

In Memoriam

At the end of November 1990, I received a phone call from Tilmann Zwicker, telling me the sad news that his father, Eberhard, died on November 22, 1990. It is a real loss to the entire acoustical and audio world.

Back in the mid 60s, I was studying the various chapters of acoustics and audio engineering and lecturing to students in electronics and film. During that time I was struggling through several handbooks from H. F. Olson, Leo Beranek in English, and those of W. Reichardt and *Technik der Magnetspeicher* by F. Winckel and Friedrich Krones in German. I then discovered the existence of the AES through the articles by Jay Mc Knight on magnetic recording. I began to search for more information on the subject of psychoacoustics.

In 1967 I bought the just released book *Das Ohr als Nachrichtenempfänger*, written by E. Zwicker and R. Feldtkeller, in which I learned *at fundum* the wonderful mechanism of our human hearing, especially the now famous concept of "Frequenzgruppen," the critical bandwidths in which our hearing system analyzes the frequency spectrum. It was Zwicker who did a lot of research during his time in Stuttgart, resulting in the "Zwicker-card-method," a method which became the standard ISO 532B. In an article on loudspeaker loudness evaluation in the January/February issue of the *Journal*, it is amazing to read that this measurement method was found to give the best result for adjusting interloudness levels (R.M. Aarts, vol. 39, no. 1/2, p. 36).

A biography of Professor Zwicker is published on page 126 of this issue. It tells us that he was a professor at the University of Munich from 1967 till his death. He was active as an outstanding educator in addition to his continuous research work on behavioral and neurophysiological responses investigating auditory nonlinearities.

At Munich University, together



Eberhard Zwicker
January 15, 1924–November 22, 1990

with his co-workers, he made a physical model of cochlear hydromatics and became involved as well in research for cochlear implants in cases of almost complete deafness. This is only a brief excerpt of Zwicker's lifetime research.

Such high quality scientific work led to numerous awards and recognition. At the 71st AES Convention in Montreux in 1982 he became an honorary member of the AES. Since he could not be present, I had the pleasant task of accepting the award on his behalf.

The reason for his absence is explained in the following "speech" I received from him that day (1982-03-04) by telex:

*It is right in March, not May nor
December
that I am elected "Honorary
Member"
which I do appreciate very much
and hoped for my heart to come in
touch
with you all gathered in Montreux.
Unfortunately there was no way
attending this unique occasion
because I am fixed in examination.*

*From all my heart I welcome you,
the gentlemen and ladies too—
my thoughts are there, my body here.*

In any case let me clear

*through life and work I'll never rest
to further do in hearing best,
and find out scientifically
progress for your Society.*

*May be I act —so told— as trigger
how challenging! Eberhard Zwicker.*

The promise Zwicker made in this lovely poem, written in 1982 was in keeping with his personality. Around that time a *Hochschultext*, a university course handbook, was published: *Psychoakustik*, based mostly on his famous book of 1967 but written for the purpose of teaching. Another was published in 1984: *Elektroakustik*, coauthored with Manfred Zollner.

During the summer of 1982 I went to Munich to hand over personally the Honorary Member Award to Professor Zwicker during a meeting of the South German AES Section. It was a great honor for me to become acquainted with him and his family. The year after he was able to participate at the 73rd Convention in Eindhoven, but subsequently university examinations conflicted with our conventions.

Zwicker's last scientific contribution, coauthored with his son Tilmann, is published in this issue. This important article is unfortunately the end of a significant list of more than 200 publications, stating what the field of audio engineering should be about: match all audio material to the human auditory system. The ear is always the final receiver of acoustically transmitted audio events.

In a similar scope, Zwicker, together with his colleague W. Fastl, wrote his last book entitled *Psychoacoustics: facts and models*. Severely ill, Professor Zwicker was making final corrections while he was in the hospital. The book was published two weeks after his death.

