Anders Löfqvist

LARYNGEAL ARTICULATION AND JUNCTURES IN THE PRODUCTION OF SWEDISH OBSTRUENT SEQUENCES

The production of voiceless obstruents requires precise temporal control and coordination of several articulatory systems: the tongue, the lips and the jaw are engaged in the formation of the constriction or occlusion, the soft palate is elevated in order to seal off the entrance to the nasal cavity and prevent air from escaping, and the glottis is abducted in order to prevent vibrations of the vocal folds.

Previous studies of Swedish obstruents have shown that the temporal coordination of the oral release and the adduction of the vocal folds controls the amount of aspiration after the release in voiceless stops. In clusters of voiceless obstruents the glottis has been found to behave in a manner predictable from the aerodynamic requirements for the production of fricatives and the presence or absence of aspiration in stops. Thus, peak glottal opening occurs during the fricative in sequences of stop + fricative or fricative + stop, whereas in sequences of two stops peak glottal opening occurs during the first or second member of the sequence depending on whether the second is aspirated or not. In all obstruent clusters studied thus far only one opening gesture of the glottis has been noted during the whole cluster. The present investigation is an extension of earlier work and examines laryngeal articulation in sequences of obstruents with different types of junctures intervening between the members of the sequence.

Registrations comprised photoglottogram for information on glottal movements, oral egressive air flow and intraoral pressure for information on oral articulations and the signal from a larynx microphone.

Preliminary results indicate certain changes in laryngeal articulation during the sequences which can be associated with different types of junctures. Specifically, two distinct glottal abduction gestures were found in those instances where a word boundary separated the obstruents in the sequence. Again, these changes appear to be related to the aerodynamics of obstruent production.