Editorial

New Perspectives in Audiometry

The early development of hearing measurement was dominated by its medical applications. The first audiometers were instruments designed to improve the assessment of hearing sensitivity loss in patients suffering from some form of ear disease. The early emphasis was on middle-ear disorders amenable to surgical intervention (e.g., otitis media and otosclerosis). It was imperative, therefore, that one be able to assess each ear separately in order to answer questions like, "Which ear has the greater sensitivity?" "Does the pattern of loss across the frequency range differ between the ears?" "Which ear has the better cochlear reserve?" etc. To answer such questions, it was essential that each ear be tested independently. Indeed, great care was taken to exclude the participation of the "nontest" ear.

We still live with the legacy of this early emphasis on medical applications. We continue to be preoccupied by individual ears rather than total hearing systems (i.e., two ears and a brain). But as the scope and breadth of nonmedical applications of audiometry unfolds, the need for a new perspective on audiometry has become apparent. Audiologists who testify in court cases involving litigation for hearing loss are keenly aware of the attorney’s favorite question: "But, doctor, where in real life do we hear through earphones?"

One alternative to earphones is, of course, audiometry in the sound field, an approach that has been more successfully exploited in the pediatric population than in adult testing. But sound-field audiometry is not without its own set of technical difficulties, not the least of which is the considerable expense involved in creating a suitable acoustic environment. Recently, however, a research group at the U.S. Army’s Aberdeen Proving Ground in Maryland, inspired by the seminal work of Janet Koehnke and Joan Besing, has begun to evolve a fresh approach to the measurement of the two-eared system. Taking advantage of the capabilities of modern computers, they have developed a virtual auditory space created under earphones. In this issue of JAAA, Kim Abouchacra, Tomasz Letowski, Janet Koehnke, and Joan Besing explore the binaural detection threshold for spondee words against a background of noise, providing the basic data necessary for a VAD approach to speech audimetry. Such an approach promises a more realistic assessment of speech processing by the total auditory system. As a viable substitute for the more cumbersome soundfield approach, VAD promises to play a key role in the evolution of nonmedical audiometric applications.

James Jerger
Editor-in-Chief

On page 313 of Volume 9, Number 4 in Fred Martin’s Letter to the Editor, the additional interaural attenuation for insert earphones over supra-aural ones was erroneously shown as 330 dB. The correct number is 30 dB. We regret this printer’s error.

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