

Are listeners sensitive to morpho-phonetic differences in English stems and word-final /s/?

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Recent research has shown that phonologically identical morphological entities in English show systematic differences in their phonetic realization. For example, word-final /s/ is longest in non-morphemic contexts, shorter with suffixes, and shortest in clitics (Plag et al., 2017; Schmitz et al., 2020), while stems of morphologically complex words are longer than stems of monomorphemic words (Engemann & Plag, 2021; Seyfarth et al., 2017). However, it is still largely unclear whether these differences can also be perceived by listeners.

To investigate whether listeners perceive these differences and make use of them in comprehension, we conducted four experiments. First, two same-different tasks - one investigating word-final /s/, and one investigating stems - were used to determine whether the durational differences as found in previous studies are perceivable. Our results show that there are large inter-individual differences between the listeners. Quite a number of listeners are able to perceive pertinent durational differences of 20 ms in word-final /s/, as well as of 25 ms in stems.

Second, two comprehension tasks were used to investigate whether the perception of durational differences affects the comprehension of listeners. Using a mouse-tracking setup similar to that of Blazej & Cohen-Goldberg (2015), participants reacted to matched and mismatched stimuli of either monomorphemic or plural word forms ending in /s/ and /z/. The mouse-tracks indicate that listeners are affected by the subtle differences in the stimuli.

In sum, listeners are sensitive to durational differences in stems and word-final /s/. Our results indicate that differences in duration found in production studies are indeed perceivable and that these differences can influence comprehension. That is, morphological information stored in the phonetic signal can be perceived and made use of in comprehension.

References

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