# Frame Elements and Construction Elements

## Division of labor in the Swedish FrameNet and Constructicon

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

Dept. of Swedish, University of Gothenburg

SweCxn is funded by Riksbankens jubileumsfond (The Swedish Tercentenary Foundation)
SweFN++ is funded by the Swedish Research Council

# Outline

1. Frame entries and construction entries

2. Relating frames and constructions

3. Relating frame elements and construction elements

4. Relating frames and constructions across languages

# Frames in FrameNet

"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)

**Example frame: Revenge** (FrameNet, Berkeley)

"An Avenger performs a Punishment on a Offender as a consequence of an earlier action by the Offender, the Injury."

Lexical Units: *avenge.v, avenger.n, get_back_(at).v, get_even.v, payback.n, retaliate.v, retaliation.n, retribution.n, retributive.a, retributory.a, revenge.n, revenge.v,* etc.

Annotated example:
What we didn't know for a long time was that this book is his REVENGE on his parents INI

# Constructions in the constructicon

"conventionalized pairings of form and meaning/function" (Lyngfelt et al. 2012)

**Example construction: rather_than_coordination** (FrameNet Constructicon)

"Conjunct_2 indicates an alternative that is rejected in favor of Conjunct_1. Conjunct_1 precedes the CEE (***rather than***) and Conjunct_2 follows it." (+ *Context*)

Annotated sentences:

They concentrate on *showing themselves as* knowledgeable rather than involved, as experts who can impart information .

*Using* a fake scent *for the hounds to track* rather than a live fox would take the blood out of this sport and opposition would cease.

| Lexical FrameNet | Constructicon |
|---|---|
| Frame descriptions describe the frames and their components, set up FE names for annotation, and specify frame-to-frame relations; lexical entries are linked to frames, valence descriptions show combinatory possibilities, entries link valence patterns to sets of annotated sentences. | Constructicon entries describe the constructions and their components, set up construction elements (CEs, the syntactic elements that make up a construct), explain the semantic contribution of the construction, specify construction-to-construction relations, and link construction descriptions with annotated sentences that exhibit their type. |
| Example sentences are selected that illustrate the use of the lexical units described. | Example sentences are selected and annotated for the ways they illustrate the use of the construction. |
| Annotations identify the LU, the FEs, and the GFs and PTs of the segments marked off, | Annotations contain labels for the CEs and identify, for lexically marked constructions, the relevant lexical material. |
| Valence patterns are identified, and linked to the annotations. | Varieties of construct patterns are identified and linked to the annotations. |

(Fillmore 2008)

# Relating constructions and frames

Example of a straight-forward pairing:

**Construction (Swedish): verba_på.forts** (lit. verb_on.continuation)

"An activity verb combined with the particle *på* ('on') expresses continuation of the activity"

Hon knogade på i alla fall. ('She strove on, in any case')

**Frame: activity_ongoing**

"An Agent is performing the portion of an Activity in which there is dynamic stability"

Not noticing the hoards of people rushing by the window, Manny CONTINUED eating his lunch.

# Relating constructions and frames

Example of a split (?) pairing:

**Construction (English): degree_so**

"***So*** is an adverbial modifier of a Scalar_predicate (usually an adjective or adverb), indicating the degree to which a particular Item has a property. […] The extent to which the Item has the property is minimally bound by the Result_clause."

But I am so proud of him. (**Frame: degree**)

I could never rise so high that I would forget about my loved ones. (**Frame: sufficiency?**)

# Relating constructions and frames

Example of a construction *not* corresponding to a frame:

**Construction (English): gapping**

"The construction contains two or more conjuncts, […] All conjuncts other than the final one can contain a Gapped_portion, which directly follows the Before and directly precedes the After. The first conjunct must contain the Gapped_portion."

The brave are still brave, the cowards cowardly, and the dirty are still alive from head to foot

# Relating construction elements and frame elements

Straight-forward match:

**Construction: measurement_plus_prepositional_phrase**

CEs: Item, Measurement_phrase, Prepositional_phrase

To qualify, they had to be at least 26 and measure 5 feet 7 inches in height.

**Frame: dimension**

FEs: Dimension, Measurement, Object

(preposition not tagged in the frame)

# Relating construction elements and frame elements

Less straight-forward match:

**Construction (Swedish): komma_att_1**

"Verb phrase with the auxiliary *komma att* in the past tense expressing a coincidental event"

Detta är lite fakta om den sjukdom som har kommit att bli den värsta epidemin i människans historia.

'These are some facts about the disease that turned out to be the worst epidemic in human history.'

**Frame: coincidence**

FE: State-of_affairs?
LU: *komma_att*.PAST?

