out the structure of the 16mm film world. While it covers all aspects of the industry, it concentrates on business and industry, medicine, and government use of the nontheatrical film.

"Film in Education and Religion" is the only chapter that carefully details its topic, the famous — or infamous depending upon your viewpoint — early historic film series, *Chronicles of America*. Slide begins, "One series of film is superior to any other production in the non-theatrical subgenres of business, educational, or religious subjects....It was the most ambitious non-theatrical production ever attempted, combining 'Hollywood' techniques with the highest of educational standards." *Chronicles of America*, based on the 50-volume series from Yale University Press, was envisioned to be a 100-reel project. It never did reach that goal; 49 reels of 15 topics were completed between 1923 and 1925.

If any fault is to be found with the book, it is that the first five chapters jump around from the early 1900s to the current time, depending on the subject. This proved confusing at times and caused me to go back from time to time to keep my thoughts straight. For such an ambitious topic, the 172 pages mean that the hundreds of subjects are treated in a terse fashion. As I read, I found myself mentally filling in what I might have considered as essential information to make a vignette more interesting. I wonder why the book was only 172 pages.

A major omission is the Calvin Workshop, an annual event run by what many people felt was the number one 16mm production company of the day, the Calvin Co. of Kansas City, Mo. It should go down in history as one of the finest short courses of all time in any discipline. Some of their instructional films were classics. The workshop must have run for at least 15 years, drawing literally hundreds of people active in all aspects of production each year. Since the nontheatrical production industry never had a national convention, in some ways this workshop served that role. It certainly brought together people of note. Forest Calvin, Lloyd Thompson, Larry Sherwood, Bill Hedden, and Neal Keehn all deserve their place in history for a variety of significant contributions to the industry, which are too numerous to elaborate here.

Almost overlooked was the vital role film played in World War II training. When the German surrender was being signed by Germany's chief of staff, Field Marshall Von Keitel, he reputedly said, "We had everything calculated perfectly except the speed with which the Allies were able to train their people for war. Our major miscalculation was in underestimating their quick and complete mastery of film education."

Sixteen million men and women each saw dozens of training films in all services. In addition civilians in the war effort were trained by film. It was after the war that thousands returning to peacetime positions put the 16mm film to effective use. I mark that period as the turning point that made film an industry.

If I had written the book, I would have devoted a chapter to the documentary film. Likewise, the single largest market for 16mm by a wide margin was the business and industrial use. That market used as much film as all the others put together. References to corporate use of 16mm are scattered throughout the book.

Before Video: A History of the Non-Theatrical Film ranks right up with Gloria Waldron's *The Information Film*, which was written in 1949 when 16mm film was approaching its zenith. *Before Video* was intriguing reading; I learned much from it. The book should be used in every cinema and television school in America *and* the world.

—Thomas W. Hope

Obituaries

Harry R. Lubcke

Harry R. Lubcke, a television pioneer and Life Fellow of the Society, died on December 24, 1991, in Los Angeles, Calif. Lubcke was one of the last of the surviving television pioneers who was present at the birth of television in the U.S. Born in Alameda, Calif., on August 25, 1905, he graduated from the University of California at Berkeley with a degree in Electrical Engineering in 1929. Before his graduation, he went to work at the Crocker Research Laboratories for Philo T. Farnsworth. While with Farnsworth, he built, operated, and patented the first all-electric synchronizing, scanning, and blanking pulse generator. This gave Philo Farnsworth the first all-electric television system in the world.

Harry R. Lubcke (1967)

On December 31, 1931, Lubcke joined up with Don Lee Broadcasting in Los Angeles to build and operate the first television station on the West Coast, W6XA0. With adequate financing from Thomas S. Lee, he operated this station until the late 1940s. He was a pioneer in many television programming techniques, such as remotes and studio operations. In 1940 he became a member of the first National Television Standards Committee (NTSC) that set the present-day American television standards. He held over 20 patents pertaining to television. In 1949 he was elected president of the Television Academy of Arts and Sciences and helped name the Emmy (for image orthicon) award. He was a life member of the National Academy of Television Arts and Sciences and a Life Fellow of the IEEE.

—Albert Abramson

Eldred B. "Mike" McGreal

Eldred B. "Mike" McGreal, a Life Fellow of the SMPTE, died on September 30, 1992, at the age of 87. McGreal joined the Society in 1953 as an Associate Member, while working as head of film operations, Hollywood, for Young & Rubicam. In 1957 he joined the staff of Metro Goldwyn Mayer.

Prior to joining the Society, he worked at Warner Bros. for 19 years, where he was instrumental in developing the sound blimp for Mitchell cameras. He later designed the production camera support trailer that contained all film, magazines, and lenses for camera equipment. He became president of Producers Service Corp. in 1962, where he spearheaded the design and development of the triple-head special-effects optical printer.

McGreal served several terms as SMPTE conference vice-president from 1967 to 1970. He also served the Society as registration chairman, hotel arrangements chairman, and local arrangements co-chairman at various technical conferences.

Lester Shorr

Lester Shorr, a Life Fellow of the Society, died on July 28, 1992, at the age of 85. During his lifetime, Shorr helped pioneer the techniques of multiple-camera filmed TV cinematography, which became the basic format for television sitcoms, and devised a system that gave each camera its own fill light and battery, eliminating restrictive cables.

