Constructing *'modal'* networks - possibilities and possible limitations of a usage-based approach of modal verbs based on written interactions

Marie-Louise Bartsch
University of Hamburg

Keywords Usage-based model, network modelling, modal verbs, Construction Grammar, Interactional Linguistics

While the formal inventory of German modal verbs seems to be quite fixed, the context of use determines to a great extent their meaning, i.e. modality. More theoretically spoken, modal verbs are considered cases in the continuum between lexicon and grammar, as they " resemble canonical lexical items in having clearly discernible meanings. At the same time, their meanings resemble those of classic grammatical markers in being tenuous, abstract, and hard to eludicate" (Langacker 2008: 22f). Considering that meaning emerges through use (Tomasello 2003), the question arises even more whether and how aspects of use can be empirically validly captured and made accessible to a holistic description of modal verbs.

To work on this question, I combine construction grammatical premises (Croft 2001; Goldberg 2006) with interactional linguistic methods (Couper-Kuhlen 2018; Deppermann 2006) to follow a maximalist and strictly bottom-up approach that draws on authentic data. Based on qualitative analyses, I collect formal, semantic and 'usage specific' aspects to generate complex feature bundles for each modal verb occurrence. A statistically based network analysis will subsequently reveal the interconnections of the modal verbs resulting from the qualitatively obtained criteria. The statistically identified relations reveal the way in which usage specific aspects are involved in the meaning specification of the examined modal verbs while interacting with formal and semantic aspects. Following the Louvain method (Blondel et al. 2008), an integrated clustering algorithm leads to the detection of significant communities, i.e. potentially constructions. By defining communities as matter of family resemblance, the approach allows to systematically capture the more or less idiosyncratic structures of concrete usage events, while the detected links reveal a flat network (Lanwer 2020) which suggests an abstract *construct-i-con*. However, since the approach aims to provide statements about the system based on usage-based analysis, some fundamental questions need to be reflected upon: First of all, what actually is enfolded by 'usage-specific' aspects and how are they to be integrated into a Construction Grammar framework? As usage events are naturally unique, it is secondly to be asked, how and to what extent they can and should be abstracted. And thirdly, how compatible are statistical analyses with qualitatively collected categories?

By means of a case study on the use of *wollen* (*will*) and *sollen* (*shall*) in written WhatsApp interactions, the talk focuses on the theoretical-methodological interface of the approach in order to critically challenge these questions.

References

Blondel, Vincent D., Jean-Loup Guillaume, Renauld Lamboitte & Etienne Lefebvre .2008. Fast unfolding of communities in large networks. *Journal of Statistical Mechanics: Theory and Experiment* 10.

Couper-Kuhlen, Elizabeth & Margret Selting. 2018. *Interactional Linguistics*. Cambridge: Cambridge University Press.

Croft, William. 2001. *Radical Construction Grammar*. Oxford: Oxford UP.

Deppermann, Arnulf. 2006. Construction Grammar – Eine Grammatik für die Interaktion? In Arnulf Deppermann, Reinhard Fiehler & Thomas Spranz-Fogasy (ed.), *Grammatik und Interaktion*, 43–65. Radolfzell.

Goldberg, Adele E. 2006. *Constructions at Work: The Nature of Generalization in Language*. Oxford: Oxford University Press.

Langacker, Ronald W. 2008. *Cognitive Grammar. A Basic Introduction*. Oxford: University Press.

Lanwer, Jens Philipp. 2020. Appositive Syntax oder appositive Prosodie? In Wolfgang Imo & Jens Philipp Lanwer (ed), *Prosodie und Konstruktionsgrammatik*, 233-282. Berlin, Boston: De Gruyter.

Tomasello, Michael. 2003. *Constructing a language: A usage-based theory of language acquisition*. Cambridge: Harvard University Press.