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Word order in the Swedish midfield – an OT approach

1. Introduction

Most accounts of Swedish main clauses assume that there are two possible positions for subjects, either initially or immediately following the finite verb. See for instance the generative account in Platzack (1998) or the topological approach in the Swedish Academy grammar (Teleman et al. 1999, henceforth SAG). SAG adopts a version of Diderichsen’s field schema (Diderichsen 1946, Ahrenberg 1992).

(1) XP V_{FIN} SUBJ S-ADV V_{NON-FIN} OBJ_{IND} OBJ_{DIR} ADV

(1) gives an outline of declarative main clauses in Swedish. In the initial position, here called XP, we typically find subjects, scene setting-adverbials and other constituents which function as topic or focus of the sentence. When the subject is not in XP, it is assumed to appear immediately following the finite verb.

The two subject positions are shown below. In (2 a) the subject is initial and in (2 b, c) it follows the finite verb. In (3) we have the same sentences with an auxiliary verb in the second position. Sentential adverbs (S-ADV) as well as time adverbs typically occur next to the subject, preceding non-finite verbs, objects and adverbs of place and manner

(2) a. Eva gav förmodligen inte Oscar några pengar.
 Eva give.pst probably not Oscar any money
 SUBJ V_{FIN} ADV NEG OBJ_{IND} OBJ_{DIR}
 ‘Eva probably didn’t give Oscar any money.’

b. Några pengar gav Eva förmodligen inte Oscar.
 OBJ_{DIR} V_{FIN} SUBJ S-ADV NEG OBJ_{IND}

c. Förmodligen gav Eva inte Oscar några pengar.
 S-ADV V_{FIN} SUBJ NEG OBJ_{IND} OBJ_{DIR}

(3) a. Eva har förmodligen inte gett Oscar några pengar.
 Eva have.prs probably not give.ppart Oscar any money
 SUBJ V_{FIN} S-ADV NEG V_{NON-FIN} OBJ_{IND} OBJ_{DIR}
 ‘Eva probably hasn’t given Oscar any money.’

b. Några pengar har Eva förmodligen inte gett Oscar.
 OBJ_{DIR} V_{FIN} SUBJ S-ADV NEG V_{NON-FIN} OBJ_{IND}

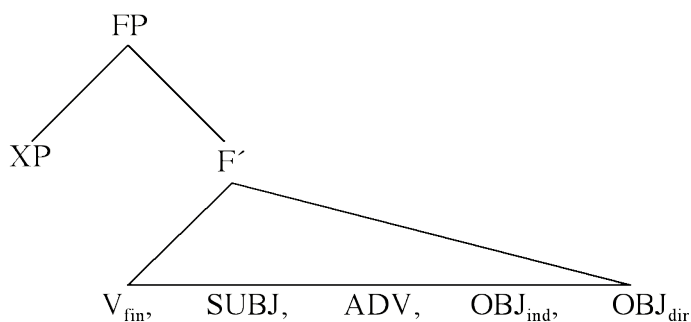
c. Förmodligen har Eva inte gett Oscar några pengar.
 S-ADV V_{FIN} SUBJ NEG V_{NON-FIN} OBJ_{IND} OBJ_{DIR}

The subject is, however, not restricted to these two positions. Both pronominal objects and adverbs may precede a subject occurring after the finite verb. Hence there is more variation in word order in the so-called midfield in Swedish than has generally been acknowledged.

In this paper we argue that this variation in word order is not free, but depends on syntactic, semantic and information structural factors. We focus on the word order in the midfield, i.e. the part of a main clause, which starts with the finite verb and stretches until the VP headed by a non-finite verb. This midfield corresponds roughly to the IP in minimalist approaches.

