

Maya van Rossum

## Prosody in Alaryngeal Speech

Effective speech communication relies on a speaker's ability to convey a message. The most basic requirement for speech is a sound source, normally the larynx (voice box). The normal speaker depends on the fine-tuning capabilities of the larynx to vary F0, intensity and duration, which are essential to convey the prosodic structure of an utterance. Pitch changes, for example, accentuate the important words in a sentence. Words are also lengthened or pauses inserted after words to signal the end of a phrase or sentence. The research presented in this dissertation focused on speakers who have had a laryngectomy (surgical removal of the larynx). These alaryngeal speakers rely on an alternative sound source, namely mucosa and muscle situated at the entrance to the esophagus. Alaryngeal speakers' control over this alternative voice is limited.

A series of perception experiments revealed that alaryngeal speakers who were able to vary the relevant prosodic cues consistently, conveyed prosodic intent more accurately than speakers who could not. However, speakers who had no, or no consistent control over the relevant prosodic cues, often managed to signal, for example, the intended accented word, or managed to convey the correct phrasing. This was achieved by manipulating, albeit inconsistently, other – sometimes unexpected – prosodic cues that are not normally associated with the prosodic function in question. It is therefore important to investigate which prosodic cues are still present in an alaryngeal speaker's speech. Through subsequent training of those cues that are still available, it might be possible to improve the speaker's overall communicative effectiveness.

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