Info/information theory: Speakers choose shorter words in predictive contexts.

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Brief article

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Abstract

A major open question in natural language research is the role of communicative efficiency in the origin and on-line processing of language structures. Here, we use word pairs like *chimp/chimpanzee*, which differ in length but have nearly identical meanings, to investigate the communicative properties of lexical systems and the communicative pressures on language users. Â If language is designed to be information-theoretically optimal, then shorter words should convey less information than their longer counterparts, when controlling for meaning. Consistent with this prediction, a corpus analysis revealed that the short form of our meaning-matched pairs occurs in more predictive contexts than the longer form. Second, a behavioral study showed that language users choose the short form more often in predictive contexts, suggesting that tendencies to be information-theoretically efficient manifest in explicit behavioral

choices. Our findings, which demonstrate the prominent role of communicative efficiency in the structure of the lexicon, complement and extend the results of Piantadosi, Tily, and Gibson (2011), who showed that word length is better correlated with Shannon information content than with frequency. Crucially, we show that this effect arises at least in part from active speaker choice.

Keywords

Psycholinguistics; Information theory; Language; Efficiency; Communication

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