Speech perception by second language learners

Winifred Strange

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10:10–10:25 Break

10:25

5aSP4. Speech perception by hearing-impaired listeners. Arthur Boothroyd (Graduate School, City Univ. of New York, 33 W. 42 St., New York, NY 10036)

Speech perception requires the generation, by the perceiver, of language patterns believed to underlie the speech actions of a talker. At any moment, the perceiver's decisions are based on both direct sensory evidence and indirect contextual evidence. Depending on the perceiver's prior knowledge and perceptual skill, the value of contextual evidence can contribute 5 to 10 times as much information as sensory evidence in normal conversation. Impaired hearing reduces auditory sensory evidence by its effects on threshold, dynamic range, resolution, and susceptibility to noise, leading to increased dependence on visual and contextual evidence. Hearing aids and cochlear implants offer only partial solutions. Adult-acquired impairments, which affect only sensory evidence, are managed primarily by sensory assistance. Congenital and prelingually acquired impairments, however, also affect acquisition of knowledge and perceptual skill. As a result, sensory assistance, though necessary and important, is only the first step in a comprehensive program of management for hearing-impaired children. In this presentation, the foregoing outline will be supported with empirical data on the sensory capabilities of aided and implanted individuals and on the roles of vision and context in speech perception by the hearing impaired. [Work supported by NIH Grant No. 2PO1DC00178.]

10:55

5aSP5. Speech perception by second language learners. Winifred Strange (Dept. of Commun. Sci. and Disord., BEH 255, Univ. of South Florida, 4202 E. Fowler Ave., Tampa, FL 33620-8150)

Cross-language studies of speech perception by adults have shown "language-specific" patterns of perception of phonetic categories and contrasts. In general, phonetic categories that are distinctive (phonemic) in the listener's native language are differentiated easily and effortlessly, while non-native phonetic categories/contrasts present perceptual difficulties. Thus learners of a second language (L2) often have persistant difficulty learning to perceive (and produce) "foreign" consonants and vowels. However, recent research has shown that not all non-native phonetic categories and contrasts are equally difficult to differentiate perceptually. Current theories that attempt to predict and explain these relative perceptual difficulties in terms of the relationship between native language (L1) and L2 phonetic categories will be discussed. In addition, results of perceptual training experiments with L2 learners which explore the effects of subject, stimulus, and task variables on perception of non-native phonetic categories will be summarized. Finally, implications of this research for general theories of speech perception and perceptual learning will be suggested. [Work supported by NIDCD.]

11:25–11:40 Commentary by Carol Fowler

11:40–11:45 Discussion

FRIDAY MORNING, 10 JUNE 1994 KRESGE LITTLE THEATRE, 8:00 A.M. TO 12:30 P.M.

Session 5aUW

Underwater Acoustics: Larry Flax Memorial Session on Elastic Scattering

Ralph R. Goodman, Chair
Applied Research Laboratory, Pennsylvania State University, P.O. Box 30, State College, Pennsylvania 16804

Chair's Introduction—8:00

Invited Papers

8:05

5aUW1. The isolation of scattering mechanisms. Louis R. Dragonette (Phys. Acoust. Branch, 4555 Overlook Ave., S.W., Washington, DC 20375-5350)

One of the outstanding benefits that resulted from Flax's work on the scattering from simple shapes was the impetus given to isolating and understanding basic scattering mechanisms. For example, his pioneering work on the development of acoustic