What happens to vowels and consonants when we speak faster?

Abstract

The subjects of this article are Kozhevnikov and Chistovitch's finding regarding the constancy of relative syllable durations and the inconstancy of relative speech sound durations for different rates of speech, and their proposal that vowels are elided because the necessary minimum duration of a consonant consumes all the time that happens to have been assigned to the syllable.

The relative consonant durations of seven informants (six languages) varied with speaking rate but mostly not as predicted by Kozhevnikov and Chistovitch. Instead of rising continuously at faster rates, the relative consonantal durations decreased again. The variation was so small, however, that a linear model, assuming a constant consonantal proportion, provided an excellent approximation to the results. A spot check on the syllables in two selected words in the German sample revealed that the relative syllable durations were not less variable than the relative consonant durations there.

Several problems and difficulties related to speech production are discussed in general terms. Are segments squeezed out when temporally constrained, or are they deliberately omitted? If segments or gestures are suppressed during production, does this occur peripherally (in the vocal tract) or centrally (in the brain)? It is concluded that most examples of segment synkope and syllable contraction in everyday speech are regular and habitual and are not necessarily caused by increasing speaking rate, although their occurrence has the effect of accelerating the message.