

An experimental investigation of phonetic biases

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In this talk, I use a phonetic experiment to test certain predictions made by usage-based theories of sound change. The talk takes Pierrehumbert's (2001) model of sound change as its starting point. Pierrehumbert suggests that sound change results from the repeated influence of phonetic biases on sound categories. Although biases play a crucial role in usage-based models of sound change, few researchers have looked at the details of this process, and there is very little experimental work in this area (Yu 2011 is a notable exception). This talk investigates a specific prediction of Pierrehumbert's model: the extent to which a given bias can influence a category is correlated with the frequency with which it affects its members. I use the phenomenon of vowel lengthening to follow up on this prediction. The experimental hypothesis is as follows: if a given vowel is followed by voiced consonants more often than another vowel, it is also more likely to show the effects of vowel lengthening before voiced consonants. This hypothesis is tested on a large set of vowel length measurements collected from speakers of English, French and Hungarian in a production experiment. The frequency data are taken from phonetically annotated corpora. A preliminary analysis suggests that the experimental hypothesis is corroborated by the data.

References

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