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Switched Control and other 'uncontrolled' cases of obligatory control

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Background and objective

LFG and HPSG both treat obligatory control in terms of equalities of the signs representing the controller and the controllee.

In LFG control is seen either as functional control, that is the sharing of an f-structure (Bresnan (1982), or as obligatory anaphoric control, that is as a semantic relation only (Darlrymple 2001).

In HPSG control resides in sharing of indices whose scope can range from referential pointers to parts of structures.

We will discuss some of the relevant mechanisms of the two frameworks in connection with the analysis of a regular pattern of 'control switch' in German and Norwegian.

Modal infinitival complements of ‘suasive’ verbs of communication

The pattern we are interested in arises with German and Norwegian verbs of communication that express wishes, desires, commitments or judgements, such as

German:
anflehen, überreden, versprechen, bitten, beschuldigen

Norwegian
bønnfalle, overtale, love, be, anklage/beskylde.

English
‘beseech’, ‘persuade’, ‘promise’, ‘beg’, ‘accuse'

We will call verbs in this group ***suasive verbs of communication*** following Mair 1990.

Verbs expressing orders such as German *befehlen*,
Norwegian *befale*, *beordre*, English *‘order’*, do not fall in this class.

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Modal infinitival complements of ‘suasive’ verbs of communication

When suasive verbs select a modal infinitival complement, a complex verbal chain is formed, and an apparent switch of control can be triggered.

For example in German, the transitive verb *anflehen* induces object control, cf. (1a):

(1a) Er fleht mich an zu kommen *'He beseeched me to come'*

In combination with the modal verb *dürfen* and deontic *können*, object control switches to subject control:

(1b) Er fleht mich an kommen zu dürfen *'He beseeches me to be allowed to come'*

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Object control in Norwegian

For Norwegian, a similar pattern is observed.

In (2a) the logical subject of komme is ‘me’.
In (2b), when combined with *få* in its modal use as part of the infinitive, object control changes to subject control:

(2a) Han ba meg om å komme *‘He asked me to come’*

(2b) Han ba meg om å få komme *'He asked me to be allowed to come’*

Få also has aspectual uses, as described, e.g., in Lødrup 1996;
here we are focusing on its ‘deontic’ use.

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Subject control in German and Norwegian

The German verb *versprechen* is a subject control verb, but in combination with *dürfen* and deontic *können* the construction receives an object control interpretation

(3a) Ich verspreche ihm zu kommen *'I promise him to come.'*

(3b) Ich verspreche ihm kommen zu dürfen *'I promise him to be allowed to come.'*

In Norwegian, the verb *love* shows a similar pattern:
(4a) the logical subject of komme is *'I'*, in (4b) it is *'he'*:

(4a) Jeg lovet ham å komme *'I promised him to come'*

(4b) Jeg lovet ham å få komme *'I promised him to be allowed to come'*

In contrast, *wollen* as well as its Norwegian counterpart *ville*, which have a volitional modal base, do not affect lexically determined control relations.

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In English

For English, Radford (1985:381) discusses an example with an object-control verb which receives a subject-control interpretation.
While *John pleaded with me to go* means that I should go,
John pleaded with me to be allowed to go states that I should allow John to go.

Also in the case of an unlikely interpretation, a default object-control pattern may be overridden by a subject-control interpretation such as in the case of *He asked his boss to have an afternoon off* (Mair 1990).
These cases of switched control seem marginal for English,
but not so for the cases we discuss in German and Norwegian, where modal verbs are used widely and systematically in embedded infinitives (see also Stiebels (2015)).

English counterparts would have had to be like:
* *He promised me to get go*
* **He promised me to may go*.

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‘Control switch’ – diagnosis

Control switch features two verbal predicates: the modal non-finite predicate and the matrix predicate. We would like to treat modals with a deontic modal base such as *få* , *dürfen* and *können* as three-place relations with a normative agent as first, an addressee as second, and an action as third argument.

The suasive verbs of the type *promise* have three semantic arguments (x y P) overtly realised, so that the sentence *He promises him to come* has roughly the semantic structure in (5), with x as the normative agent, y as the addressee, and P as the action to be conducted by x:

(5) PROMISE(x y P(x)).

