

Towards an empirically grounded definition of prototypes

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1 Prototypicality: from psychology to linguistics

The concept of prototypicality originated in the field of psychology, most notably with the work of Eleanor Rosch, who demonstrated by means of experiments that categories are organised around prototypes, corresponding to the most representative exemplars of the categories. Thus, when asked to rate different types of fruit according to their ‘goodness-of-example’, most respondents judge oranges as better examples than figs or mangoes (Rosch 1975). The orange can therefore be said to be central to the fruit category (equal to, or at least close to, its prototype), whereas the mango and the fig are more peripheral.

Seeing the potential of prototypicality to describe the fuzzy categories of language, linguists borrowed the psychological concept and applied it to more abstract levels of linguistic representation, such as transitivity (Hopper & Thompson 1980) or past tense (Taylor 1989). During this transfer, however, the concept seems to have lost much of its empirical grounding. When it is not used informally as a synonym of ‘typicality’, the term ‘prototypicality’ refers to some intuitive assumption that a particular linguistic item is somehow more central to the category than other items. Most of the prototypes described by cognitive linguists are of this type (e.g. Lakoff 1987, Langacker 1987). Among corpus linguists, on the other hand, it is not uncommon to equate prototypicality with frequency, the prototype being the most frequent item of a category in language (e.g. Stubbs 2004). While frequency in language can of course be taken as a type of evidence, it should be borne in mind that prototypicality is primarily a psychological phenomenon, not a linguistic one, and therefore the question remains as to whether frequency has any psychological reality when it comes to prototypes.

2 Three types of evidence to empirically establish prototypicality in linguistics

This study compares three different types of evidence used to establish the prototype of two highly polysemous verbs, *give* and *take*. The *tertium comparationis* is the intuition-based description of the prototypes found in the cognitive literature for these two verbs (Newman [2005] for *give* and Norvig [1986] for *take*).

First, the most frequent use of *give* and *take* was determined on the basis of two corpora of authentic spoken and written American English (Switchboard and FROWN). While the validity of this type of evidence can be questioned (see above), frequency is rather easy to measure for linguistic categories so that, if its psychological reality can be proved, it will emerge as a convenient shortcut to prototypicality.

The next two measures, relying on experimental methods, are more psychologically oriented and thus closer to the original notion of prototypicality. They aim to establish cognitive salience, both in terms of production and comprehension. In the first experiment, subjects had to use the verb *give* or *take* in the first sentence that came to their minds, a method which resembles that applied by psychologists such as Hampton (1981). The second experiment used a method *à la* Rosch, asking subjects to rate a number of sentences with *give* and *take* according to their degree of typicality.

3 Results

Contrary to common belief (see e.g. Schmid's [2000] 'From-Corpus-to-Cognition Principle'), frequency as attested in the corpus does not coincide with salience as evidenced by the production and comprehension tests, a result which confirms some studies underlining the difference between corpus data and experimental data (cf. Roland & Jurafsky [2002] or Shortall [in preparation]). While *give* and *take* are predominantly used as light verbs in authentic language (e.g. *give a smile*, *take a walk*), this use turns out to have relatively little salience in the cognitive system.

In the case of *take*, the comparison of the three types of evidence reveals yet another difference, namely between the production and comprehension experimental data. According to the production data, the most salient sense of *take* is that of moving (someone/something somewhere) – a surprising result, incidentally, in view of the cognitive literature, which considers that it is the sense of grabbing which is prototypical. The sense of moving, however, is not rated very high in the comprehension test. With *give*, by contrast, the most salient sense, both in the production and comprehension data, is that of handing, as predicted by the cognitive literature.

These results and the divergences they exhibit will be presented and commented on. Hypotheses will be put forward to explain the lack of overlap between the different types of evidence, and the implications it has for the notion of prototypicality will be discussed. Finally, other possible types of evidence for prototypicality in linguistics will be evoked, such as reaction time or age of acquisition.

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