The Sensory Theory of Protolanguage Emergence

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Interest in sound symbolism and non-arbitrariness - especially in the context of the evolution of language - has grown considerably in the last decade. Accordingly, a good deal of work has been done which explores the cognitive constraints which may underlie sound symbolism in terms of both learning (e.g., Monaghan, Mattock & Walker, 2012) and perceptual biases (e.g., Cuskley, Kirby, & Simner, 2015). Likewise, a large body of work has examined sound symbolism present in modern natural languages (e.g., Monaghan, Shillcock, Christiansen & Kirby, 2014). However, the role of sound symbolism in language evolution is often vaguely assumed: iconic words helped us learn to use linguistic symbols. Beyond the broad claim that sound symbolism is important in learning and bootstrapping, the *specific* role of sound symbolism in protolanguage - and how this relates to its role in modern language - is addressed in detail much more rarely (although see Irvine, 2016; Imai & Kita, 2014) .

The goal of this talk will be to fill in that detail, providing a synthesis of why sound symbolism likely played an important role in protolanguage, what a sound symbolic protolanguage may have looked like, and how (and why) it would have transitioned to the more arbitrary modern languages we observe today. This will be presented in a unified *sensory theory of protolanguage* (STP), leveraging the considerable evidence for cognitive perceptual biases and sound symbolism in natural language. The STP proposes that shared biases to make associations between sensory modalities provided the basis for the emergence of a shared protolinguistic lexicon, which contained relatively free word order and a limited set of content items. Early linguistic utterances, by virtue of their grounding in shared perceptual biases, could be formed and understood with high mutual intelligibility, solving issues inherent in bootstrapping a complex system of linguistic symbols.

The STP provides a detailed perspective by addressing the nature of a sound symbolic protolanguage system in detail, and reconciling a sound symbolic protolanguage with other important issues in the protolanguage literature such as the synthetic/analytic debate. Finally, the STP fully argues for the utility of non-arbitrariness specifically at the point of language emergence, and proposes evidence for and mechanisms of the transition from a non-arbitrary protolanguage to the predominantly arbitrary natural language systems we observe today.

The talk will situate the STP in light of the growing body of empirical evidence presented surrounding sound symbolism. Beyond providing a more detailed language evolution framework for continued work in cognitive and learning biases and sound symbolism in natural language, I will argue that the STP provides the schema necessary for extending into computational models which can more fully explore the role of sound symbolism in language evolution.

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