‘Control switch’ – diagnosis

In a sentence like (3b)

(3b) Ich verspreche ihm kommen zu dürfen *'I promise him to be allowed to come.',*

the normative agent introduced by d*ürfen* is bound to the first argument of *versprechen*, *the promiser subject instantiated in (5) as x*.

Thus we get the semantic pattern in (6b) for the switched pattern, as opposed to the ‘normal’ pattern in (6a). In both schemata identical letters indicate referential identity, underlined letters indicate the bearer of the deontic control relation.

(6) a. PROMISE [***x*** y [***x*** come]] *subject control*
b. PROMISE (x ***y*** [PERMIT (x ***y*** [***y*** come]] *object control*

‘Control switch’ – diagnosis

The opposite pattern obtains for the *beseech* type of verbs (e.g. (1) and (2)):

(7) a. BESEECH [x ***y*** [***y*** come]] *object-control*

b. BESEECH (***x*** y [PERMIT (y ***x*** [***x*** come]] *subject-control*

‘Control switch’ – why suasive verbs

Suasive verbs describe communications about what we may call ***negotiable situations***.

Thematically the situation is instantiated by a promiser/persuader and an addressee, and the lexicalised control pattern encodes whether the promiser/persuader subject or the addressee object is under negotiaton as the agent of the situation under discussion.

Promise type verbs feature the promiser as this prospective agent, while for the *beseech* type the adressee is construed as this agent.
When the envisioned event comes into the scope of deontic considerations, a normative agent is introduced under whose regime the prospective agent of the embedded infinitive will have to act.

Under obligatory control the normative agent is always bound to one of the expressed arguments, and in this way the switched control pattern is borne.

From a more formal linguistic point of view, a question is now how we can construct a semantics which allows us to express the patterns discussed.

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HPSG-style representation - 1

Using an HPSG format, the constructions (3b) and (4b) can be represented as in Figure 1, with coindexation for referential identity. The semantics corresponding to the schematic display in (6b) is found under SEM (with ARG0 representing a situational index).

