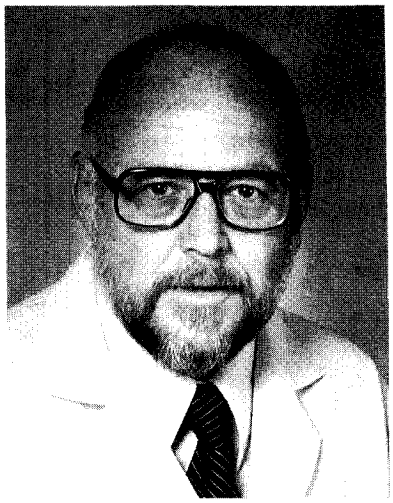
Editorial



Auditory Deprivation

In the Clinical Forum section of this issue of the JAAA, Carol Silverman and Shlomo Silman present data with interesting implications. Six years ago Silman, Gelfand, and Silverman reported an intriguing observation on the suprathreshold speech understanding of veterans who had been fitted with monaural hearing aids. By analyzing word recognition scores over a 4-5 year period after the initial fitting, they were able to show that, while there was no change in speech understanding in the fitted ear, there was significant deterioration in the nonfitted ear. The average suprathreshold word recognition score declined systematically over time. Silman et al called this phenomenon "late-onset, apparent auditory deprivation."

In this present paper Silverman and Silman have extended this initial observation in a particularly elegant manner. After an extensive search of thousands of VA records they were able to find two individuals who had initially been fitted with monaural aids, had worn them for a number of years, had then been refitted with binaural aids and followed for an additional period of years. In both individuals there was no significant change in word recognition scores of the aided ears but the expected gradual decline in the word recognition scores of the unaided ear. This result would have been predicted by Silverman and Silman's earlier work. But these two cases were then fitted with binaural aids. Over the next 2 to 4 years, word recognition scores actually improved in the previously nonfitted, but now aided, ear. In other words, in the years following the initial monaural fittings, the unaided ears showed the "late-onset, apparent auditory deprivation" phenomenon. But, in the years following the subsequent binaural fitting, there was at least partial recovery from this deprivation effect.

These are, indeed, exciting findings. And, of course, they raise more questions than they answer. Is speech recognition a "use it or lose it" capacity? Does increasing hearing loss produce an inevitable decline in speech understanding? If so, is there evidence of such an effect in hearing-impaired individuals who have never used an aid in either ear? Does the monaurally aided listener simply neglect the unaided ear? Or is there a genuine physiologic basis for the progressive change? If so, how can such changes be reversed? If the use of a monaural aid prevents deterioration in one ear, should not the immediate use of binaural aids prevent deterioration in both ears? What are the time limits of the effect? How long can deterioration take place before its reversibility is lost?

These are only some of the puzzling, yet exciting, questions raised by Silverman and Silman's very interesting case reports. As further research clarifies the picture we should all have a better understanding of the long-term consequences of auditory deprivation and the important role that hearing aids and other assistive listening devices may play in coping with such effects.

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