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## Investigating motivations for iconicity and systematicity in emergent sign systems

Recently, there has been a blossoming discussion related to the emergence of novel sign systems and – ultimately – language. Previous studies suggest a prominent role for internal and individual cognitive biases shaping linguistic structures through processes of intergenerational transmission and learning (Kirby et al., 2008). Other approaches argue for the importance of situated social interaction (Tylén et al., 2013). In the latter, the social and material environment plays a critical role providing rich semiotic affordances that scaffold and stabilize new communicative signs and systems. Crucially, this perspective entails that different environments might motivate different linguistic structures (Christensen et al., 2016).

This paper presents novel experimental work on aspects of systematicity and iconicity in emerging communication systems (Dingemanse et al., 2015). While iconicity is related to the relation between sign and referent, systematicity is related to shared features between related signs internally in a communication system. As such, both iconicity and systematicity scaffold previous knowledge (about referents/signs), and can therefore be treated as alternative "strategies" for bootstrapping a communication system (Roberts et al., 2015).

In an experimental setting, we independently manipulated the distributional properties of certain traits of stimuli to simulate affordances for iconicity and systematicity of different environments. Pairs of participants had to communicate about visually presented characters using only gesture (i.e. without reliance on existing conventional signs, Galantucci and Garrod, 2010). These characters each had very specific, individual traits (e.g., glasses), as well as traits that were shared by a number of referents (e.g., their gender). Preliminary findings support a nuanced perspective on iconicity and systematicity emerging in response to different semiotic affordances.

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