

The categorisation of speech sounds by adults and children

This thesis investigates the way adults and children perceive speech. With adult listeners, the question was whether speech is perceived categorically (categorical speech perception). With children, the question was whether there are age-related differences between the weights assigned to acoustic cues that specify certain speech contrasts (cue-weighting).

One goal of this thesis was to test the categorical perception hypothesis. According to this hypothesis, the acquisition of the native phonological system changes listeners' perception in such a way that they find it difficult to detect small differences between different realisations of the same phoneme, but relatively easy to detect equally small differences between realisations of two different phonemes. Several discrimination and classification experiments are described involving stimulus continua between vowels and between stop consonants. It is shown that categorical perception results are far from robust and that the degree of categorical perception is influenced by the discrimination task, the interstimulus interval, the listener, and the stimulus. Evidence is provided that listeners are perfectly capable of hearing small within-phoneme-category differences and thus that the acquisition of the phonological system does not have negative effects on the detection of differences between speech signals.

A second goal was to study the development of the perceptual integration of speech cues that specify a certain phoneme category. It was tested whether children of 4, 6, and 9 years old weight certain acoustic cues for stop consonants, fricatives, and vowels differently from adults. The results confirm earlier findings that children, especially the 4-year-olds, weigh certain speech cues more heavily, and other cues less heavily, than adults do. Children's ability to adjust the weighting of specific cues in the variable acoustic signal provides further evidence against the idea that acoustic detail in the signal becomes less detectable as language develops.

This study is of interest to phoneticians and psycholinguists, as well as to researchers working in the field of experimental speech and language development.

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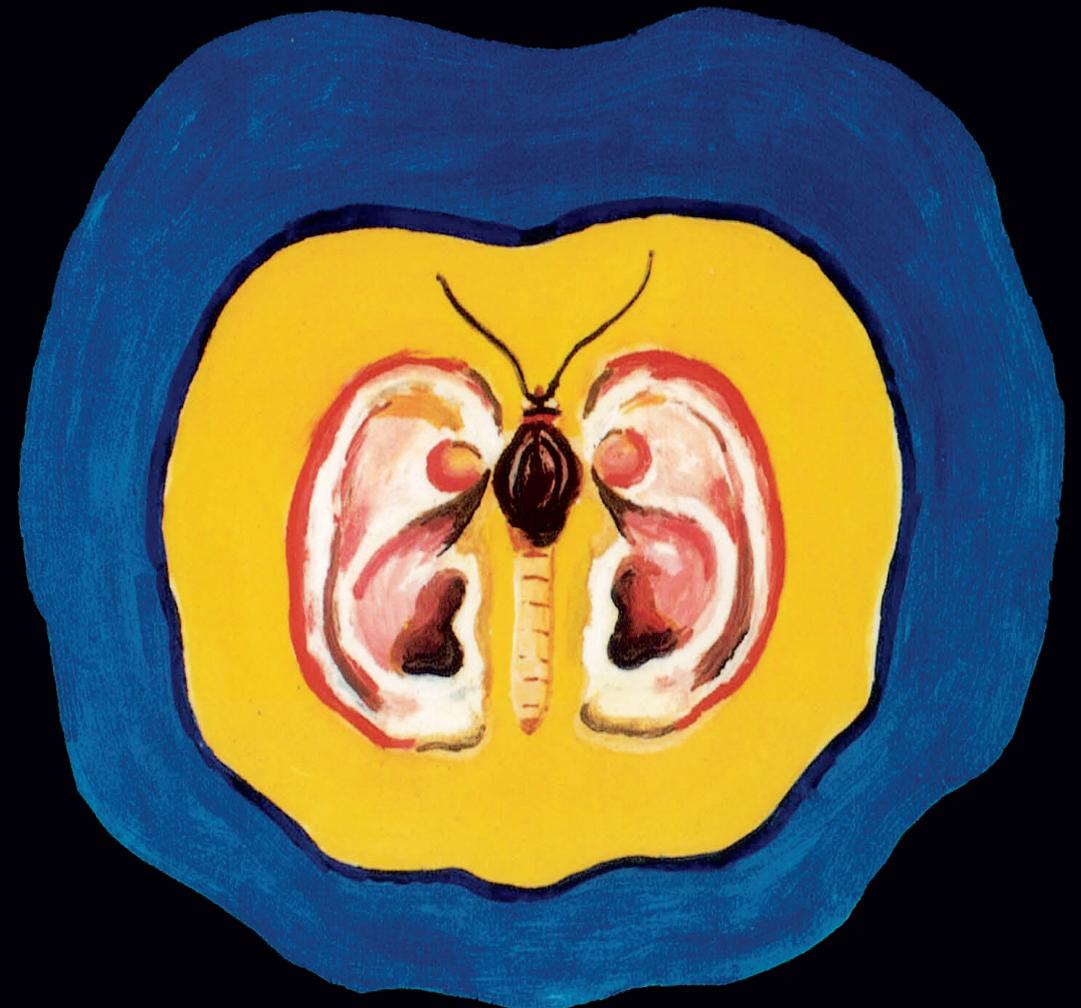
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