The sound of hand: /i/ for finger, /u/ for fist, and /a/ for palm

Ian Joo[1] & Niklas Erben Johansson[2]
[1]The Hong Kong Polytechnic University, [2]Lund University
ian.joo@connect.polyu.hk, niklas.erben_johansson@ling.lu.se

In this study, we present iconic associations between certain phonological features and lexemes related to the human hand. We aim to test the following three hypothesis: a) the [+round] feature is frequent in lexemes for 'fist' (round shape); b) the [+low] feature is frequent in lexemes for 'palm' (open shape); and c) the [+high, -back] feature is frequent in lexemes for 'finger' (spiky shape). We collected and phonetically grouped words for 'hand', 'fist', 'finger' and 'palm' from 159 genealogically independent language families. Using binomial tests, we could show that lexemes for 'fist' and 'finger' do show a high occurrence of [+round] or [+high, -back] segments, but no significant result was found for 'palm'.

As a follow-up study, we are currently building a cross-linguistic sample of words representing the rock-paper-scissors game or any game using the same handshapes. We see that the words that are not semantically divisible (i. e. words that do not literally represent 'rock, paper, scissors' and the like) tend to bear the form of three syllables whose vowels are /i/, /a/, and /o~u/, iconically associated to the number of handshapes as well as the handshapes themselves, thus fitting into our hypothesis. These associations can be easily explained by analogous cross-linguistic and experimental evidence for iconic patterns between rounded vowels, e.g. [u], and round things, between low, open vowels, e.g. [a], and flat things, and between unrounded vowels, e.g. [i], and pointed things (Styles and Gawne 2017; Erben Johansson et al. 2020; Joo 2020). Our findings show that iconicity is encoded in words representing basic handshapes, but also in contexts which include handshapes but are conveyed by non-words or words that derive from completely different etymological sources. This brings further evidence to the notion that iconicity is more prevalent throughout the lexicon than previously thought (Sidhu et al. 2021; Winter and Perlman 2021) and that iconic labels are continuously introduced for iconically congruent meanings, which, in turn, has a notable impact on word formation and the cultural evolution of language.

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