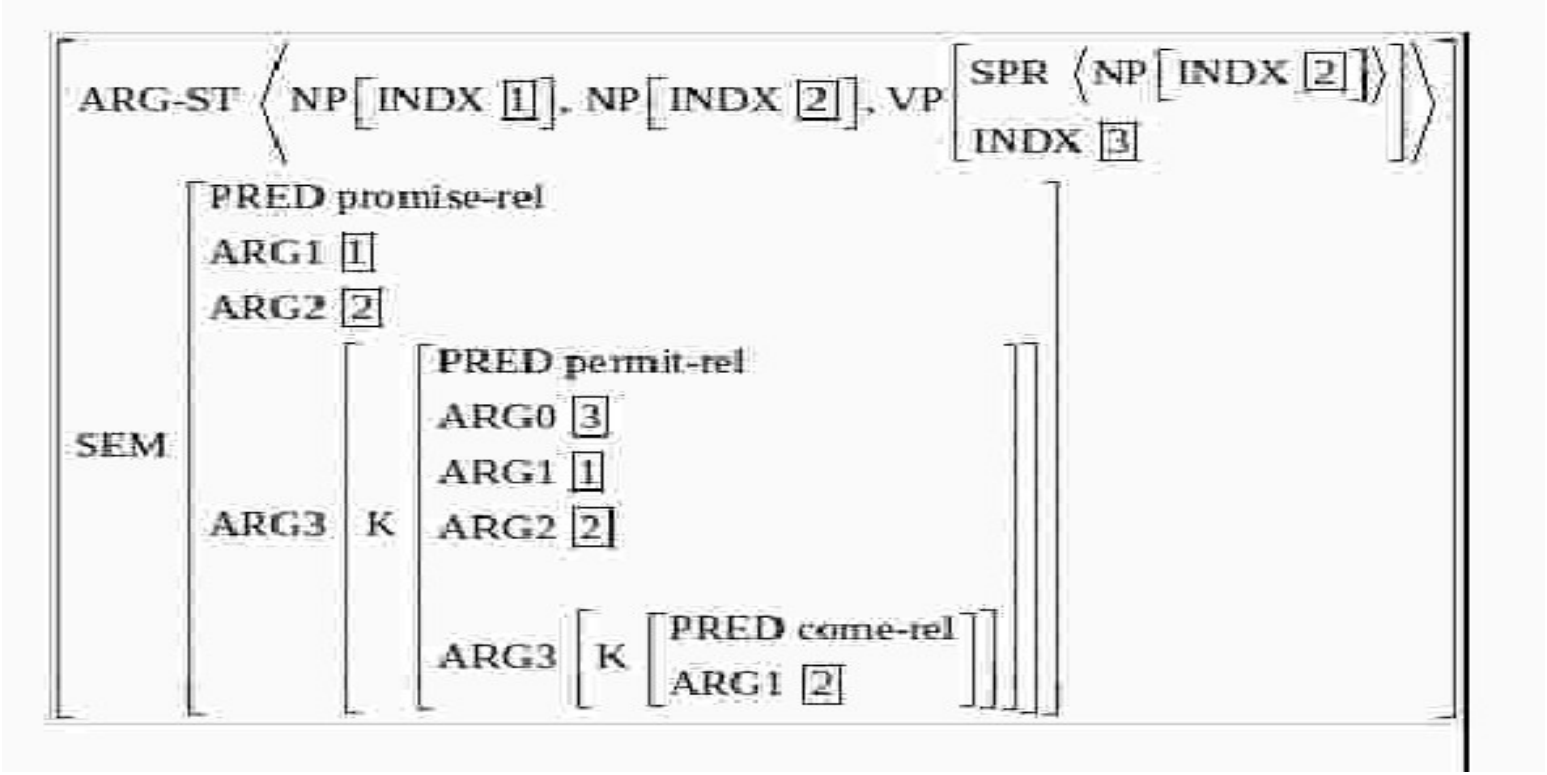

Figure 1 HPSG representation of (3b) ***Ich verspreche ihm kommen zu dürfen*** *'I promise him to be allowed to come.")* and its Norwegian counterpart (4b) (for expository convenience using English lexical items in the semantics)

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HPSG-style representation - 2

The contribution of *dürfen/få* per se is indicated in Figure 2 (the reentrancy symbol '1' deliberately left free):

