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Iconicity

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Iconicity refers to instances in which the form of a signal (e.g., the sound of a word, the shape of a hand sign) is perceived as resembling its meaning in some way. A notable example in spoken language is onomatopoeia: words whose sounds imitate a sound in the world (e.g., "oink," "slurp," "click"). Iconicity can also exist for words with non-sound meanings. For instance, the vowel sound /i/ (as in "see") is judged as sounding "small," allowing a word like "teeny" to seem to resemble something small. Iconicity can also exist in the way that words are pronounced (i.e., in prosody; e.g., saying an event took a "loooong" time) and in co-speech gestures (e.g., holding the hands far apart while talking about catching a big fish). Iconicity also exists beyond spoken language; for example, the American Sign Language sign for "bird" involves imitating a beak with the forefinger and thumb.

History

Plato discussed the concept of iconicity in his Cratylus dialogue from the fifth century BCE (ca. 388 BCE; Plato, 2015). In it, the character Cratylus puts forth the opinion that there exists a natural or correct word for everything in the world. The dialogue includes a discussion of some iconic relationships; for example, that the movement of the tongue when articulating /r/ explains the presence of /r/ in words related to movement [see Sound Symbolism].

The term *iconicity* itself can be traced to the writing of Charles Sanders Peirce, who initially delineated three ways in which a sign (e.g., a word form) could refer to an object: as icons (though initially the term "likenesses" was used), indices, or symbols (Peirce, 1868). *Icons* are signs that have some likeness or resemblance to the object (e.g., a drawing of a route). *Indices* are signs that are somehow caused by the object (e.g., smoke on the horizon signaling a fire). *Symbols* are signs that are only related to an object through convention (e.g., a red octagonal sign indicating one should stop).

The ability of language to be iconic was discussed throughout the 20th century. For example, Wolfgang Köhler (Köhler, 1929) and Edward Sapir (Sapir, 1929) both pointed out relationships between certain language sounds and properties such as shape or size, respectively. The early 21st century has seen a proliferation of research on iconicity due in part to the rekindling of interest in shape iconicity (Ramachandran & Hubbard, 2001) as well as the exploration of non-Indo European and non-spoken languages (see Perniss et al., 2010).

Core concepts

Subjectivity: Perceived resemblance between aspects of form and meaning

In the 21st century, iconicity has come to be seen as a subjective phenomenon. It requires an individual to *perceive* a resemblance between a signal's form and its meaning (see Occhino et al., 2017). This allows iconicity to exist across modalities. For example, an individual need only perceive the phoneme /i/ as sounding relatively small to enable iconicity in a word like "teeny." In addition, the relationship need only

be between some aspect of form and some aspect of meaning. For instance, the American Sign Language sign for "bird" consists of a pinching index finger and thumb resembling the bird's beak [see Sign Language], whereas the Indian Sign Language sign consists of hands at the side flapping, resembling the bird's wings. These two signs involve resemblance of different aspects of the meaning "bird."

Quantifying iconicity

Due to its subjective nature, iconicity has been quantified by asking groups of participants to rate the extent to which the form of a signal resembles its meaning on a continuous scale (Winter et al., 2024; Caselli et al., 2017). These ratings have allowed researchers to explore the features that iconic forms have in common. For example, words that are higher in iconicity tend to refer to meanings rich in tactile and auditory sensations (Winter et al., 2017). This likely reflects the kinds of sensations that are more easily imitated by spoken language.

Language acquisition

Words that are higher in iconicity tend to be acquired earlier (Perry et al., 2015; Winter et al., 2024; Nielsen & Dingemanse, 2021; Imai & Kita, 2014). It is proposed that the resemblance between sound and meaning helps infants associate a given speech sound with its meaning (Imai & Kita, 2014) [see Word Learning]. Lab studies have supported this; for example, infants are better able to generalize a word to a novel instance if it is iconic (Imai et al., 2008). Effects of iconicity have also been demonstrated in sign language acquisition, with these effects being moderated by factors such as first versus second language and type of iconicity (see Ortega, 2017). Studies have also found that iconic co-speech gestures can facilitate language acquisition (Goodrich & Hudson Kam, 2009) [see Gesture].

Questions, controversies, and new developments

Researchers have begun to explore the role of iconicity in language processing. Several studies have shown that participants are faster to process iconic words (Aryani & Jacobs, 2018; Meteyard et al., 2015; Sidhu et al., 2020; but see Sidhu & Pexman, 2023) and signs (Vinson et al., 2015) presented in isolation. There is also evidence that iconic co-speech gestures can enhance comprehension (Kelly et al., 2010).

Researchers have suggested that iconicity may play a role in language change (see Dingemanse et al., 2015), with some suggesting that the ability of signals to imitate the world could have been foundational to the very earliest stages of language emergence (Imai & Kita, 2014).

Broader connections

Iconicity falls into a view of language as fundamentally multimodal. This view conceives of language as being broader than the lexicon itself but instead including elements such as gesture and prosodic variation that accompany language use in the real world (see Murgiano et al., 2021). Importantly, though, iconicity is not limited to language. For example, a picture of a house is iconic in that it represents the house by resembling it.

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