At the moment of my writing this obituary, I received word from the AES Awards Committee that the highest AES award, the Gold Medal, has been bestowed to Professor Zwicker

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for his contributions to the science of hearing. His son, Ulrich Tilmann, accepted the award at the Awards Banquet of the 90th Convention in Paris 1991, in February. Finally the AES recognizes the outstanding work of this great man, whose work will cer-

tainly be quoted in the future (the 21st century), just as the work of Hermann Helmholtz or Lord Rayleigh is quoted in the 20th century.

To his widow, Erika Zwicker-Emmel, his son, Ulrich Tilmann, and daughter, Andrea Elizabeth, I convey,

on behalf of the AES Executive Committee and the Board of Governors, our condolences and sorrow for the loss of such a fruitful life and fine human being.

HERMAN A.O. WILMS
Secretary, AES Europe Region

We are deeply saddened to announce the death of **Robert Trabue Davis.**

Through his dignity, humor, intelligence, and gentleness of spirit, Bob truly made this world a better place for all who knew him. In addition to his contributions to the audio industry, he will also be remembered for his gift of music.

Bob began studying piano at the age of five. By the fourth grade he switched to the clarinet. Within two years his skills were advanced and he began taking lessons at the Music Department of the University of Kentucky. In the summer of his eleventh year, he went to the Interlochen Music Academy in Michigan, and studied with Keith Stein of the Chicago Symphony.

His dedication to music continued throughout his junior and senior high school years. Every other weekend, he traveled 160 miles from his home in Lexington, Kentucky, to the Cincinnati Conservatory of Music to study with the principal clarinetist of the Cincinnati Symphony.

Bob attended Michigan State University for two years before transferring to the University of Kentucky, majoring in broadcasting and communications, with a minor in music. After receiving his B.A. in 1959, he did his postgraduate work at the University of Kentucky, where he received a master's degree in musicology. Upon graduation, he joined the faculty of the Music Department. Although he loved the study of music, he often said, in jest, "the only thing a master's in musicology is good for is teaching others to be musicologists."



Robert T. Davis

He joined the Lexington Philharmonic as principal clarinetist, played in the faculty woodwind quintet, and gave recitals. He also became interested in vocal music, which was to become his lifelong passion.

He left the university and went into broadcasting as operations manager and announcer at radio station WSAC, Fort Knox. His vocal training enabled him to work on-air without a regional accent.

In his youth, Bob had worked with his father a well known audio/visual dealer in the Southeast. After his short career in radio, he reentered the audiovisual industry with a commercial sound contractor in Lexington, Kentucky. From there, he joined Technical Service Corporation, a sound contracting firm in Louisville, as vice president of sales.

While in Louisville, Bob joined the Louisville Woodwind Quintet, the Ken-

tucky Opera Association, and the Louisville Bach Society. His operatic roles included both Jenik and Vasek in *The Bartered Bride*, Semerana's Edgardo in *Lucia*, Rinuncio in Puccini's *Gianni Schicchi*, and Faust in Gounod's *Faust*. He also enjoyed performing in musical comedy, singing the lead roles of Tommy Albright in *Brigadoon*, Billy Bigelow in *Carousel*, and El Gallo in *The Fantasticks*. He also pursued his love for sacred music with performances of St. John and the St. Paul Passions by J.S. Bach.

In 1971 he moved to Detroit and joined Industrial Communication Company as a sales engineer and sound system designer. He began the practice of including his resumé with his proposals so that the client could judge the qualifications and character of the designer. He also gained a reputation as the man who installed more multicell horns in churches than anyone before him. Combining his teaching background with his knowledge of architectural acoustics and sound system design, he began to lecture at the University of Detroit and the Lawrence Institute of Technology. He continued his performing career with the Detroit Cantata Academy.

In 1975 he joined Altec Lansing Corporation, in Anaheim, California, as manager of market development and training. After just two years he was promoted to director of systems/application engineering, and in 1979 he became vice president for market development. During this period dynamic products such as the first digital delay lines, incremental power amplifiers, constant-directivity horns, and large-scale touring sound systems were developed at Altec un-