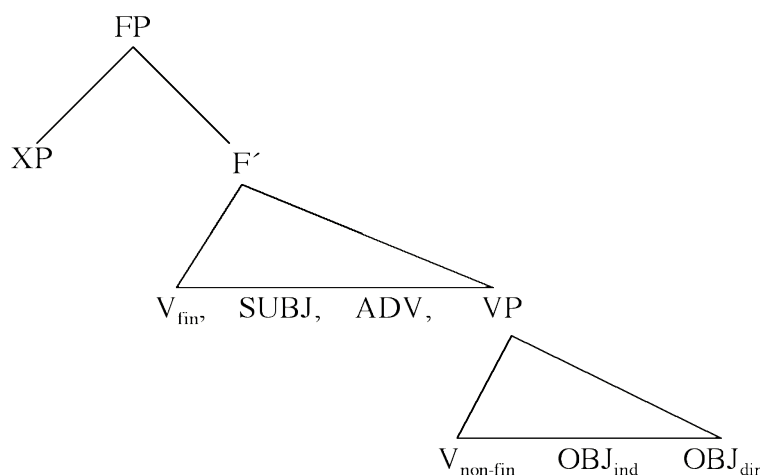
For our discussion, we will assume a grammar that generates a flat midfield structure.¹ In (4) we give a schematic structure of a main clause with just one verb. This verb, which has to be finite, has to occur initially. Consequently there is no evidence for a VP. We assume that the finite verb heads this phrase, and refer to it as FP (for *finite phrase*). The commas between the constituents are meant to indicate that the order of the sisters is not determined by the phrase structure rules.

(4) Main clause without VP



In (5) we have an outline of a clause with a finite auxiliary heading F' and a VP containing a non-finite main verb.

(5) Main clause with VP



¹ See Börjars, Engdahl & Andréasson for an LFG-style grammar that generates this type of flat structure. It is similar in some respect to Dalrymple's proposal for Icelandic (Dalrymple 2001:51 f).

We will first briefly survey some word order variation data and then outline an Optimality Theoretic approach to this kind of word order variation. This approach enables us to account for the variation without assuming fixed positions for the subject.

1.1. Object shift and adverb interleaving

One phenomenon that has received a lot of attention is *object shift*. As shown in (4), objects normally appear after sentential adverbs. However, a pronominal object may occur to the left of a sentential adverb, as illustrated in (6).² Here the object pronoun *honom* appears before the sentential adverb *förmodligen* and the negation *inte*.

- (6) Eva gav ₀honom förmodligen inte några pengar.
 Eva give.pst he.acc probably not any money
 SUBJ V_{FIN} OBJ_{IND} S-ADV NEG OBJ_{DIR}

A pronominal object may also appear to the left of a subject in the midfield. This is called *long object shift* and is illustrated in (7 a). Short object shift, as in (7 b), is probably more common. Note that object shift is never possible when there is a finite auxiliary verb and the lexical main verb is in VP, as shown (8).

- (7) a. Då gav ₀honom Eva förmodligen inte några pengar.
 Then give.pst he.acc Eva probably not any money
 ADV V_{FIN} OBJ_{IND} SUBJ S-ADV NEG OBJ_{DIR}
 ‘Then Eva probably didn’t give him any money.’

- b. Då gav Eva ₀honom förmodligen inte några pengar.
 ADV V_{FIN} SUBJ OBJ_{IND} S-ADV NEG OBJ_{DIR}

- (8) a. *Eva har ₀honom förmodligen inte gett några pengar.
 Eva have. prs he.acc probably not give.ppart any money

- b. *Då har ₀honom Eva förmodligen inte gett några pengar.
 then have.prs he.acc Eva probably not give.ppart any money
 ADV V_{FIN} OBJ_{IND} SUBJ S-ADV NEG V_{NON-FIN} OBJ_{DIR}

It is also a well-known fact that sentential adverbs can interleave both before and after subjects and objects in the midfield, as illustrated in (9), where only a few of the interleaving options are displayed.

- (9) a. Då gav förmodligen Eva ₀honom inte några pengar.
 ADV V_{FIN} S-ADV SUBJ OBJ_{IND} NEG OBJ_{DIR}

- b. Då gav Eva förmodligen ₀honom inte några pengar.
 ADV V_{FIN} SUBJ S-ADV OBJ_{IND} NEG OBJ_{DIR}

- c. Då gav ₀honom förmodligen inte Eva några pengar.
 ADV V_{FIN} OBJ_{IND} S-ADV NEG SUBJ OBJ_{DIR}

² Both object shift and adverb interleaving are well described in the literature, see e.g. Holmberg (1986, 1999), Collins & Thráinsson (1996), Diesing (1996, 1997), Hellan & Platzack (1995), Josefsson (1992), Kaiser (1997), Sells (2001), Svenonius (2002) and Vikner (1994, 1997).

