



## Biographical Note

### Peter C. Goldmark

The hiss of the teakettle started Robert Fulton thinking the thoughts that led eventually to the steamboat and other steam-driven vehicles and the clunk in Brahms started Peter Goldmark thinking the thoughts that led eventually to the long-playing record — and other things. Dr. Goldmark, who comes from a musical family and is a gifted amateur at the piano and cello, remembers the long-ago clunk that started the chain of events leading to the LP — “I was listening to a recording of Vladimir Horowitz playing Brahms. Musically it was wonderful but every four minutes came that clunk — the most awful sound in the world — of the records changing. It occurred to me how beautiful such a piece would be if a whole movement, maybe more could be put on a single record.” The seminal clunk in Brahms occurred in 1945 and in 1948 the first perfected 33½ LP was introduced to a world that was certainly ready for it.

#### *Musical Learning System*

His interest in music is also evident in a very recent development of considerable potential — the Music Learning System (*Journal*, p. 820, Sept. 1974). The system, under development for two years, represents a new concept in music learning and practice. The “bare bones” of the system, a compact, portable tape-cassette system for use in home or classroom enables the student to play (or sing) along with professional musicians as part of her or his practice sessions. A four-track tape control and a specially designed MLS player recorder enables the student to play along with recorded musical groups with his own instrument substituting for the instrument in the group to which he is listening. Accompanying sheet music designed by Warner Bros. Publications is synchronized with electronic voice signals and beat instructions from the MLS system. The MLS tape tracks which can be played in any combination including (1) an ensemble track prerecorded without the instrument the student is studying; (2) a soloist track prerecorded with the instrument and without the rest of the group; (3) Index Voice track containing electronic signals, voice instructions and beats coordinate with the MLS sheet music; and (4) the student track for recording alone for comparison with professional musicians.

Dr. Goldmark has been responsible for a number of other significant developments, among them the first successful color television broadcast system (used by CBS for the first live color telecast from New York City on 4 September 1940); Electronic Video Recording (EVR); field sequential color television; and the high-resolution readout and ground recording system used in the U.S. Lunar Orbiter Program. The field sequential system, miniaturized by modern technology,



**Peter C. Goldmark with the EVR system.**

was used by the Apollo astronauts to beam live color television pictures to world audiences of man's first walk on the moon.

#### *CBS 35 Years*

He joined Columbia Broadcasting System in 1936 as Chief Television Engineer; in 1950 he was made Vice-President in charge of Engineering Research and Development; and in 1954 he became President and Director of Research of CBS Laboratories in Stamford, Conn. He retired from CBS in 1971. At present he is President and Director of Research of Goldmark Communications Corp., a subsidiary of Warner Communications Inc.

Dr. Goldmark was born in Budapest, Hungary, on 2 December 1906. He studied at the Universities of Berlin and Vienna and attained the degrees of B.S. and Ph.D. in Physics. He is the recipient of honorary degrees from Fairfield University (Doctor of Science), Polytechnic Institute of Brooklyn (Doctor of Engineering) and Dartmouth College (Doctor of Humane Letters).

From 1931 to 1933 he was in charge of television for Pye Radio, Ltd.; from 1933 to 1935 he was Chief Engineer at World Radio in New York and in 1936 he joined CBS. His great talent was evident at an early age. In 1930, at the age of 24, he published and read before the Academy of Science in Austria a paper on “A Method to Determine the Velocity of Gas-Ions.”

#### *Dr. Goldmark and the SMPTE*

Dr. Goldmark joined the Society in 1937. He noted at that time that he had had some 25 patent applications and patents granted; since then he has become recognized as one of the great pioneer inventors, his restless mind roaming over the areas of mathematics, physics, optics and medicine as well as the whole

field of communications; he now holds more than 160 patents. One of his recent concerns has been with the possibility of a new rural society based on the latest developments in communications technology (see “Communications for a New Rural Society” in the July 1972 issue of the *Journal*).

His achievements have not been unhonored. He is the recipient of three awards presented by the Society. In 1969 he received the David Sarnoff Gold Medal Award for “. . . significant innovations in television, video recording and the application of television technology in the fields of aerospace, education, printing and medicine.”

In 1970 he received this Society's Progress Medal Award “in recognition of past contributions to the television industry and the record industry and especially for the development of the electronic video system.” In 1971 he received the Journal Award for the paper “Color Electronic Video Recording” in the August 1970 *Journal*.

Other professional awards include the Vladimir K. Zworykin Television Prize (1961); the National Urban Service Award (1968) for “his efforts in the War on Poverty”; the Distinguished Service Award of the New York Broadcast Pioneers (1968); and the Elliot Cresson Medal of the Franklin Institute (1969). In 1972 Dr. Goldmark was made a Poynter Fellow of Yale University for “outstanding achievements in the electronic media.” In that same year he was elected to membership in the National Academy of Science; also in 1972 he was presented with the first Macbeth Award (established in honor of Norman Macbeth) by the Inter-Society Color Council. Quite recently he was made an active member of the prestigious Smithsonian Council. In 1973 he received a special award from the National Governors Council on Science and Technology for pioneering achievements in the New Rural Society program. In 1973 he also received the Golden Omega Award presented on behalf of the American Men of Science and Industry. In 1974 he received the Harold Pender Award presented by the University of Pennsylvania's School of Engineering.

He was made a Fellow of this Society in 1947. Other professional organizations of which he is a Fellow include the Institute of Electrical and Electronics Engineers; Audio Engineering Society; and the British Television Society. He also holds membership in several other professional organizations including the American Physical Society; the American Association for the Advancement of Sciences and the Optical Society of America.

A man of wide and varied interests, he has somehow found the time to fill the post of Visiting Professor in the University of Pennsylvania's Medical School of Medical Electronics, Department of Radiology.