## Frame elements and construction elements: Division of labor in the Swedish FrameNet and Construction

Benjamin Lyngfelt, Lars Borin, Markus Forsberg, Karin Friberg Heppin, Richard Johansson, Rudolf Rydstedt, & Maria Toporowska Gronostaj

University of Gothenburg

Following the model of the Berkeley FrameNet Construction (Fillmore et al. 2012), there are now constructions being developed for a number of languages, including Japanese, Brazilian Portuguese, and Swedish (Lyngfelt et al. 2012). While each construction effort is an addition to the FrameNet of that language, some crucial differences exist between the two types of resources. The present paper addresses these differences from the viewpoint of the Swedish FrameNet (SweFN) and its companion construction (SweCxn).

In a framenet, the central units are frames – "a script-like conceptual structure that describes a particular type of situation, object, or event along with its participants and props" (Ruppenhofer et al. 2010:5). The participants, typically semantic roles, are represented as frame elements (FEs). Constructions, on the other hand, are inventories of constructions – conventionalized pairings of form and meaning/function – whose parts, construction elements (CEs), usually correspond to syntactic constituents. Frames and FEs are, in principle, defined by their meaning, independent of their form; whereas constructions and CEs are defined by both form and meaning (and the relation between them). Consequently, in order to account for constructions and CEs, the FrameNet representation format has to be enriched with more formal information.

Another difference concerns cross-linguistic application. Lacking formal and lexical specifications, frames and FEs may function as a cross-linguistic metalanguage – in practice being treated as universals – with language specific properties attributed to the lexical units instantiating the frames and displayed in annotated sentences (cf., however, Pado 2007, Friberg Heppin & Toporowska Gronostaj 2012). Constructions, on the other hand, are essentially language specific, mainly due to lexical and/or formal specifications. Hence, for cross-linguistic application of constructions, some other notation is required. In SweCxn, the constructions are presently associated with frames, where applicable, as a preliminary approximation.

SweCxn – but neither SweFN nor the Berkeley construction – also differs from FrameNet standard in assuming global definitions of semantic roles and other properties related to CEs. These are not necessarily traditional generalized roles, but simply as general as the data allow. We hope this approach will benefit both linguistic and language technology purposes (cf. Johansson 2012). Other distinguishing properties of SweCxn are the inclusion of collostructural elements in the construction descriptions, a focus on constructions relevant for L2 acquisition, and the aim to develop methods for automatic identification of constructions in authentic text. Both SweFN and SweCxn are integrated in a larger Swedish resource network, including both corpora and lexical resources (Borin et al. 2012).

## References

- Borin, Lars, Markus Forsberg, Leif-Jöran Olsson & Jonatan Uppström (2012a). The open lexical infrastructure of Språkbanken. In *Proceedings of LREC 2012*, Istanbul.
- Fillmore, Charles, Russell Lee-Goldman & Russell Rhomieux (2012). The FrameNet Construction. In Hans Boas and Ivan Sag (eds.), *Sign-Based Construction Grammar*. CSLI, Stanford.
- Friberg Heppin, Karin & Maria Toporowska Gronostaj (2012). The Rocky Road towards a Swedish FrameNet Creating SweFN. In *Proceedings of LREC 2012*, Istanbul.
- Johansson, Richard (2012). Non-atomic classification to improve a semantic role labeler for a lowresource language. In *Proceedings of the First Joint Conference on Lexical and Computational Semantics*, pp. 95–99, Montréal.
- Lyngfelt, Benjamin, Lars Borin, Markus Forsberg, Julia Prentice, Rudolf Rydstedt, Emma Sköldberg & Sofia Tingsell (2012). Adding a Construction to the Swedish resource network of Språkbanken. In *Proceedings of Konvens 2012*. Vienna.
- Pado, Sebastian (2007). <u>Translational Equivalence and Cross-lingual Parallelism: The Case of FrameNet Frames</u>. Proceedings of the NODALIDA Workshop on Building Frame Semantics Resources for Scandinavian and Baltic Languages. Tartu, Estonia.
- Ruppenhofer, Josef, Michael Ellsworth, R. L. Miriam Petruck, R. Christopher Johnson & Jan Scheffczyk (2010). FrameNet II: Extended Theory and Practice. ICSI, Berkeley.
- Swedish Construction (SweCxn): <a href="http://spraakbanken.gu.se/eng/resource/konstruktikon">http://spraakbanken.gu.se/eng/resource/konstruktikon</a>
- Swedish FrameNet (SweFN): <a href="http://spraakbanken.gu.se/eng/research/swefn/development-version">http://spraakbanken.gu.se/eng/research/swefn/development-version</a>>