

Book Reviews

Motion Picture Camera Techniques

By David W. Samuelson. Published (1978) by Focal Press Ltd. (London) and Focal Press Inc., 10 E. 40 St., New York, NY 10016. 200 pp. Illus. 5 × 8½ in. Price £2.95.

David Samuelson has done it again! About a year ago we reviewed his first book, *Motion Picture Camera and Lighting: Choice and Technique*, and recommended it to all interested in or working in cinematography. Now comes his second work, *Motion Picture Camera Techniques*, which nicely supplements the first. This book has a little on a lot of topics regarding camera techniques, and that which is there is the vital message.

This book is not a book of long chapters. Rather, it is a series of 96 topics and illustrations, covering 200 pages. These topics concern about every situation in which a cameraman may find himself and the information he may need. Sample topics are: Planning for the Day; Hand Holding a Camera on the Move; Shooting in the Wet; Shooting for TV; Shooting a TV Screen; Front Projection; and others. Each topic is stated in one or two pages, and each is illustrated for clarity. Nothing is there but the bare essentials, but these are pithy and to the point, reflecting Samuelson's own extensive experience.

Some of Samuelson's own personality shines through the book. His topic on gaffer tape will never receive a literary award, but is something all cameramen should memorize. The author points out that "Camera crews who provide the editor with wide angle clapper board shots should be made to attempt the syncing themselves!"

Anyone who is involved with motion-picture production should keep this book as a reference. The veteran will find some new idea or approach to an old problem. The novice can learn quickly the fundamentals of each production operation. My only criticism is that Samuelson made it too short. It ended much too soon.

Best of all was the introduction (reproduced below). Here in a few paragraphs Samuelson sums up the whole philosophy of successful film production. He puts into very practical terms what it is all about. If a filmmaker understands and follows the philosophy of this introduction, he will almost have it made.

Introduction

... Film making combines many aspects. It is creative and yet is bound by technology, standards and tradition. Individuals make contributions which leave an indelible stamp upon the production, and yet it is essentially a team effort. Masterpieces were made with the equipment of yesteryear, yet new equipment, new materials and new techniques make new concepts, previously beyond the imagination, possible to achieve. There are new limits—but even these rules are there to be broken. People can make good names for themselves, reputations may be

ruined by the maladroitness of others and, ironically, the most important person to be satisfied may have nothing to do with the project in hand but be the man who is prepared to finance a future production on the strength of the current one.

"Cinematography is an art; of that there is no doubt. But the canvas is expensive and unless commercial viability is observed at all stages, he who is prodigal or avaricious faces the possibility of a lifetime of frustration. There is no-one more sorrowful than an unemployed film maker, especially one who has exceptional talent and motivation but whom no-one can afford to employ. It must never be forgotten that films are usually made with someone else's money and respect for this may well affect an individual's continuity of employment.

"Rarely is there an opportunity for undisciplined experiment for, invariably, there is too much money at stake, putting expertise at a premium. A bold imagination, though the very lifeblood of cinema and necessary for its survival, may only be indulged if the results are virtually guaranteed, for failure is too costly to contemplate.

"What then should be the aim? What is good and what is worthwhile?

"If the end result satisfies only its creators it is merely an ego trip. If it succeeds in recouping its cost and feeds, clothes and warms those who work on it and even makes a profit for re-investment in another film and regeneration of the film industry then it is successful indeed. Film makers should never underestimate the importance of money or lose their respect for it, particularly if it belongs to another person."

Let's hope that David Samuelson keeps on with more books like *Motion Picture Camera Techniques*. — William D. Hedden

Hazeltine the Professor

By Harold A. Wheeler. Published by Hazeltine Corporation, Greenlawn, N.Y. 11740. 120 + xi pp. Illus. 6 × 8¾ in.

Louis Alan Hazeltine has occupied several fields, each of which has given him significant renown, and among which one is at a loss to assign precedence or relative importance. The book title implies a choice of his teaching status, but the text ranges widely over the several fields that in which he participated. He was a great inventor, a well-grounded mathematician who could study out his inventive ideas into mathematical language, a teacher in both science and mathematics, and an industrialist who handled the manufacture and sale of his products.

The art he was involved with considerably changed during his lifetime. The concepts and utilization of electromagnetic radiation expanded in both directions, to much longer and much shorter waves than light. Electricity has been harnessed for use in the largest-scale power projects down to the smallest mini-micro devices.

The transmission of electromagnetic waves has gone through a wide variety of successive stages. At first it was used for communication merely by the wave being turned on and off in a telegraph signal. And the receiver was merely a rectifier (or "detector") of the high frequency wave to distinguish "on" and "off" periods. The rectifier was a metal point contact on a crystal (or a "coherer," or a Fleming diode). This gave the "wireless" signal that quickly became useful for contacting ships at sea. It was not long before an extra electrode was added to the Fleming diode, and this triode (or "audion") gave the possibility of amplifying the detected signal. The next step was the amplification of the radio signal in the high frequency stage before detection.

With the availability of amplification it became more of a problem to select the precise ether wave desired. It was done through a variety of tuned circuits, then consisting of air-cored coils and condensers. The coils gave many possibilities of wide-ranging magnetic sidepaths, which with the amplification would generate interfering oscillations to the desired signals.

The book mentions a large number of individuals who studied the problems intensively, and who came out with varied solutions and patent applications. It points out how the patent situation became excessively complicated because of the intertwined interests of so many individuals "skilled in the art."

Among these Alan Hazeltine figured prominently. His design (the "neutrodyne") resulting from both practical and mathematical study, earned a serious reputation and was manufactured by a number of other firms who leased patent rights.

The neutrodyne held out quite well commercially until the vacuum tube design was enlarged to include a screen around the grid. This suppressed the most difficult interference paths and considerably changed designs. Since that time of course even more marked changes came in to replace the electron paths through a vacuum by direct conduction through the solid state.

The frequency bandwidth of individual communication paths has been increased from time to time, to go to wider bands than the single talking channel, to program channels, then to the 2.5 kHz channel of early television, and to the present broader band widths. Thus all the development from the earlier telegraph channel down to the present, paved the way for the modern television channel.

The book gives an entertaining account of these developments and of the many people who took part in them and presents an intimate story of this most active period — Pierre Mertz, Meadow Lakes 9:01, Hightstown, NJ 08520.

Erratum

Video Transmission Tests Performed on Intermediate-Frequency Lightwave Entrance Links

By A. Albanese and H. F. Lenzing
December 1978 *Journal*, p. 821

There is a typographical error in column 2, line 10. The sentence should read:

"The use of lightguides instead of coaxial cable makes equalization circuits unnecessary, assures immunity to electromagnetic interference, and permits both a size reduction in comparison to coaxial cables and potentially lower fabrication cost."