

VP idioms in Norwegian: A subconstructional approach

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Abstract

In this poster I will show how the rich lexical information of the LFG grammar NorGram can be reused in an HPSG-like grammar with a radically different approach to alternating argument frames. A constructional approach is taken where the verbs of the idioms are left underspecified with regard to whether they are idioms or not. A hierarchy of linking types is assumed, which for each piece of evidence provided by the words and rules of the sentence, narrows down the possible frames of the verb to just one.¹

1 Introduction

The Norwegian LFG grammar NorGram (Dyvik, 2000) has four main kinds of VP idioms. The first two kinds of idioms are semantically intransitive, hence they only take one argument, namely the subject, illustrated in (1) and (2).

- (1) Han gikk konkurs.
he went bankrupt
He went bankrupt.
- (2) De løftet i flokk.
They lifted in flock
They worked together.

The last two kinds of idioms are semantically transitive, hence they take two arguments, illustrated in (3) and (4).

- (3) Han la ikke skjul på sin glede.
he laid not hiding on his joy
He didn't hide his joy.
- (4) Han brakte temaet på bane.
he brought topic.the on track
He brought up the topic.

VP idiom frames are listed among the other frames of the verbs as disjunctions of frames in the lexical entries. These disjunctive frames are expanded into full lexical entries during parsing.

I propose an account that shifts the burden from the lexicon to a carefully designed hierarchy of linking types. The transfer is achieved by means of *phrasal subconstructions* (Haugereid, 2009), which are construction parts that, when put together in a way that conforms with a constraint on the verb, form full constructions. The analysis is implemented in an HPSG-like grammar of Norwegian.

2 Analysis

2.1 Lexical representation

In addition to the idiom frame given in (4), the verb *bringe* also has a transitive and a ditransitive frame, as shown in (5).

- (5) a. Han brakte maten.
he brought food.the
He brought the food.
- b. Han brakte henne maten.
he brought her food.the
He brought her the food.

Even though we now have three argument frames for the verb *bringe*, I assume only one

¹This poster is based on a paper that will be presented at HPSG 2014.

lexical entry, shown in (6). The four argument features; C(ONSTRUCTION)-ARG1, C-ARG2, C-ARG3, and C-ARG4 correspond to external subject, (deep) direct object, (deep) indirect object, and oblique object, respectively. Note that there is no linking of the C-ARGS to the semantics. Rather, the linking is done in *phrasal subconstructions*.

(6)	<table style="border-collapse: collapse; width: 100%;"> <tr> <td style="padding: 2px 5px;"><i>bringe-v</i></td> <td style="padding: 2px 5px;">< "bringe" ></td> </tr> <tr> <td style="padding: 2px 5px;">STEM</td> <td style="padding: 2px 5px;"></td> </tr> <tr> <td style="padding: 2px 5px;">HEAD</td> <td style="padding: 2px 5px;"><i>verb</i></td> </tr> <tr> <td style="padding: 2px 5px;">VAL</td> <td style="padding: 2px 5px;"> <table style="border-collapse: collapse; width: 100%;"> <tr> <td style="padding: 2px 5px;">C-ARG1</td> <td style="padding: 2px 5px;">[HEAD <i>noun</i>]</td> </tr> <tr> <td style="padding: 2px 5px;">C-ARG2</td> <td style="padding: 2px 5px;">[HEAD <i>noun</i>]</td> </tr> <tr> <td style="padding: 2px 5px;">C-ARG3</td> <td style="padding: 2px 5px;">[HEAD <i>noun</i>]</td> </tr> <tr> <td style="padding: 2px 5px;">C-ARG4</td> <td style="padding: 2px 5px;">[HEAD <i>compl-noun</i>]</td> </tr> </table> </td> </tr> <tr> <td style="padding: 2px 5px;">KEYREL</td> <td style="padding: 2px 5px;">[1] [PRED <i>bringe</i>]</td> </tr> <tr> <td style="padding: 2px 5px;">RELS</td> <td style="padding: 2px 5px;">⟨ [1] ⟩</td> </tr> </table>	<i>bringe-v</i>	< "bringe" >	STEM		HEAD	<i>verb</i>	VAL	<table style="border-collapse: collapse; width: 100%;"> <tr> <td style="padding: 2px 5px;">C-ARG1</td> <td style="padding: 2px 5px;">[HEAD <i>noun</i>]</td> </tr> <tr> <td style="padding: 2px 5px;">C-ARG2</td> <td style="padding: 2px 5px;">[HEAD <i>noun</i>]</td> </tr> <tr> <td style="padding: 2px 5px;">C-ARG3</td> <td style="padding: 2px 5px;">[HEAD <i>noun</i>]</td> </tr> <tr> <td style="padding: 2px 5px;">C-ARG4</td> <td style="padding: 2px 5px;">[HEAD <i>compl-noun</i>]</td> </tr> </table>	C-ARG1	[HEAD <i>noun</i>]	C-ARG2	[HEAD <i>noun</i>]	C-ARG3	[HEAD <i>noun</i>]	C-ARG4	[HEAD <i>compl-noun</i>]	KEYREL	[1] [PRED <i>bringe</i>]	RELS	⟨ [1] ⟩
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2.2 Phrasal subconstructions

