

An exploratory corpus analysis of English change-of-state verbs used to talk about quantity

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People use a range of verbs to reference changes in quantity, such as speaking of “rising prices” or “shrinking revenues”. When doing so, the direction of change is generally encoded in the verb itself (e.g., “increase” versus “decrease”), and language users can then optionally also express where the change has come from (“births have increased from 5%”), its magnitude (“revenues grew by 10%”), or the endpoint of the change (“revenue went up to 48 million”), similar to how uses of spatial verbs can vary in whether sources, paths, or goals are encoded (Verkerk, 2017; Georgakopoulous, 2018; Stefanowitsch, 2018).

This study investigates usage-in-context for 16 English change-of-state verbs, including verbs that are clearly numerical in nature, such as “increase” and “decrease,” as well as verbs referencing vertical movement, such as “rise” and “fall,” and verbs that refer to changes of size, such as “contract” and “expand.” We are interested in mapping the verbs’ collocational patterns, in particular with regard to semantic information related to change. For that, we performed a large-scale corpus analysis of four corpora: two large-scale reference corpora (British National Corpus and Corpus of Contemporary English) and two corpora we expected to be numerically dense (the Coronavirus Corpus, and the Jena Organization Corpus). We extracted 100 concordances per verb per corpus, yielding a total of 6,333 observations (some verbs were not sufficiently attested). We manually annotated the concordances for whether 1) the usage is quantitative or not, 2) and whether source, magnitude, or target is explicitly mentioned, and 3) whether any of the latter involve numerals.

Our results show that, across the four corpora, more than half of the verb usages is quantitative in nature (57%). The majority of quantitative usages do not encode source, magnitude, or target at all (68%). Magnitudes were encoded most often (14%), compared to targets (9%) and sources (<1%). This is similar to investigations of purely spatial language, which have shown that sources are not often encoded (e.g. I climbed *onto* the roof vs. I climbed *from* my room *onto* the roof; see Verkerk, 2017; Georgakopoulous, 2018; Stefanowitsch, 2018). In our talk, we will discuss verb-specific preferences, particularly with respect to whether vertically oriented or size-related verbs are more or less likely to describe change of countable or uncountable quantities, and whether these quantities are more or less likely to be abstract for certain verbs.

References

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