

Marcel Giezen

Speech and Sign Perception in Deaf Children with Cochlear Implants

Although a cochlear implant (CI) restores access to sound and speech for profoundly deaf children, there is substantial inter-individual variation in outcomes and many children with a CI continue to be delayed in their spoken language development. This suggests that they may benefit from alternative modes of communication such as sign language. However, the role of signed input in the education of children with a CI is much debated.

The aim of the present thesis was two-folded: to explore underlying processes in speech perception that may help to explain inter-individual variation in outcomes, and to obtain insight into the effects of signed input on spoken language abilities. To that end, this thesis investigates speech and sign perception in 5- to 6-year old children with a CI. More specifically, it examines and interrelates the use of acoustic and visual cues in phonetic categorization and the representation of phonetic contrasts in novel words and signs. Additionally, it investigates the effects of bimodal (i.e., simultaneously spoken and signed) input on speech perception.

The analyses show that children with a CI have fuzzy boundaries between sound categories and have difficulties to represent phonetic detail in novel words. Weakly-specified auditory phonological-lexical representations likely negatively impact speech processing. Importantly, signing experience did not negatively affect their speech perception and bimodal input seemed to even facilitate spoken word recognition. Together, these findings form an argument for bilingualism in a spoken and a signed language as the ultimate goal in the rehabilitation and education of children with a CI.

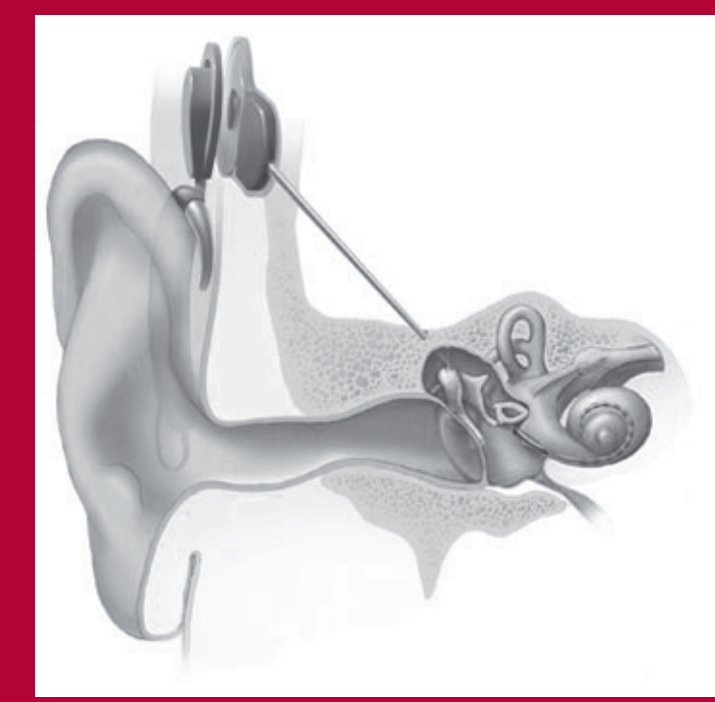
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