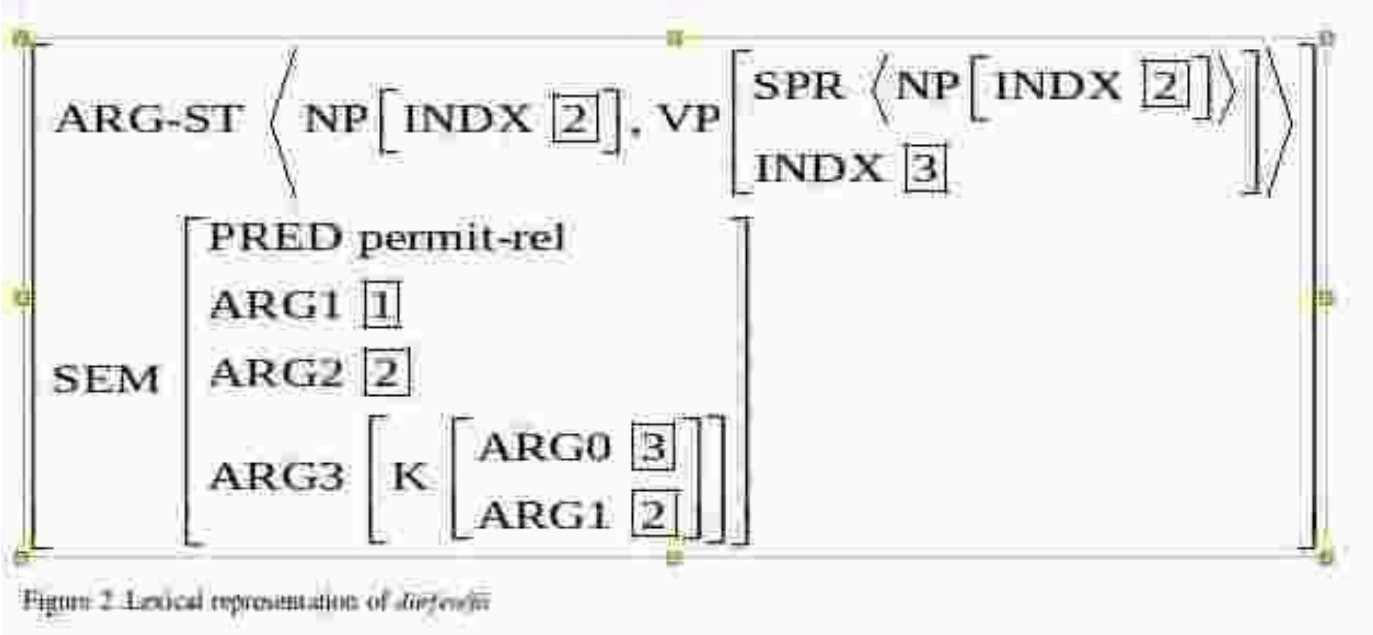

Figure 2 Lexical representation of *dürfen*

The combination between *dürfen* and *kommen* (forming *kommen zu dürfen*) will bind the index indicated as '2' in Figure 2 to the subject of *kommen*, whereas the index indicated as '1' remains uninstantiated syntactically. It gets instantiated only when *versprechen* combines with *kommen zu dürfen*, imposing its subject control pattern, resulting in the constellation shown in Figure 1. Notably, the ARG1 of *dürfen* which now gets bound is not the index associated with the *subject* of *dürfen*, but the index of the *permitter*.

HPSG-style representation - 3

Thus, what here has to act as the lexical specification of *versprechen* is the structure in Figure 3, requiring identity between the two ARG1's under SEM , but lacking the specification of the downstairs syntax that this lexical specification would normally be assumed to carry; the latter is exhibited in Figure 4, which would wrongly identify the one who is permitted with the one who promises:

