

PENNY PEXMAN

Investigating the Origins of Sound Symbolism in Infancy

When Shakespeare wrote “What’s in a name? That which we call a rose by any other name would smell as sweet” (*Romeo & Juliet*) he referenced the widely held belief that the name of an object bears no relationship to our understanding of the thing itself. This exemplifies the arbitrariness of language: the argument that there is no relationship between the form of a label – its spelling, sound or articulation – and its meaning. Thus, the features of the word *rose* do not resemble the flower it names. Arbitrariness has long been considered one of the central features of language, and it is beneficial in that it allows the freedom to pair any word with any meaning. In contrast, there is evidence that some individual sounds are associated with certain kinds of meaning. This kind of nonarbitrariness is referred to as sound symbolism, and the most famous example is the *bouba-kiki effect*.

Almost 100 years ago, Wolfgang Kohler reported that when presented with a pair of shapes, one rounded and one jagged, and told that one is called a “bouba” and one is called a “kiki”, participants showed a strong tendency to pair the name bouba with the rounded shape and kiki with the jagged shape. This finding has been replicated many times, and across speakers of many languages. Thus, while sound symbolism stands in opposition to the categorical arbitrariness of language, there is mounting evidence that arbitrariness in language co-exists with non-arbitrariness and that non-arbitrariness also has advantages. One proposed advantage of non-arbitrariness is in terms of language acquisition. It has been proposed that sound symbolism can help infants to realize that sounds can stand for referents in the world. While there is evidence that toddlers and adults are sensitive to sound symbolic relationships like the bouba-kiki effect, there is only very limited evidence that infants (younger than one year of age) share this sensitivity. That is, in one previous study with a small sample, 4-month-olds showed sensitivity to the bouba-kiki association. These limited findings speak to a very important theoretical debate about the origins of sound symbolic associations. While some have argued that our sensitivity to sound symbolism is based in biology, others have argued that it is learned through language exposure. The best way to resolve this debate is by testing for sensitivity to the association in young infants, who have not yet had extensive experience with language. This will be achieved in the proposed studies.

I propose a longitudinal study (Study 1), in which I track infants’ sensitivity to sound symbolism at three points across the first year. If sensitivity to sound symbolism is based in biology, it should be evident even at the youngest testing point. If, in contrast, sensitivity to sound symbolism is learned, it should emerge later and in relation to infants’ linguistic experience.

In addition, I will test the role of experience in development of sound symbolism more directly (Study 2), through a familiarization manipulation, where infants are given daily exposure to a novel object with a sound-shape congruent or incongruent name. Thus, Study 2 will explore how parents or caregivers can shape early infant language development through brief daily interactions.

The findings from both studies will provide valuable new insights about an important cue that may facilitate early language acquisition, about the origins of sound symbolism in infancy, and about mechanisms of non-arbitrariness in language. It is important to investigate early biases, like the sensitivity to sound symbolism, and to understand how those might be related to infants’ early experiences. People often assume that infants’ first spoken words mark the beginning of language acquisition. The present work helps elucidate how language acquisition begins long before infants’ first words and the present studies explore how language acquisition may be shaped by interactions between caregivers and young infants.

The work represents a new direction for my research program, both in terms of the theoretical issues examined and the methodology used. My proposal meets Insight Development Grant funding criteria insofar as the research is in its initial stages, includes experimentation with new methodologies and ideas, and addresses a problem that is complex, timely, and important to investigate.