

In Memoriam

Raymond Edgar Cooke, O.B.E., AES fellow, died of pneumonia on March 19, after a long battle with complications arising from a series of strokes. He was a man of many talents, and was in many ways constructively influential in the audio industry and in the Audio Engineering Society. Well known and widely respected, he will be greatly missed.

Raymond Cooke was born a Yorkshireman, February 14, 1925 and, completely in character, he was known as a stern critic of faulty logic, but an ardent supporter of the rational. Perhaps this stems from his early working years, during which he was under the influence of some very strong audio industry personalities.

He was introduced to audio when he served in the Royal Navy as a radio operator on an aircraft carrier. After the war, he obtained a B.Sc. in electrical engineering from the University of London. He had a brief stay at Philips, as a television production engineer, before he moved into his first real audio job in the Engineering Designs Department of the BBC. There, alongside such notables as D.E.L. Shorter and Dudley Harwood, he developed the basis for his lifelong attitudes towards product design and engineering methods.

In 1956 he returned to Yorkshire to become technical manager, later director, of Wharfedale Wireless Works, in Bradford. There he collaborated with Gilbert Briggs, significant audio personality of that period, on a series of books on the art and science of loudspeaker design and use. These became very well known in the audio community, in part because of the accessible style in which technical ideas were presented. Thus, we see another facet of Raymond Cooke, the communicator—a skill which was to serve him well in many



Raymond Cooke

respects both in his business affairs and in his contributions to the AES.

In 1957, he assisted Gilbert Briggs and Peter Walker, in organizing and running "A Concert of Live and Recorded Music" at the Royal Festival Hall, in London—perhaps the first "live vs. recorded" tests to be mounted. Their success is a matter of historical record. This kind of audaciousness was to be seen several times in his life. One of the soloists at these performances was the renowned oboist Leon Goossens, whose daughter Jennie, Raymond later married.

By the end of the 1950s Raymond had come to realize that loudspeaker technology of that age did not take advantage of the latest materials or design and manufacturing techniques. Consequently, both performance and manufacturing consistency were less than they could be. In 1961, his independent spirit drove him to strike out on his own, and to put his ideas into practice. He founded KEF Electronics in a primitive Nissen hut on the site of a metal working company in Maidstone, Kent Engineering and Foundry (KEF). The upstart company made waves from the outset, building

woofers in unconventional shapes, from unconventional materials (expanded polystyrene reinforced with an aluminum skin), and dome tweeters made from Melinex. One of these early products, the B139 woofer, is still in production. Later units employed Bextrene as a cone material.

A respect for solid engineering was at the very foundation of the company, and Raymond established a strong engineering department, with links to universities, from which pioneering applications of digital measurement techniques to loudspeaker design and manufacturing quality control operations. For a company of modest size, KEF soon acquired a well pedigreed engineering staff equipped with comprehensive engineering instrumentation and facilities. At the time this was an enormous expense, but it paid off—another audacious move.

Encouraged no doubt by the success of the Wharfedale "live vs. reproduced" demonstrations many years before, he collaborated in a unique performance of the Berlioz *Te Deum* at the 1980 Edinburgh Festival. The organ in the performance hall was unreliable, so it was proposed to use the one in a cathedral a mile away. Linked by two-way FM radio, and reproduced through 36 KEF 105/II loudspeakers, the "reproduced" organ was so successful that the organist was able to travel to the hall and appear on stage before the ovation ended. The journey was expedited by being in a police car with siren wailing.

Throughout all of this, Raymond Cooke was active in the society. He joined the British Sound Recording Association in 1947, which eventually became the nucleus of the AES British Section. Joining the AES in 1956, he served for some years on

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the British Section Committee, was elected a governor, and subsequently held office as vice president of the Europe Region, vice president, International, and in 1984 AES president. He was awarded the society's Bronze Medal in 1980 and the Silver Medal in 1993 for outstanding contributions to transducer measurement

technology. In 1979 he was made an Officer of the Most Excellent Order of the British Empire by Her Majesty Queen Elizabeth II.

Those of us who knew him well knew him as a *bon viveur*, an excellent communicator and linguist, an internationalist, a catalyst for inquisitive minds, and confidante who cared. We

will miss him, but we are consoled by the fact that his rich legacy lives on.

Raymond is survived by his second wife, Jennie Goossens, by a son and daughter by his previous marriage and by two grandchildren.

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Theodore (Ted) Lindenberg, a founding member of the AES, fellow, and its second president, died on December 12, 1994 in Leesburg, Florida.

Born in 1911 in Columbus, Ohio, Ted spent his early life there and studied at the College of Mechanical Engineering, Ohio State University, until the beginning of the Depression. In the mid 30s he started a small recording studio in Columbus, located in a neighborhood movie theater owned by his father. At that time "talking motion pictures consisted of reproducing disc records synchronized with the motion picture. Records were also cut in his studio on soft lacquer, and the heavy phonograph pickups of the day quickly wore out the lacquer discs. Ted made his first moving coil pickup head, which made it possible to duplicate lacquer records with a minimal loss in sound quality and damage to the original. After his father backed him in a patent application, this invention was licensed to Fairchild and marketed by them after World War II. From 1936 to 1975 Ted was awarded 23 U.S. patents, primarily on transducers.

In 1941 Ted joined Sherman Fairchild at Fairchild Camera on Long Island. Fairchild Camera licensed Ted's moving coil pickup design. After World War II, he became involved with a small group of New York engineers who began a technical society dedicated to audio engineering. Sherman Fairchild gave



Theodore (Ted) Lindenberg

Ted time off and supplied secretarial help in his own office in the RCA building in New York City. He was elected vice president of the new society aptly called the Audio Engineering Society and became its president in 1950.

From 1950 to 1959 Ted was chief engineer at Pickering & Co., working for Walter Stanton, sales manager. He was responsible for the design of molded pickup cartridges with replaceable stylus assemblies. He also designed an integrated ultra-light-weight arm/cartridge combination, electrostatic loudspeakers and a high-fidelity turntable. From 1960 until 1967 he was director of engineering at the Astatic Corporation, Conneaut, Ohio. He then became a senior engineer at the Martin Marietta Corp. Aerospace Division. Known as an instrument design spe-

cialist, Ted was able to work with optics, electronics, piezoelectric magnetic devices and developed some laser components.

After Ted transferred to International Laser Systems in 1974, he worked on laser interferometers and other optical and mechanical designs until joining Schwartz Electro Optics.

A member of the Sapphire Club, Ted was also active in the formation of the AES, where he served as a governor. He became a fellow of the society in 1954. In addition to holding office, Ted also contributed papers published in the *AES Journal* in 1953 and 1956.

I remember Ted as a warm, friendly man, who always had a smile. He had the ability to take a difficult engineering problem and simplify it. When Ted first started working with lasers, he was faced with a problem of prisms that rotated irregularly. He worked with his machine lathe at home, and with his skill at working with small parts, was soon able to solve the vibrating laser problem. He was that type of engineer; no problem could faze him. He kept on refining his projects until they were ready. In the many technical conversations I had with him over the years, he had the uncanny ability to go right to the engineering physics and arrive at an answer. He was a true giant of the audio industry. I will miss him.

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