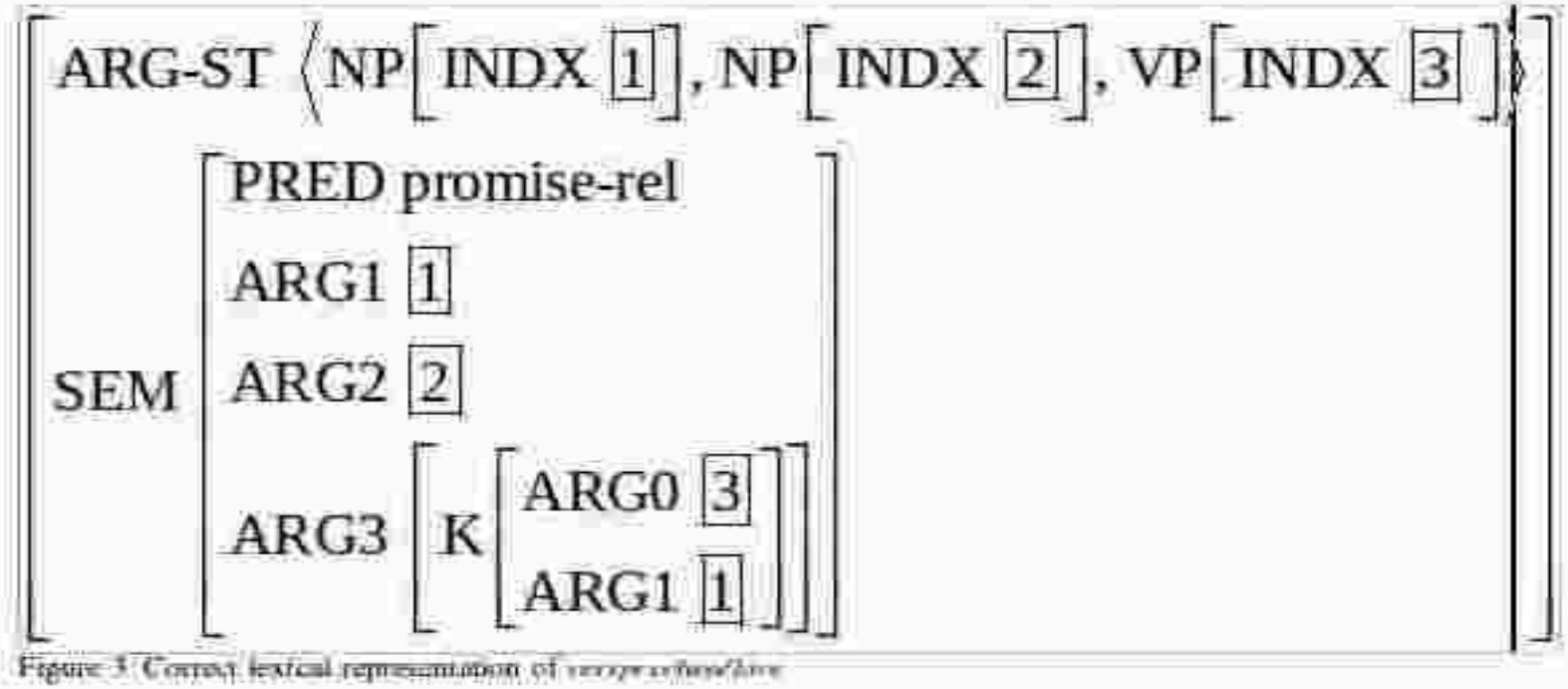

Figure 3 Correct lexical representation of *versprechen*

HPSG-style representation – 4
Excluded representation of 'promise'

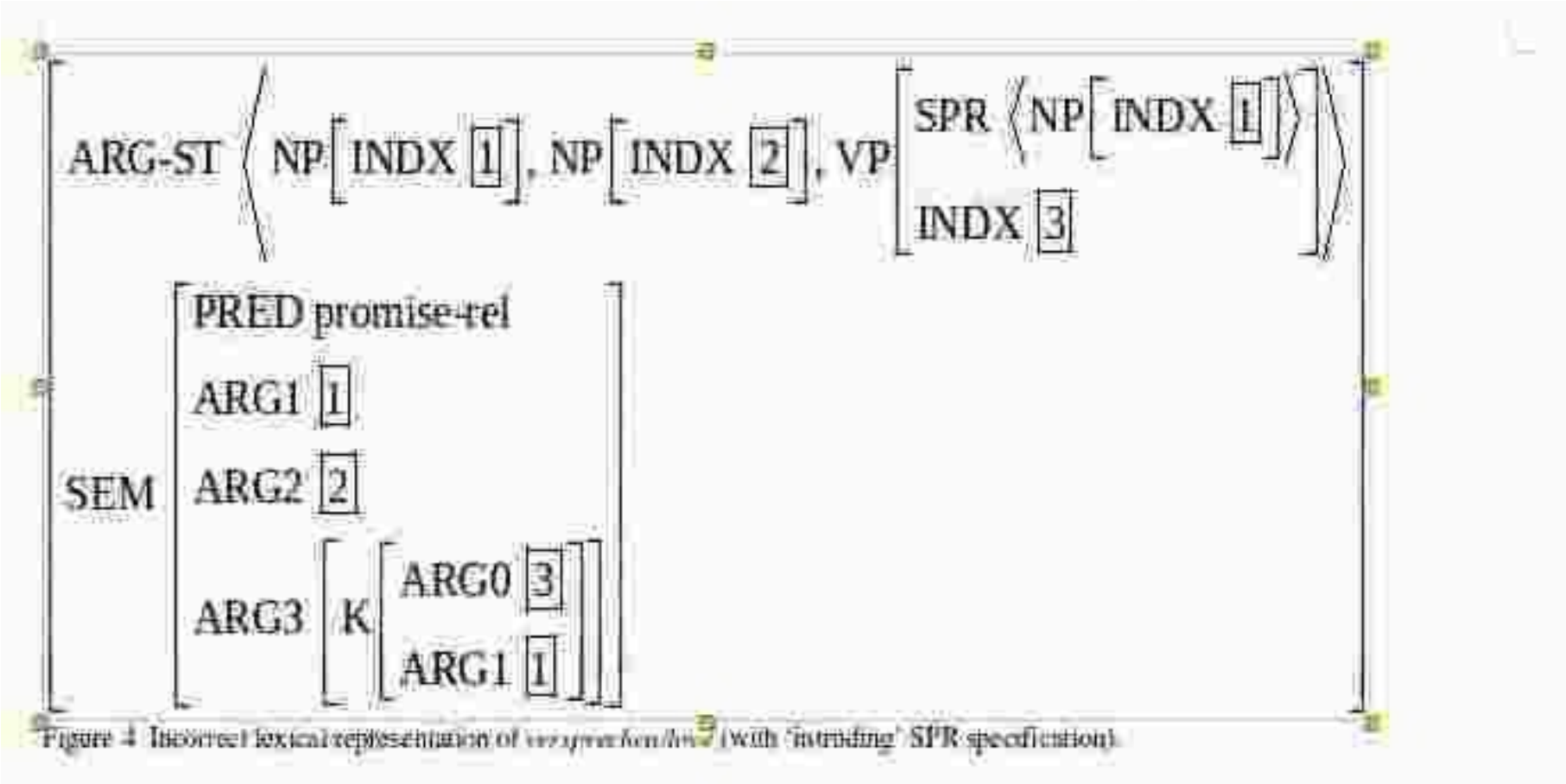

Figure 4 Incorrect lexical representation of *promise* (with 'intruding' SPR specification)

