

Probabilistic pragmatics explains the production of quantifiers

(Bob van Tiel)

The study of words that express quantification has occupied linguists, psychologists, and philosophers since Aristotle. An influential theory in linguistics captures the meaning of quantity words in terms of (binary) logic. However, this idea seems contradicted by data showing that people tend to use quantity words via prototypes, i.e., situations in which quantity words are most appropriate. In this paper, we show how a logical theory of linguistic meaning can be reconciled with prototypes in language use by formulating a probabilistic pragmatic model that connects them. This model offers a better fit to data from a large-scale study on the production of quantity words than a comparable model that builds prototypicality directly into the meaning of quantity words.