2. An OT analysis

Instead of assuming that subjects are generated in a fixed position and then ‘moved’ to their surface positions, we will assume that the constituents in the midfield are unordered and that the possible word orders reflect various ways of meeting phonological, syntactic, semantic and information structure preferences. We will cast our analysis within Optimality Theory (OT), an approach that aims to account for variation among languages as well as within a single language through the ranking of violable constraints (see e.g. Legendre, Grimshaw & Vikner 2001 for an introduction to OT syntax and Lyngfelt 2002 for an application to Swedish). Some fundamental assumptions in OT, taken from Vikner (2001:428) are given in (10).

- (10) Optimality Theory
- (i) Constraints are universal
 - (ii) Constraints are ranked
but the ranking varies from language to language
 - (iii) Constraints may be violated
an optimal candidate may violate low ranking constraints and still win, if it satisfies higher ranked constraints
 - (iv) Only the optimal candidate is ‘grammatical’

Concerning word order variation, a language with strict word order will have constraints regarding positions highly ranked, whereas in a language like Finnish constraints regarding information structure will be ranked higher. We assume that there are two types of constraints determining linear order; constraints determining main typological features of the language, T-CONSTRAINTS, and alignment constraints, or A-CONSTRAINTS, which align certain classes of elements within a particular subtree. For Swedish we assume the T-constraints in (11), where the two first are familiar from typology and the third constraint is a more specific instance of the constraint HEAD < COMPL.

- (11) SUBJ < OBJ_S: Subjects precede objects
OBJ_{IND} < OBJ_{DIR}: Indirect objects precede direct objects
V < COMPL: Verbs precede their (non-subject) arguments

In (12) we give some of the A-constraints relevant for the F’ domain in Swedish (cf. the clause structure in (4)). Since the head of this domain is the finite verb, the first constraint amounts to requiring that the finite verb be placed leftmost in the domain.

- (12) HEAD-L: Align the head of the phrase left in the domain
PRO_{WK}-L: Weak pronouns align left³
SUBJ-L: Subjects align left
ADV-L: Adverbs align left
OBJ-L: Objects align left

The constraints in (12) all align constituents to the left and hence will compete. Which order wins depends on how the constraints are ranked. We will now look at some data from Swedish, which motivates the constraint ranking we are proposing.

We have already seen that weak pronouns may precede adverbs. However, they may never precede the head, i.e. the finite verb, as shown in (13b). Consequently we assume the ranking

³ Weak pronouns are bare, unmodified and unstressed pronouns.

in (13) where >> indicates ‘is higher ranked than’. In languages with clitic climbing, the ranking would presumably be different.

(13) HEAD-L >> PRO_{WK-L}

- a. Eva gav \emptyset honom inte några pengar.
 Eva give.pst he.acc not any money
 SUBJ [F' V_{FIN} OBJ_{IND} NEG OBJ_{DIR}]
- b. *Eva \emptyset honom gav inte några pengar

We have also seen examples of long object shift, i.e. when weak object pronouns precede subjects. This involves a violation of the constraint SUBJ < OBJ_S. Since both orders in (14) are possible we will for now assume that this constraint ties with PRO_{WK-L}.

(14) SUBJ < OBJ_S | PRO_{WK-L}

- a. Då gav \emptyset honom Eva inte några pengar.
 then give.pst he.acc Eva not any money
 ADV [F' V_{FIN} OBJ_{IND} SUBJ NEG OBJ_{DIR}]
- b. Då gav Eva \emptyset honom inte några pengar.
 ADV [F' V_{FIN} SUBJ OBJ_{IND} NEG OBJ_{DIR}]
 ‘Then Eva probably didn’t give him any money.’

We have already established that a weak pronoun may never precede its lexical verb (cf. (8)). This means that the constraint V < COMPL must be ranked higher than PRO_{WK-L}, as in (15).

(15) [V < COMPL] >> PRO_{WK-L}

- a. Eva har inte gett \emptyset honom några pengar.
 Eva have.prs not give.ppart he.acc any money
 SUBJ V_{FIN} NEG [VP V_{NON-FIN} OBJ_{IND} OBJ_{DIR}]
- b. *Eva har \emptyset honom inte gett några pengar.
 Eva have.prs he.acc not give.ppart any money
 SUBJ V_{fin} OBJ_{ind} NEG [VP V_{non-fin} OBJ_{dir}]

As for the remaining alignment constraints, we assume the ranking in (16), which results in this being the unmarked order.

(16) SUBJ-L >> ADV-L >> OBJ-L

Next we turn to data involving the order of the subject and sentential adverbs. Not surprisingly, it turns out that a major factor here is scope.