Formal analysis in LFG-style representation - 1

In LFG obligatory control is captured by means of lexically induced functional control equations.
Versprechen has next to the meaning we are interested in here an epistemic reading with an upstairs non-thematic-subject - the corresponding f-structure is Figure 5a:

$$\begin{bmatrix} \text{PRED} & \text{'versprechen<XCOMP>SUBJ'} \\ \text{SUBJ} & [1]\begin{bmatrix} \text{PRED} & \text{'pro'} \\ \text{NUM} & \text{SG} \\ \text{PERS} & 3 \end{bmatrix} \\ \text{XCOMP} & \begin{bmatrix} \text{PRED} & \text{'regnen<pro>'} \\ \text{SUBJ} & [1] \end{bmatrix} \end{bmatrix}$$

Formal analysis in LFG-style representation - 2

We are here interested in the *equi construction* for which we assume obligatory anaphoric control, which is coindexation for referential identity, as shown in Figure 5b.

$$\begin{bmatrix} PRED & 'versprechen\langle SUBJ, OBJ, COMP\rangle' \\ SUBJ & \begin{bmatrix} PRED & [1]'pro' \\ NUM & SG \\ PERS & 3 \end{bmatrix} \\ OBJ & \begin{bmatrix} PRED & 'pro' \\ NUM & SG \\ PERS & 3 \\ CASE & DAT \end{bmatrix} \\ COMP & \begin{bmatrix} PRED & 'kommen\langle SUBJ\rangle' \\ SUBJ & [1]'pro' \end{bmatrix} \end{bmatrix}$$

Formal analysis in LFG-style representation - 3

In order to formalise switched control, we need an explicit semantic representation. Working within feature semantics, we follow Fenstad et al. 1985, and Halvorsen and Kaplan (1995). Halvorsen and Kaplan formalise their approach by the composition of mappings, with an attribute-value type s-structure σ and a reversed f-function Φ^{-1}. This is what we will use to describe switch control.

Formal analysis in LFG-style representation - 4

Suasive verbs denote communications negotiating possible situations.
Control constructions containing a suasive matrix verb and a modal infinitive, instantiating the to be negotiated event, contain normative premises.

The construction as such requires that one of the arguments of the matrix verb is the deontic controller. For the construction at hand, deonticity is computed on top of the lexically encoded control relations. This leads to the observed switched control pattern.

In order to capture this configuration, we would like to introduce a conditioned functional control equation which allows us to introduce semantic constraints when required by a deontic infinitial complement.

This can be done in the lexicon using semantic equations.
If the if-then constraint is not met, a standard subject control results.

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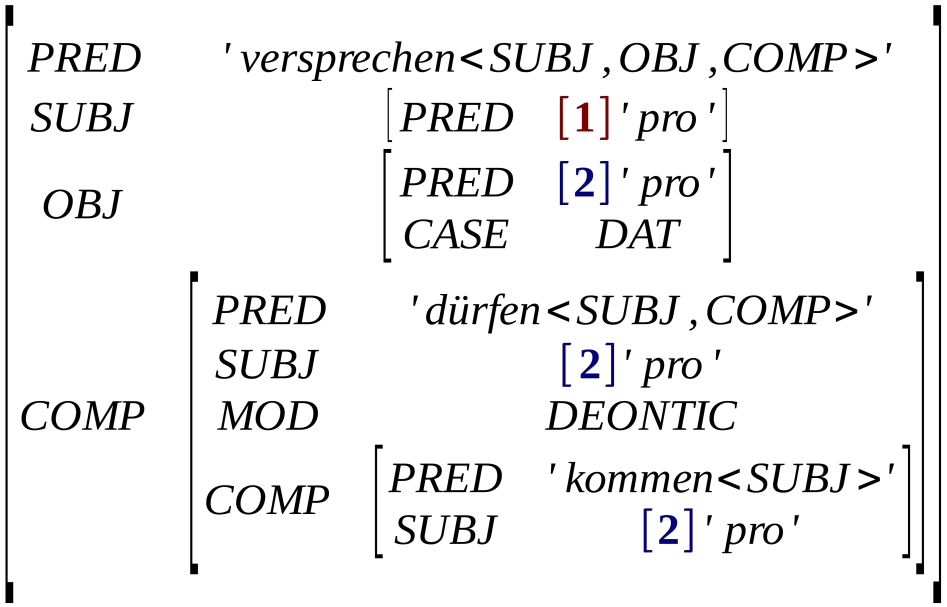
Formal analysis in LFG-style representation - 5

