Lincoln L. Endelman

SMPTE

Vice-President for

Photonic Affairs

1980–1981

Lincoln L. Endelman, Manager, Test Equipment Engineering for the Optical Technology Division of Perkin Elmer, was the SMPTE Vice-President for Photonic Affairs for the 1980-1981 term.*

He graduated from Ohio State University in 1952 with a B.A. degree in Radio and Television Engineering. Later he attended Redlands University in California, where he was granted an M.A. degree in Management and Business Administration.

In his present position with Perkin Elmer, which he has held since 1967, he is responsible for directing the engineers who operate and maintain various types of test stations and test equipment. From 1962 until 1967 he was a Field Manager for Perkin Elmer, where he directed a group of engineers who performed tests in electro-optical systems, including photographic equipment, lasers, laboratory optical testing instruments and electronic instrumentation equipment. Earlier he had been an Assistant Project Engineer for the Martin-Marietta Corp., where he was responsible for data acquisition and analysis systems on the Pershing Missile Program. Prior to that he was with Convair Astronautics, where he was a flight test engineer, responsible for setting up activation requirements and specifications for various sources of land line and optical instrumentation for the Atlas launch complexes at Cape Canaveral.

From 1950 to 1952, he was Laboratory Assistant for the Ohio State Research Foundation, where he designed, constructed, and operated electro-mechanical psychological testing devices used to evaluate the coordination, reaction time and aptitudes of individuals selected for flight training.

Endelman was U.S. Delegate to the International High Speed Congresses in Toronto in 1976 and Tokyo in 1978, and he contributed reports on the 10th, 11th, 12th and 13th High Speed Congresses to the *JOURNAL*.

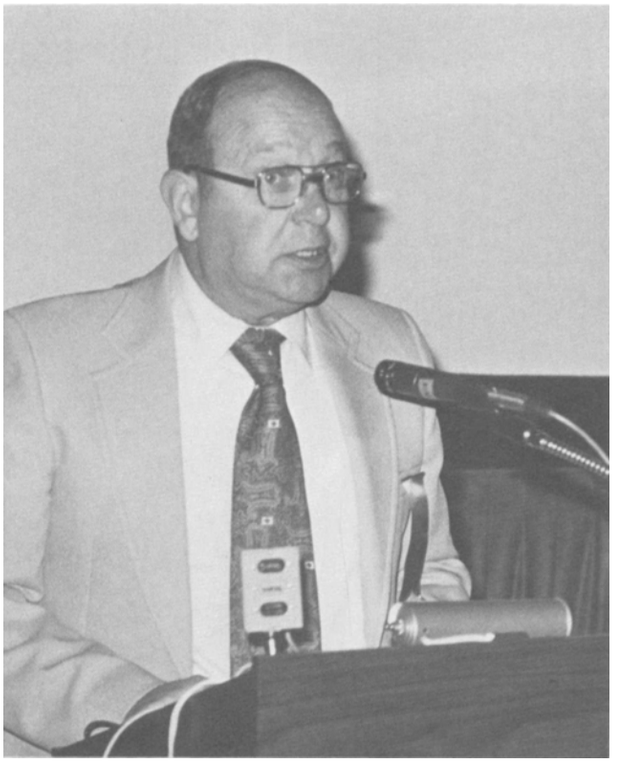
He became a member of the Society in 1956, and was made a Fellow in 1980. He is a member of various SMPTE committees including the Film Technology, the Educational, Industrial and Consumer Film Technology, and the Standards Committees. He is Chairman of the Photo-Sonics Achievement Award Committee, and was elected Vice-President for Photoinstrumentation Affairs in 1978. The name was later changed to Photonics to indicate a wider field than that covered by the term "photoinstrumentation." He represents the SMPTE at International Congresses on High Speed Photography and Photonics, and is also a member of the SMPTE Technical Advisory Group for the International Organization for Standardization, Technical Committee 36 on Cinematography.

Photonics and the SMPTE

Endelman's interest in Photonics began many years ago. In 1953 he was a Research Assistant at the Case Institute of Technology in Cleveland, Ohio, where he was given an assignment as a field engineer to gather photographic information and to prepare documentary reports on a series of special tests that were being conducted at Fort Eustis, Virginia. This assignment marked the first time he had used high speed cameras, and he became immediately aware of the possibilities of high speed photography.

"Photonics is the outgrowth of various kinds of scientific photography, and this discipline conforms to the aims and purposes of the SMPTE,"

* Lincoln Endelman's term of office as Vice-President, Photonic Affairs ended December 31, 1981. Robert D. Shoberg is Vice-President, Photonic Affairs for the 1982-1984 term.



Lincoln L. Endelman addressing the 123rd SMPTE Technical Conference, which was held October 25–30, 1981, in Los Angeles, Calif.

Endelman said. The first High Speed Congress was held in 1952, and it was sponsored by the SMPTE. From it and the succeeding Congresses stemmed the development of the relatively new discipline of Photonics. The name Photonics was chosen to represent high speed photography, and it includes the larger and rapidly expanding field of scientific photography and photoinstrumentation.

The High Speed International Congresses gave delegates from many countries an opportunity to present papers, exchange ideas, and display equipment. Advances in the field of high speed photography and the development of Photonic techniques have resulted in many improvements in the standard of living, not only in this country but in many other countries as well, Endelman stated. "An example," he said, "is the improvement in agriculture through the use of Photonic techniques. We can now discover blight through the use of infrared and ultraviolet films that show the different colors of plants and fields and trees that are experiencing an attack from insects, as well as other identifiable problems." He then went on to explain that improving the food supply of the world should be one of the most important concerns of all thinking people. He emphasized that the great need of the future will be not oil but food. "Food will be our link to survival."

