spective media to the utmost they may acquire a competitive advantage. The wide screen, the increasing use of color, and the substantial effort to improve color film and processing are evidence that Hollywood is taking its techniques almost as seriously as its talent. In fact, in many of the late lamented experiments in 3-D production, the factor of talent was almost ignored.

William A. Price and Ernest H. Ehling, "Motion-Picture Photography in Guided-Missile Research," June 1955

The performance of experimental guided missiles can be most effectively evaluated through the use of the motion-picture type of instrumentation. At the Air Force Missile Test Center (AFMTC), Patrick Air Force Base, Florida, numerous types of cameras are utilized for this purpose, including several specially modified high-speed and normal-speed motion-picture cameras.

AFMTC fires missiles from the coast of Florida on a range extending through the British West Indies and terminating at Puerto Rico. The range provides missile contractors with a long-range, instrumented proving ground on which new missile models and modification to existing models may be tested. Photograph instrumentation is located at the launching site, along the missile flight path and the target area.

Book Reviews

Handbook of Animation Techniques

By Eli L. Levitan. Published (1979) by Van Nostrand Reinhold Co., 135 W. 50 St., New York, NY 10020. 318 pp. Illus. 8½ × 11½. Price $24.95.

It can be a great source of bewilderment to study the techniques of animation. Guides on the subject all seem to share one annoying attribute: after revealing the basics, they somehow fail to indicate how, exactly, the material is refined. All of us have at some time seen an advertisement which reads "Drawing Made Easy." Step one consists of two circles and one triangle. In step two can be seen a variety of circles, ovals, triangles, obelisks, and penciled shading (in which a vague figure can be discerned). Then *presto!* appears Renoir's *Le Moulin de la Galette!* Gone are the obelisks! Gone are the triangles, the circles, the ovals! The penciled shading has faded into obscurity, and we are left with the impression that it's really very easy except for that one minor operation in the end.

Though he shares this problem to some extent, Eli Levitan has, in fact, produced an informative, easy-to-read manual that is sure to be of use to the animator. Its strength lies in the emphasis on tools, procedures, special effects, and some aesthetic principles.

The author, besides being a member of the SMPTE, is a recognized consultant on animation and is associated with several leading production houses. He has received numerous industry awards including the coveted Clio. A man of his impressive credentials may stimulate greater interest in future editions by touching upon state-of-the-art computer graphics and video animation techniques. Another cause for dismay is that the poor quality of the illustrations may deter the otherwise interested reader from purchasing this book.

Yet it is important to note that the author, with 40 years of experience, has much to say that will apply to ancillary aspects of the trade. The book will arouse the interest of non-animation filmmakers who may be astounded at how much of the technical advice and attention to detail can be translated to other areas of motion picture production.

— Gary Rosenberger

Laser 79 Opto-Electronics: Munich 2-6 July 1979 Conference Proceedings

Ed. W. Waidelich. Published (1979) by IPC Science and Technology Press Ltd., P.O. Box 63, Westbury House, Bury Street, Guildford, Surrey GU2 5BH, England. 694 pp. Diagrams. 6½ × 9½ in. Softbound. Price $78.

As the Conference was held in Munich, Germany, it follows that many of the papers in the *Proceedings* are in the German language; however, about 43% are in English, enough to make the book important as a reference to scientists and technicians involved in the opto-electronics field.

Subjects covered in the *Proceedings* include: Opto-Electronic Components; Laser Systems; Opto-Electronic Signal Transmission; Lasers and Opto-Electronics in Medicine; Material Processing With Lasers; Opto-Electronic Imaging and Display; Laser Techniques for Measuring and Testing; Lasers in Environmental Measurement; Opto-Electronics in Environmental Measurement; Opto-Electronics in Solar Technology; Opto-Electronics in Space Technology; and Lasers and Safety.

Of the 113 papers (including abstracts and summaries) in the *Proceedings*, 49 (about 43%) are in English and the rest in German. Special attention is given to Laser Developments, Applications, and Devices; Lasers in Medicine; and Lasers in Measurement and Testing.

Eighteen papers (about 16%) cover subjects of special interest to readers of the *SMPTE Journal* including video and other communications, displays, fiber optics and laser safety. Eight of these papers are noted below:

"Transmission of Signals Relating to Remote Television Pickup Using Fiber Optics" (in German);

"Use of Fiber Optic Link for Long OB Operations" (in English — Abstract only);

"CCD and CID Camera Applications" (in German);

"Survey Paper on Electro-Optical Displays" (in German);

"High Speed Laser Printer" (in English);

"Dry Silver for Laser Printing (in English);

"CCD Line Sensor for Slide Scanner" (in German); and

"Laser Color Television Display Using Electron Beam on Semiconductor Laser Screen" (in English).

Clearly, for one interested in a particular discipline, appropriate portions of this volume can be of great value. To those interested in the acquisition, transmission and display of visual and aural information, however, the volume provides a limited perspective.

While no review can be attempted for the full gamut of the generally fine material published in this volume, one paper is so prominent in its introductory position and so sophistical in its logic that some comment is warranted. The paper is that of Leon Goldman, M.D., entitled, "Sturm und Drang in the Development of Lasers for the Good of Man." A passionate plea is given for the application of lasers to biology and medicine, invoking a parallel with Goethe's Sturm und Drang literary movement in Germany during the late 18th century. With respect for the author's intent, three narrow suppositions, found to recur throughout the article, should be noted: (1) that work in biology and medicine is exclusively for the "good of man," (2) that the laser research community has neglected the "good of man," and (3) that program funding resources have neglected support for work toward the "good of man."

If the Conference forum was to reflect these postulates, why, then, did only 16% offer biologically and medically related papers (though the Conference was organized under principally medical auspices) and what fraction of that authorship concurred? Further, what inhumanitarian work did all the rest of the authors consider they were conducting? While Dr. Goldman concedes that laser communications and information handling offer potential for imprinting upon man's well being, it requires, according to his argument, dedication to biology and medicine to take the final noble step. It would seem that that would be up to the medical research community. Further, it recognizes none of the significant work in medical imaging and analysis being conducted by non-medical scientists and engineers.

With a demonstrated need for opto-electronic work in biology and medicine, as there is in all other useful fields, it appears manifest upon medical leadership to inspire and foster outside scientific advancement in medical instrumentation; not to decry its failure to rise to the romanticized "good of man."

Let us not permit the well-meaning but unfortunate inconsistencies of this opening paper to discourage exploration of the balance of this interesting volume. It contains much valuable material. —*Leo Beiser*