A cinematographer who started working in features during the silent era, but became best known for his work in television, Shorr won the first Emmy Award for cinematography in 1954 for a segment of the NBC dramatic series, "Medic."

He entered the industry as an assistant cameraman in 1926 and became a camera operator in 1939. A director of photography for over 30 years, he worked for many years as an operator for Columbia Pictures. He also held positions with Desilu Studios and Paramount Pictures Corp.

An SMPTE member since 1954, Shorr was presented with a Certificate of Commendation, honoring his many outstanding contributions to the motion-picture industry, during the October 1977 SMPTE Technical Conference. He was also an active member of the Academy of Motion Picture Arts and Sciences.

Frank L. Marx

Frank L. Marx, a Life Fellow of the Society, is dead at the age of 82. Marx joined the Society in 1949, at which time he was the vice-president, engineering, at ABC, Inc.

In 1930, while serving as chief engineer at stations WPCH and WMCA in New York City, Marx carried out successful experiments that led to a single-antenna operation of both stations. At WMCA, he was responsible for the design, construction, and installation of several complete broadcast plants. He also carried out experiments with radio relay transmitters, as well as conducted tests on a broadcast transmitter at 26 Mcycles, where transmission lines were studied and a method of locating shorts in concentric transmission lines was developed.

During his career, Marx served on RTBP panels on FM broadcasting, relay systems, and television. He was a member of the Committee on Sabotage of Radio Stations during World War II, a senior member of the IRE, and a member of the Association of Federal Communications Consulting Engineers, Radio Executives Club of New York, Radio Pioneers Club, and Washington Engineers Club. He had contributed to various technical radio publications and held a Letters Patent on radio and electronic devices.

New Products

A multimedia computer was launched by Commodore Business Machines, Inc., 1200 Wilson Dr., West Chester, PA 19380, (215) 431-9100, Fax: (215) 431-9156. The Amiga® 4000 features the company's Advanced Graphics Architecture™ custom co-processor chip set that enables users to display and animate graphics in multiple resolutions at up to 256,000 colors from a palette of 16.8 million. The hardware features are driven by AmigaDOS Release 3, the newest version of the company's multitasking operating system, in combination with the machine's main processor, the Motorola® 68040. The unit will come standard with a 120-Mbyte hard drive, 6 Mbytes of memory, a dual-speed high-density floppy drive, and CrossDOS, which enables users to read and write to MS-DOS® formatted floppy and hard drives.

The DVSR 1000, an HDTV image sequence storage system developed by VTE, is being marketed by DVC Digitalvideo Computing GmbH, Seestr. 7, 8036 Herrsching, Germany, 08152-3031, Fax: 08152-3661. The unit is a platform for digital image processing, HDTV research, HDTV simulation, and image coding. The product represents a thorough, continuous development of the multistandard image sequence storage systems. The video interfaces of the system are compatible with the company's previous models and the RAM memory can be upgraded to 8 Gbytes. Fourteen slots are available for optional input and output processors, allowing the basic system to be expanded to a multiuser system. The video processors can be operated fully parallel up to a combined data rate of 400 Mbytes/sec.

A series of completely preassembled, portable video edit systems was unveiled by Sony Corp. of America, Sony Dr., Park Ridge, NJ 07656, (201) 930-6432. The systems are small enough to be transported as baggage and can be readied for operation in less than 30 min. Three portable series configurations are being introduced as extensions to Sony's Select™ Systems prepackaged video edit system product line. Contained in four to eight ATA-rated shipping cases, the systems feature a selection of Sony's BVE edit controllers (BVE-600, BVE-910, and BVE-9100), analog or digital video switchers and audio mixers, and professional video monitors. Each system can be designed for compatibility with Hi8™, Betacam SP®, and D-2 composite digital videotape recording formats. The Select Systems line also includes six post-production systems designed for permanent installation.

Toshiba America multiformat Hi8 3CCD camera/recorder

A multiformat Hi8 3CCD camera/recorder was added to the product line at Toshiba America's Professional Video Systems Group, 1010 Johnson Dr., Buffalo Grove, IL 60089-6900, (708) 541-9400. The TSC-200 combines, in a single nondockable unit, the portability and affordability of one-piece design with the recording versatility of larger, dockable cameras. With its new DeckLink multiformat adapter, the product is the only integral camera/recorder that also allows the user to record on other formats — such as Betacam, MII, or S-VHS — simply by connecting a cable. The unit's integral Hi8 deck will continue to record a backup tape. For sourcing images for computer enhancement, genlock capabilities allow the product to be synchronized into a complete system for multiple-camera shooting or special effects work.

The DS-DT9OONS is a full-featured player/recorder available from JVC Professional Products Co., 41 Slater Dr., Elmwood Park, NJ 07407, (201) 794-3900, Fax: (201) 523-2077. The product, which has the ability to read and write SMPTE time code, includes absolute time conversion to SMPTE, which allows any DAT tape with absolute time to be utilized in a synchronization environment, whether in audio or video production. Other functions include SMPTE display on the front panel on playback. An "Intelligent AES" interface treats S/PDIF and AES/EBU digital signals properly. The interface also allows DAT IDs to be written across the AES digital input as audio passes the -60-dB threshold. Avid Technologies has written an efficient and economical interface for the unit, which allows full serial control of the audio recorder and digital audio transfer ("batch digitizing") between the media workstation and the recorder. The player/recorder can also be interfaced with CMX OMNI and Sony 9000 equipment.