Space, Progress, and Possible Futures

Other applications of Photonics include space exploration. "Space programs, missile programs and related developments have vastly increased our knowledge and have advanced our scientific approach during just the last five or six years," Endelman said. "An example is the recent discovery of the multiple rings of Saturn, the existence of which had been unsuspected," he added.

Endelman takes a long-range view of the possibilities of space exploration. "The information we are gaining today from the space probes and types of equipment required for space exploration will be useful, perhaps no later than 50 years from now, when a space station will be established capable of supporting human life," he said. He predicted that some of the information being obtained today will be used in the designing of space stations, and that men of the future will use that information to develop new resources for a world out in space where people can live and work.

While admitting that it was a far-fetched view, Endelman revealed his idea that a means might be found for directing sunlight from a space station to energy stations on earth through a system of mirrors. "This might mean a supply of limitless energy," he said "No more digging up coal or drilling for oil. But the main thing," he emphasized, "is that we are looking forward to improving man's lot scientifically."

During a discussion about progress in general, other than progress in space exploration, Endelman said the term "progress" should be strictly defined. "Progress is good," he said, "if it can be accomplished without destroying the values and achievements of the past — for example, if a beautiful old home or fine stand of trees is destroyed to make room for a parking lot or a high rise building, that is not my idea of progress." He explained his idea of progress by saying that if medical research can find a cure for cancer or can minimize heart disease and thus extend life expectancy, that would be progress. "Genuine progress comes about as the result of scientific research," he said, "but the benefits of the research cannot be immediately apparent, and for that reason Government subsidies for pure research are grudgingly given. It may take years of dedicated, meticulous (and expensive) effort before a great discovery is made. My hope is that our government will take the long view and give its support to pure scientific research."

Endelman and the SMPTE

Endelman has been on the Society's Board of Editors for many years, and he has seen the *JOURNAL* change in many ways. He believes that the Editorial Staff and the Board should encourage authors to strive for clarity in their presentations of even highly technical material. "The *JOURNAL* is above all a scientific/technical publication," he said, "and there are good reasons for using recondite terms, but if those terms are not understandable to the average reader they should be explained." Endelman said that when he writes a paper for the *SMPTE JOURNAL* or any other publication he does not assume that every reader will know what MOS or CCD or any other acronym or abbreviation represents, so he spells out the complete term followed by the acronym in parentheses. "The Board of Editors wants the *JOURNAL* to continue as a leading scientific magazine and also to appeal to the average reader," he said. "We want all the articles we can get, and we also want to encourage prospective authors."

Endelman's view of the Society at present is that "it is healthier than ever." He noted that over the years the Society's officers have guided it in the direction of the greatest benefit to its members as well as to the industry as a whole. "In the area of national and international standards the Society's achievements have been outstanding," he said.

An important part of Endelman's participation in the Society's programs is that of helping to draft both National and International Standards. "Establishing a new standard is a long, slow process, ringed around with safeguards and requiring many conferences and consultations with many interested parties, but the end result of making possible the development of improved and more widely used equipment is well worth the time and effort," he said.

One of the most important benefits accruing to members of the SMPTE is that of meeting and working with other workers and the opportunity of exchanging ideas and information. "I doubt if I could have accomplished what I have today without the association of other members of the Society and the opportunity of working with them," Endelman said.

Hobbies

Despite the time and effort Endelman devotes to Perkin Elmer, Photonics, and the SMPTE, he still has time for leisure activities. Although he mentioned photography as a hobby, his professional interest and involvement in scientific photography takes it far beyond a hobby.

"I love to travel," he said, and in that area his love for travel has, on occasion, coincided with his work for the SMPTE. In 1980 (May 22–June 14) he was part of a five-man delegation that visited four countries in the Orient and Southeast Asia, and then proceeded to Australia, where the SMPTE has had an active section for more than 10 years. The purpose of the trip was to exchange information with motion picture and television technicians in the various countries visited. A report on the trip appears in the November 1980 issue of the *SMPTE JOURNAL*.

Endelman loves music, "everything from jazz to classical," he said. He collects stamps, and like many stamp collectors he is interested in history, particularly during the period from about 1550 to 1918. "A most significant period," he noted. "During that time the rise of the industrial age began, and also, during that time, a major change in the political systems of the world gradually occurred, going from a single ruler unit to the so-called democratic forms of government. Two great social changes going at the same time, perhaps that's why they happened," he said. "That whole period provided the groundwork for practically all of the developments we take for granted today."

Family Interests

Endelman's wife, Sally, accompanies him to the SMPTE Conferences, where she attends some of the Technical sessions and where, Endelman says, she takes copious notes. Also, on several occasions she has taken his two children — his son, Irwin, and his daughter, Susan — to the Conferences. According to Endelman, his son "wanted to be a scientist — a physical chemist. I did my best to discourage him," Endelman said, "by taking him to some of the technical sessions at the Conferences." Apparently Irwin was by no means discouraged, and, in fact seemed to have a good deal of interest in the various sessions. He also took his daughter Susan to many of the papers sessions. Susan is now a Park Ranger at Kennedy Center in New York.

One of the most important benefits derived from the Society's Conferences is that of meeting people with similiar interests, some of whom become lifelong friends. Among the people with whom he and his family have become acquainted, Endelman mentioned Jeofry Courtney-Pratt and Harold Edgerton. Another of his close friends was Morton Sultanoff, who died about ten years ago. All three of them achieved world-wide recognition in the fields of photoinstrumentation and high speed photography.

During his 25 years of membership in the SMPTE, Endelman's loyalty to the Society and his efforts in its behalf have been unwavering. Because of Endelman and its many other dedicated officers and members the Society has been pointed to as the most prestigious and influential organization in its field. — *Rae Hargrave*