admirable qualities of the book is that in presenting a panoramic picture of the early days in Hollywood, the author gives due weight to the work of the cameramen and the technicians without whom the achievements of the stars would have been impossible. The ingenuity of these pioneers is impressive. For example (from an interview with Clarence Brown, the director), "This lighting business is important.... In *The Last of the Mohicans* we made much use of lighting effects and weather atmosphere. We used smokepots to create the impression of sunrays striking through woodland mist. The rainstorm in the forest was simply a fire engine and a hose."

The author devotes a chapter to The Cameraman. "The value of the cameraman's contribution to a motion picture cannot be overestimated," he states. He quotes John Seitz, the cameraman of *The Four Horsemen of the Apocalypse* and other great pictures, as saying, "Motion picture photography of the silent era was an optical and chemical business. The addition of sound changed it to more of an electrical enterprise. The talking picture made it necessary to standardize film developing, thereby taking away much of the individuality of the cinematographer." The author also notes that cameras in the silent days were cranked by hand from choice, not because motors were unavailable. He explains that when Bell & Howell brought out their metal camera in 1912, they made a motor for it, but it was not considered an essential part of the camera and few used it.

In discussing the early cameras in general, the author says, "The cameras themselves, which look so primitive, so apparently crude today, were actually very well made." He adds that "Don Malkames, a silent-era assistant cameraman who is now a director of photography and a collector of movie equipment, claims that he can shoot equally good pictures on the Pathé which Billy Bitzer used for *The Birth of a Nation* as on his newest machine."

In the early days, the ingenuity that went into creating special effects could be described as inspired. For instance, the double exposures in *Little Lord Fauntleroy* (an early film starring Mary Pickford), devised by Charles Rosher were made in the camera and, successfully to achieve the effect, Rosher built a camera stand weighing two thousand pounds.

An entire chapter is devoted to "Editing: The Hidden Power." The author notes that *The Birth of a Nation* (1915) "was the first feature film to exploit fully the extraordinary power of editing."

This is an excellent book and one which may well become one of the authentic classics of the literature of the motion picture.—*Edit.*

The American Cinema: Directors and Directions 1929–1968

By Andrew Sarris. Published (1968) by E. P. Dutton & Co., 201 Park Ave. South, New York, NY 10003. 383 pp. 5½ by 8¼ in. Price $7.95.

More than 200 American motion-picture directors are listed and their work evaluated in this informative book. The book also contains a Directorial Chronology covering the years 1915–1967 which consists of a list of authenticated motion-picture classics and the names of directors whose work in the sound era is of some interest. As the author states, "There are too many gaps in silent film scholarship at this time for a definitive stand." Some of the directors listed in the 1915–1967 list also appear in the 1929–1968 list and their work is evaluated in detail. The book also contains a listing, "Directorial Index to the American Cinema" compiled by Michael Schwartz and James R. Prickett. The list contains every English language film made after 1929 which is mentioned in the book and the authors have culled films from 14 other sources. The films are listed alphabetically together with the release date and the name of the director.

While this book is not the definitive record of motion pictures in America (which, in the opinion of this reviewer is still to be written), it is an important book and one of inestimable value to students and researchers.

This is a most enjoyable book, aside from its value as a reference work. It is lively, literate and controversial, in that the author holds strong opinions which he expresses

wittily and, in some instances, iconoclastically. For example, "Terence Young... seems at home with the sweet lyricism of death, but his overall career is staggeringly undistinguished." On the plus side, some readers may feel that he has overrated Rossellini. The author's evaluation is that "Rossellini's sublime films with Ingrid Bergman were years ahead of their time and are not fully appreciated even today in America. *Stromboli*, *The Greatest Love*, *Strangers*, *Fear* and *Joan at the Stake* constitute one of the most impressive bodies of work in the history of cinema."

The book is studded with glittering verbal gems — or rather gemmed poniards. For example, in describing the work of Sidney J. Furie, the author says, "From the black leather jackets of *The Leather Boys* to Marlon Brando's Indian blanket in *The Appaloosa*, Furie seems to elevate fabric fetishism into a personal style."

