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The influence of vocal iconicity on word structure through stress and segment placement

Cues used for improving language processing – such as iconicity aiding access to meanings – seem to benefit from being emphasized within words. Stressed segments lead to more precise phonetic realization and spoken word recognition models indicate that when the onset of a word is heard, a set of words in the mental lexicon with the same initial segments compete for activation (e.g. Marslen-Wilson, 1980). For example, *jealous* /dʒɛləs/ shares initial sounds with more words compared to *zealous* /zɛləs/ and is therefore more difficult to recognize quickly. Consequently, this study investigates if stress and segment placement within words have a positive effect on vocal iconicity. 300 participants were recruited from 11 language families. 12 sound-meaning associations that were found in at least two major large-scale cross-linguistic studies (e.g. Erben Johansson et al., 2020; Joo, 2020), along with three non-iconic (control) sound-meaning combinations were selected. Each sound meaning association was represented by four word types with varied stress and segment placement, recorded audially. The participants were asked to listen to each stimuli word and then rank it according to how well it fit the associated meaning. The results showed significantly higher rankings for iconic words than control words, and that stress had a significant effect. Interestingly, the control words showed a negative effect for segment position, which could indicate a hidden positive segment position effect for iconic words too. To further investigate this, cross-linguistic iconic data was re-analyzed to see if sounds occur more towards the beginning of words when iconically charged compared to when they are found in non-iconic words. 125 noteworthy

sound-meaning associations and 16 control concepts with low iconicity scores were selected. The average first segment position occurrences for each iconically charged sound group per iconic concept were then compared to the average first segment position occurrences for the same sound group yielded from the control concepts. The results showed that sound groups occurred more towards the beginning of congruent iconic concepts in almost all sound-meaning associations. These findings show that segment prominence has a significant effect on how iconic words are perceived to be. While stress might have a stronger effect than segment position, it is likely that these factors work in tandem. Stress tends to prevent phonetic erosion, and over time, this could, in combination with preactivation effects, cause iconic segments to be retained to a greater extent and then progressively moved towards the onset of words. Thus, these factors could distinctly affect word formation and sound organization across lexica.

References

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