Comprehension of non-linguistic vocalizations across cultures

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When strangers who do not share a language want to communicate with each other, they commonly make use of visual communication, such as facial expressions and iconic gestures, like pantomimes. But iconicity – a mapping between the linguistic form and the intended meaning – can also be employed in other modalities, such as vocalization. This paper investigates whether non-linguistic iconic vocalizations can be understood across cultures. For this purpose, we are conducting a web-based comprehension study via Percy (Draxler 2014) with listeners from a large sample of languages.

The set of vocalizations used as stimuli in our study are drawn from a contest conducted by Perlman & Lupyan (2018): Contestants – all speakers of English as a first or second language – submitted recordings of non-linguistic vocalizations intended to communicate 30 different meanings spanning actions, humans, animals, inanimate objects, properties, quantifiers, and demonstratives. The comprehensibility of the vocalizations was then tested by the ability of American English speakers to choose the right meaning from a set of alternatives. Here, we selected the three vocalizations for each meaning that were guessed most accurately. We tested whether listeners from different linguistic and cultural backgrounds – German and Polish – are also able to infer the meanings of the vocalizations.

The results show that German-speaking listeners selected the correct meaning with 72% accuracy, and Polish-speaking listeners with 60% accuracy (with chance performance at 16.7%). For comparison, the overall accuracy by the American English-speaking listeners from the original experiment was 62.4%, when chance was about 10%.

The results shed light on people's ability to communicate across languages and cultures through the use of universally understood iconic vocalizations.

References: • Draxler, C. 2014. Online experiments with the Percy software framework-experiences and some early results. *LREC*, 235–240. • Perlman, M. & G. Lupyan. 2018. People can create iconic vocalizations to communicate various meanings to naïve listeners. *Scientific Reports* 8(1). 2634.