The book contains eleven chapters constituting the categories under which the directors are grouped: Pantheon Directors, The Far Side of Paradise, Expressive Esoterica, Fringe Benefits, Less Than Meets the Eye, Lightly Likable, Strained Seriousness, Oddities, One-Shots and Newcomers, Subjects for Further Research, Make Way for the Clowns (W. C. Fields, Jerry Lewis, Harold Lloyd, The Marx Brothers and Mae West) and Miscellany. Under Miscellany appear such well-known names as Victor Fleming, Joshua Logan, Stanley Kramer, Jean Negulesco, W. S. Van Dyke and others. Of Stanley Kramer (to pick at random an example of the author's acerbic style) Mr. Sarris says "... his very ineptness has become encrusted with tradition..."

An introductory chapter sets forth the author's approach to the study of the cinema: "A serious approach to old movies is particularly indispensible at a time when the very existence of old movies is jeopardized by the shocking negligence of the so-called film industry, and at a time also when the appreciation of old movies is hindered by the pernicious frivolities of pop, camp and trivia." Incidentally, such names as Warhol and Brakhage are not dignified by so much as a passing mention in this book.

This is, undoubtedly, a "must" book for students and researchers and a book that will be a source of pleasure as well as information for the average reader.

The author is the film critic for *The Village Voice* and Assistant Professor of Cinema at New York University. He is the author of other books on film, including *Films of Josef von Sternberg*, *Interviews With Film Directors* and *The Film.—Edit.*

The Moving Image: A Guide to Cinematic Literacy

By Robert Gessner. Published (1968) by E. P. Dutton & Co., 201 Park Ave. South, New York, NY 10003. 444 pp. Illus. Diagrams. 6 by 9 in. Price $8.95.

This excellent book presents a thorough exegesis of some of the best films produced in Hollywood and abroad and it will give the serious reader new insights into the anatomy of the "ninth art." As the author states in the Preface, "This new art form is numerically the ninth, whether it be called cinema, film, motion pictures, movies or television; whether it is one celluloid or tape, projected toward a screen or upon glass, transported in a circular can or over the air."

Excerpts from scripts of the outstanding motion pictures of all time, ranging from Flaherty's diary script of 1922 of *Nanook of the North* to *Bonnie and Clyde* are studied in detail with shots and scenes and sequences subjected to thorough analysis.

The author states in the Preface, "Of all the ingredients that compose a motion picture, the shooting script is the least understood or appreciated by an audience. Yet it is the key that can unlock most of the secrets of the cinema." The aim of the book is "to discover the unique patterns and structures that, through the visualization of ideas and emotions, make cinema an art."

Although the book is mainly concerned with the analyses of scripts, other production techniques, including editing and sound are treated from the same viewpoint and with the same exhaustive analysis in the chapters, "The Faces of Time" and "The Auditory Image."

The analysis of the scripts includes diagrams to make explicit such elements as character interrelations and conflict. Although the diagrams would be helpful to the serious reader or the advanced student, the casual reader may find this book somewhat difficult. However, for those whose careers are in any way involved with the art and science of cinema, this book should be exceptionally rewarding.

The author, Robert Gessner, died in 1968, shortly before this book appeared. He was the founder of the Society of Cinematologists and the founding director of the Motion Picture Foundation for colleges and universities. It was due to his efforts that New York University established a four-year curriculum leading to the degree of Bachelor of Arts in Film. He authored nine books in the field of aesthetics and the arts; this book, his last, culminating some 35 years of studying and teaching films, is the only one dealing specifically with the "ninth art." —*Edit.*

Film Making in Schools and Colleges

Ed., Peter Harcourt and Peter Theobald, Published (1966) by The British Film Inst. Education Dept., 81 Scan St., London W. 1; Distributed in U.S.A. by Filmboard, 25 Steadman St., Chelmsford, MA 01824. 80 pp. Paperbound. 5½ by 8½. Price incl. postage and handling $2.35.

In a straightforward fashion the editors and four conference speakers provide costing, improvising, directing and producing details and descriptions to a remarkable extent in a book of this size. All equipments are identified and prices given. Filmmaking is reported from schools of these types and levels: infants, junior, comprehensive, grammar, technical college, art and teacher training.

The book's being British seems to detract little from its practical value because local situations and goals are lucidly set forth and reasons given for choices, for instance, as between 16mm and 8mm, color or black-and-white, sound or silent. These reports of experiences are enjoyable and should also prove instructive for many.—*Edit.*