

Networks all the way down

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Among usage-based theories, there are different conceptions of the language network. Word Grammar (WG; Hudson 1984, 2010; Gisborne 2010, 2020) assumes that language is a network of atomic nodes, with signs an emergent property. In the radical network of WG, there are no complex nodes (contra Construction Grammar); all nodes are defined by the relations (associative and classificatory) that support them, and Word Grammar networks conform to a Uniformity of Representation hypothesis. However, like constructional theories, WG rejects the grammar/lexicon divide. In this paper we develop a WG analysis of Aktionsart data from English which supports its radical network approach.

Aktionsart presents a useful test-case. It is generally a lexical property, although the difference between *he drank beer* (atelic, a process) and *he drank a beer* (telic, an accomplishment) shows that it can be compositional. Like the ordering of elements in phonology, morphology and syntax, telic eventualities are directed. However, associative networks are inherently undirected. In addition, there is variation within telic eventualities as follows:

- In *he drank a beer*, the accomplishment is derived compositionally but in *she built a house*, it is lexical;
- each sub-event of *drinking a beer* is an event of beer-drinking, but *building a house* consists of a series of sub-events of different kinds which culminate in the existence of a house.

Furthermore, different aspectual patterns can be found with several verb complementation types, giving rise to complex interactions between event complexity and verb complementation. These facts taken together imply that the same network elements should feature in both compositional and lexical semantics. They also imply that representations should be non-discrete and not nested because the same semantic representations are found in different domains of structure, in line with the rejection of the grammar/lexicon divide.

We establish a framework for building directionality into the network as a derived property, to allow for the directed nature of both linguistic structure and event structure, drawing on the idea of a co-occurrence network and ideas in Hudson (2010). From this, we develop representations of the temporal contours of the different eventuality types, building on Holmes' (2005:170) analysis of 'galloping'. We establish network representations for *drinking beer*, *drinking a beer*, and *building a house*. We show that semantic relations, such as 'result', are found in clausal and lexical meaning and we show how a model of scalar meaning (*heat water*) can be derived from the analysis of telicity.

We demonstrate how WG captures a range of complex semantic phenomena, while keeping its ontological assumptions minimal, and with the links in the network prioritised, because the WG network has no complex nodes. We provide semantic evidence for the cognitive-linguistic position that there is no lexicon/grammar divide as well as showing how a cognitive-linguistic network model can capture semantics at the same degree of granularity as a formal semantic analysis.

References

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