2. 1. The role of scope

Consider the examples in (17). They are both grammatical, but they convey different meanings, as shown by the English paraphrases.

(17) a. Där vill några hackspettar aldrig bo.
 there want.prs some woodpeckers never live.inf
 ADV V_{FIN} SUBJ ADV V_{NON-FIN}
 ‘There are some woodpeckers who never want to live there.’

b. Där vill aldrig några hackspettar bo.
 there want.prs never some woodpeckers live.inf
 ADV V_{FIN} ADV SUBJ V_{NON-FIN}
 ‘No woodpeckers ever want to live there.’

It appears that the relative order of the indefinite quantifier *några* (some) and the quantificational adverb *aldrig* (never) determines the interpretation. We will capture this by a constraint which we simply call SCOPE.

(18) SCOPE: Word order reflects scope⁴

Since (17b) is grammatical, we conclude that SCOPE must be ranked higher than SUBJ-L in Swedish. In (19) we show a tableau with this ranking. The input is the intended meaning and the competing candidates are the two possible word orders.

(19) TABLEAU 1: SCOPE >> SUBJ-L >> ADV-L

(17 b) <i>never</i> ∃	SCOPE	SUBJ-L	ADV-L
... <i>några hackspettar aldrig</i> ...	*!		*
☞ ... <i>aldrig några hackspettar</i> ...		*	

The winning candidate is the one that doesn't violate the highest ranking constraint that is violated by some other candidate. It doesn't matter that the winning candidate violates SUBJ-L as long as it satisfies the higher ranked constraint SCOPE.

2.2. The role of information structure

However, most subjects are not scope sensitive. The most common types of subjects, namely pronouns, proper names and definite descriptions are not affected by scope. Nevertheless we still find this type of subject either in front of or following sentential adverbs and negation. Which order is used in a particular sentence seems to depend on the context of use, in particular whether the subject is rhematic or thematic.⁵ Looking at a number of examples, we formed the hypothesis that rhematic, accented, subjects tend to follow sentential adverbs, whereas thematic, unaccented, subjects tend to precede adverbs.

⁴ This is a preliminary version of the constraint. Further research is needed to establish its interaction with other scope and information structure constraints, see Andréasson (2004).

⁵ We will use the terms *rheme* and *rhematic* to refer to material that can be considered focussed, contrasted or information-gap-filling in the sentence. By *theme* and *thematic* we will refer to information that is mentioned or presupposed in the context. We do not link any of these notions to particular positions in the Swedish clause structure (cf. Vallduví & Engdahl 1996). Other researchers who have investigated the interaction between information structure and word order include Vilkuña (1989), Vallduví (1991), Kaiser (2000), Cook 2001, Choi (1997, 1999), and King (1997).

In order to test whether speakers of Swedish in fact exploit the option of placing a subject after a sentential adverb in a systematic fashion, a survey was carried out. 53 Swedish non-linguist informants were asked to insert a subject, the proper name *Lisa*, and a sentential adverb, *faktiskt* ('in fact'), into a gap in four identical sentences. Each sentence was presented in one of four different contexts. In two of the contexts, the person Lisa was introduced (see (20)) and in two of the contexts the activity was introduced, see (21).

- (20) a Lisa brukar ju inte vanligtvis vara den som ställer upp och hjälper till,
'Lisa isn't usually a very helpful person,'
- b men i år ska *Lisa faktiskt* köpa institutionens julgran.
but this year FUT Lisa in-fact buy-inf department-def-poss Christmas-tree
'but this year Lisa is in fact going to buy the department's Christmas tree'
- (21) a I år har vi en nyhet på graninköparfronten. Och vi tror att många kommer att bli förvånade,
'This year we have some news concerning the Christmas tree purchase. And we believe that many of you will be surprised,'
- b ...för i år ska *faktiskt Lisa* köpa institutionens gran.
because this year FUT in-fact Lisa buy-inf department-def-poss christmas-tree
'...because this year it will in fact be Lisa that's buying the department's Christmas tree'

In the condition shown in (20) where *Lisa* is introduced in the context and the *buying of a Christmas tree* is rhematic, the informants consistently placed the subject before the sentential adverb. But when the subject was rhematic, as in (21), most of the informants placed it after the sentential adverb.⁶

To account for these preferences, we introduce the constraint in (22).

