

## Literal but listed phrasal verbs

Verb-particle combinations in English, also known as ‘phrasal verbs’ (e.g. *show off*, *try out*, *wake up*, etc.), have been the subject of much debate in linguistic theory and description. Some scholars argue that transparent verb-particle sequences and non-transparent verb-particle sequences should be given different structural analyses (e.g. Aarts 1989, Williams 1997, Wurmbrandt 2000, Blom 2005). Ordinary sequences of a verb and a spatial particle have sometimes even been excluded from the class of verb-particle combinations proper (e.g. Fraser 1976: 1, Quirk et al. 1985: 1152, Farrell 2005: 99–100), on the assumption that literal combinations are rule-generated and that only idiomatic combinations need to be listed in the lexicon.

We report neurolinguistic evidence based on MEG data that transparent phrasal verbs like *rise up* and *fall down* are lexically stored as units. For our study we recruited 22 mature native speakers of English. As they were watching a silently played movie, acoustic stimuli were presented to them in a so-called auditory ‘oddball’ stimulation paradigm. The standard stimuli were motion verbs (e.g. *rise*, *fall*), alternated by critical stimuli (*up*, *down*) which either did or did not form an existing phrasal verb with the preceding verb (*rise up*/\**down*; *fall* \**up/down*). When particles combined felicitously with the verb stimuli, they triggered the kind of early brain responses which in previous research (Pulvermüller et al. 2001) have been associated with memory traces for single words. This result can only be interpreted as proof that transparent verb-particle combinations can be lexically stored as pre-assembled units.

The phrasal verbs used in our study were commonly encountered verb-particle combinations. More research is needed to find out whether infrequent and/or novel combinations similarly trigger word-like brain responses or not. But meanwhile, our MEG study casts serious doubts on the dual-route (‘words and rules’) theory (Pinker 1999) according to which idiosyncratic combinations are retrieved from lexical memory as wholes whereas regular combinations are constructed ‘online’. Instead, we have found evidence taken directly from the brain that language users can access prefabricated chunks of lexical material which are semantically perfectly analysable. This supports a growing number of psycholinguistic studies which indicate that redundant storage of regular forms can occur.

Most of these studies focus on regular vs. irregular verb inflection (e.g. *work-ed* vs. *went*). Since our study involves combinations of free morphemes (i.e. two distinct and separable words), we have also found empirical proof that stored lexical items can exceed the size of single grammatical words.

## References

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