versprechen

* PRED <SUBJ, OBJ, COMP >
(M* SUBJ)=(M* COMP SUBJ)
if M* COMP MOD = deontic **then**
(σM* ARG1) = σ (M* ARG3 ARG1) and **s-ident: denontic controller**
(σM* ARG2) = σ (M* ARG3 ARG2) and **s-ident: adressee**
(σM* ARG3 ARG1) = σ'- (M* SUBJ PRED) and
(σM* ARG3 ARG3 AGR1) = σ'- (M* COMP COMP SUBJ PRED)
= σ'- (M* COMP SUBJ PRED)
= σ'- ((M* OBJ PRED)

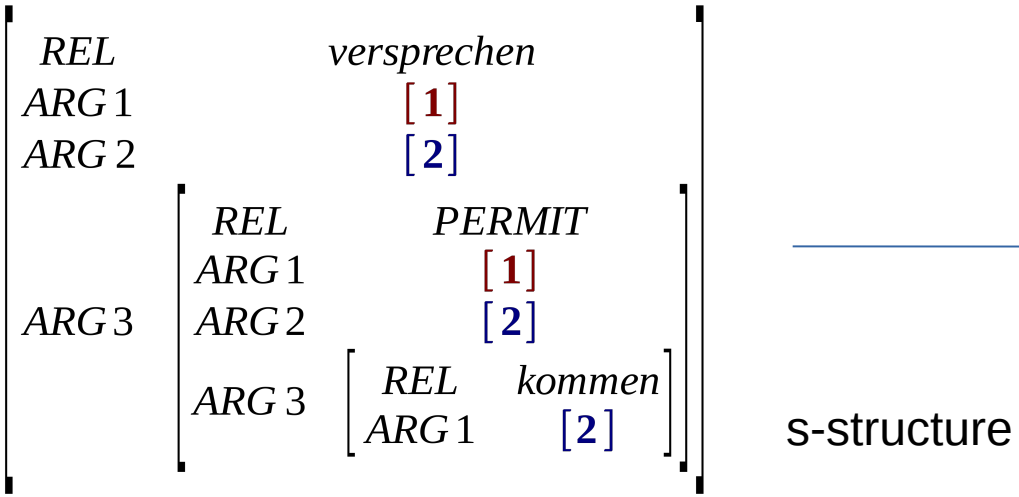
obligatory referential control by reversed f-function

Formal analysis in LFG-style representation - 6



f-structure

Φ^{-1}



s-structure

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Concluding remarks

Relative to both frameworks, the articulation of a level of semantic representation is crucial, since one of the relations determining the control patterns observed is exposed only at such a level.
In the HPSG analysis, semantics is part of the standard format, but the analysis relies on a larger degree of underspecification of the specifier of the embedded infinitive than is commonly assumed.
In the LFG analysis, we make use of a design well within the bounds of a pronounced LFG architecture which allows us to state semantic constraints in the lexicon as well as in phrasal representations. Conditionals formulated for LFG for choice of the relevant f-structure corresponds to the underspecification mentioned in the HPSG analysis.

Formal aspects aside, something which may render the analytic construal a bit non-obvious is that the ARG1 of the assumed PERMIT relation is never realized as subject in any construction carried by the verbs *dürfen* and *få*.
This is untypical of what one assumes for semantic argument structures, which after all reflect syntactic structures rather closely.

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Resources

http://typecraft.org
Online grammars for Norwegian: for LFG http://clarino.uib.no/iness/xle-web,
for HPSG http://regdili.hf.ntnu.no:8081/linguisticAce/parse

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