# Relating construction elements and frame elements

No lexical unit instantiating the frame:

**Construction (Swedish): juxt_redupl_intj**

“Magnifying the effect of an interjection by repeating it.”

Han såg inte gubben förrän det var försent och hann tänka jävlar jävlar jävlar!

‘He didn’t see the man until it was too late and had the time to think damn damn damn!’

**Frame: degree**

LU?
FE: gradable_attribute?

# Relating Constructicon and FrameNet

Some constructions correspond to frames; some don't

- The more "lexical" meaning of a construction, the better the match with FrameNet
- Constructions with a primarily "grammatical" function are less frame-like

Correspondences rarely more than approximate

- Correspondence between a construction and a frame doesn't always imply correspondence between the CEs and FEs
- For many constructions there is no element corresponding to the LU of a frame

# Frames and Constructions applied across languages

***FrameNet***: The core units – frames – are basically semantic categories

- frames *fairly* successfully applied accross languages (cf. Padó 2007, Friberg Heppin & Toporowska Gronostaj 2012)
- language-specific idiomaticity mainly in the lexical instantiations (and, to some extent, in annotated examples)

***Constructicon***: The core units – cx – have both form and meaning/function, often including specific lexical items

- hence, cx are language-specific to a greater extent

# Comparison between the English and Swedish constructicons

(Bäckström et al. 2013)

Out of 50 English constructicon entries:

- 37 one-to-one correspondents in SweCxn
- 5 cases where one BCxn entry –> two SweCxn entries
- 8 non-corresponding cases

  (at least partial equivalence in both form and function/meaning required)

- minor structural differences common – especially grammatical markers (definiteness, agreement, relators etc.)

**Example: rate constructions**

| | | | |
|---|---|---|---|
| English: | twice | a | week |
| Swedish: | två gånger | i | veckan |
| lit. | two times | in | week-DEF |

# Comparison between English and Swedish cxns

(Bäckström et al. 2013)

Out of 50 English constructicon entries:

- 37 one-to-one correspondents in SweCxn
- 5 cases where one BCxn entry –> two SweCxn entries
- 8 non-corresponding cases

(at least partial equivalence in both form and function/meaning required)

- minor structural differences common – especially grammatical markers (definiteness, agreement, relators etc.)
- minor functional differences / differences in distribution
- more grammatical/functional cx typically more similar (exception: inversion)
- more lexical/idiom-like cx typically differ more

# Relating constructions across languages: four basic options

- Translation equivalents?
- Frames?
- General grammatical constructions?
- Abstract representation format?

–> some sort of combination?

Requires collaboration between the various constructicon projects

# Relating constructions across languages: four basic options

- (Translation equivalents)
- Frames
- General grammatical cx
- ~~Abstract representation format?~~

- - -

- Some cx correspond to frames; some don't (typically the more "grammatical" ones)
- The latter are also tend to be more similar across at least English and Swedish
- Hence, a combination of frames and general grammatical cx seems to be the best alternative so far ...
- ... *if* our sister projects (English, Japanese, Brazilian Portuguese) agree.

Thank you for your attention!

<http://spraakbanken.gu.se/eng/resource/konstruktikon>

<http://spraakbanken.gu.se/eng/swefn>

# References


Bäckström, Linnéa, Benjamin Lyngfelt & Emma Sköldberg (2013). Constructions in contrast. Approaching Swedish correspondents to the entries in the Berkeley FrameNet Constructicon. *International FrameNet Workshop 2013* (IFNW-13), Berkeley, CA.

Fillmore, Charles (2008). Border Conflicts: FrameNet Meets Construction Grammar. In Elisenda Bernal & Janet DeCesaris (eds.): *Proceedings of the XIII EURALEX International Congress*. Barcelona: Universitat Pompeu Fabra, 49–68.

Friberg Heppin, Karin & Maria Toporowska Gronostaj (2012). The Rocky Road towards a Swedish FrameNet – Creating SweFN. In *Proceedings of LREC 2012*. Istanbul.

Lyngfelt, Benjamin, Lars Borin, Markus Forsberg, Julia Prentice, Rudolf Rydstedt, Emma Sköldberg & Sofia Tingsell (2012). Adding a Constructicon to the Swedish resource network of Språkbanken. In *Proceedings of Konvens 2012*. Vienna.

Pado, Sebastian (2007). Translational Equivalence and Cross-lingual Parallelism: The Case of FrameNet Frames. *Proceedings of the NODALIDA Workshop on Building Frame Semantics Resources for Scandinavian and Baltic Languages*. Tartu, Estonia.

*Swedish Constructicon* (SweCxn): <http://spraakbanken.gu.se/eng/resource/konstruktikon>

*Swedish FrameNet++* (SweFN++). <http://spraakbanken.gu.se/eng/swefn>