Phrasal subconstructions are rules (or function words or inflections) that incorporate arguments into the structure and link them to the KEYREL (the predicate of the main verb). One example of a phrasal subconstruction is the rule that links (external) subjects, *arg1-struct*, illustrated in (7). In this rule, the value of C-ARG1|LINK is switched from *arg1-* in the mother to *arg1+* in the first daughter, indicating that the subconstruction has applied. At the same time, the argument (the second daughter of the rule (3)) is linked to the ARG1 of the KEYREL.

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The grammar also has subconstructions that link (deep) direct objects *arg2-struct*, (deep) indirect objects *arg3-struct*, and oblique objects *arg4-struct*, as well as incorporating elements of idiomatic expressions. Subconstructions may

only apply if they are compatible with the PRED value of the main verb relation (KEYREL).

At the bottom of the tree we find the evidence of all subconstructions that have applied, as *link* types (see Figure 1). These are unified with the KEYREL|PRED value. In the case of (4), the evidence consists of the types *arg1+*, *arg2+*, *arg3-*, *på*, and *bane*. When these types are unified with the PRED value *bringe*, we get the type *bringe*på*bane_rel*, which now becomes the main predicate of the proposition expressed.

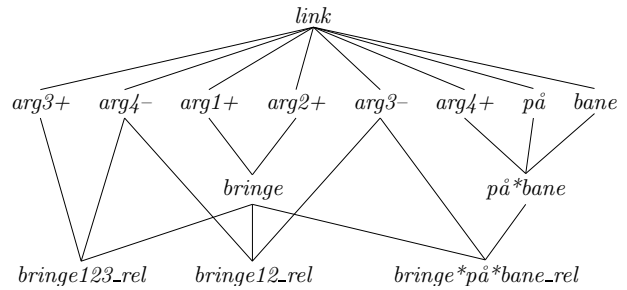


Figure 1: The position of *bringe* in the *link* type hierarchy

The hierarchy in Figure 1 also accounts for the ability of *bringe* to alternate between the three argument frames shown in (4) and (5). Given the three subtypes of *bringe* in the linking type hierarchy, *bringe12_rel*, *bringe123_rel*, and *bringe*på*bane_rel*, the verb is allowed to enter the constellations of subconstructions that make up the regular transitive and ditransitive frames in addition to the idiom frame.

References

- Dyvik, H. (2000). Nødvendige noder i norsk: Grunntrekk i en leksikalsk-funksjonell beskrivelse av norsk syntaks [Necessary nodes in Norwegian: Basic properties of a lexical-functional description of Norwegian syntax]. In Ø. Andersen, K. Fløttum, and T. Kinn, editors, *Menneske, språk og felleskap*. Novus forlag.
- Haugereid, P. (2009). *Phrasal subconstructions: A constructionalist grammar design, exemplified with Norwegian and English*. Ph.D. thesis, Norwegian University of Science and Technology.