- (22) ALIGN S-ADV: (R, S-ADV, L, RHEME) Sentential adverbs align with left edge of rhematic constituents.⁷

This constraint requires the sentential adverb to align directly to the left of a rhematic constituent in the F'-domain. The constraint is inserted in the ranking directly to the left of SUBJ-L in order to outrank this constraint and promote the word order where a sentential adverb precedes a rhematic subject.

In Tableau 2, we see that given the input where the *buying of a Christmas tree* is rhematic, the candidate where the subject precedes the sentential adverb, as in (20b), is the winner. The sentential adverb must align with the left of the rhematic verb phrase. In Tableau 3, where the input says that the subject is rhematic, the output where the sentential adverb precedes the subject, as in (21 b), is the winner.

⁶ For a more detailed account of the experiment, see Andréasson (forthcoming).

⁷ Alignment constraints in OT involve four parameters, two referring to the elements to be aligned, and two to indicate directionality.

(23) TABLEAU 2: ALIGN S-ADV >> SUBJ-L >> ADV-L

(20b) in fact Lisa will [RHEME buy Xmas tree]	HEAD-L	ALIGN S-ADV	SUBJ-L	ADV-L
☞ ... <i>ska Lisa faktiskt köpa</i> ...			*	*
... <i>ska faktiskt Lisa köpa</i> ...		*!	*	*
... <i>Lisa ska faktiskt köpa</i> ...	*!			*

(24) TABLEAU 3: ALIGN S-ADV >> SUBJ-L >> ADV-L

(21b) in fact [RHEME Lisa] will buy Xmas tree	HEAD-L	ALIGN S-ADV	SUBJ-L	ADV-L
... <i>ska Lisa faktiskt</i> ...		*!	*	*
☞ ... <i>ska faktiskt Lisa</i> ...			*	*
... <i>faktiskt Lisa ska</i> ...	*!		*	

Given the constraint in (22) a non-scope sensitive subject following a sentential adverb in the midfield of a Swedish main clause will be interpreted as rhematic. More evidence for this we get from the prosodic realisation. Rhematic constituents in Swedish are prosodically marked with a focus accent, as in many other languages. The focus accent in Swedish consists of a combination of stress, increased length and a higher pitch accent (Teleman et al. 1999:1:157). If only rhematic subjects appear after sentential adverbs, we expect them to be accented. This prediction is correct as shown in (25). Both a stressed and an unstressed pronominal subject can appear before a sentential adverb (25a), but it is not possible to place an unstressed pronominal subject in the position after the sentential adverb (25b).⁸ In this position a pronoun must be accented and is normally given a narrow rhematic interpretation, as conveyed by the English paraphrase.

- (25) a. Då kommer ₀vi / 'vi tyvärr för sent.
 then come we unfortunately late
 'Unfortunately we'll be late then.'
- b. Då kommer tyvärr *₀vi / 'vi för sent.
 then come unfortunately we late
 'Then it's unfortunately us that will be late.'

Further evidence comes from the fact that the expletive subject *det* – an element that is by nature unstressed – never appears following a sentential adverb in the midfield.

- (26) a. Här regnar ₀det/* 'det aldrig.
 here rains it(expl) never
 'It never rains here.'
- b. *Här regnar aldrig ₀det / 'det.
 here rains never it(expl)

⁸ According to the Swedish Academy grammar (SAG) a sentential adverb can be placed in front of a subject "that is not unstressed" (Teleman et al. 1999:4:40). However, SAG does not explicitly link this constraint to the rhematic status of the subject.

3. The position of negated objects

We recall that the highly ranked constraint $v < \text{COMPL}$ prevents ungrammatical sentences like (8), repeated here as (27), where a pronominal object precedes its main verb.

- (27) *Eva har ₀onom förmodligen inte gett några pengar.
 Eva have.prs he.acc probably not give.ppart any money

Another way of stating this is to say that when there is a VP in the clause, headed by a non-finite verb, no object can ‘shift’ out of that VP (cf. (5)). There is, however, one type of object that never appears inside the VP, viz. negated objects. When there is only one verb in the clause, and hence no VP in our analysis, there are two ways of expressing a negated proposition, as shown in (28).

- (28) a. Eva sade inte någonting.
 Eva say.pst not anything
 SUBJ V_{FIN} NEG OBJ_{DIR}
 ‘Eva didn’t say anything.’
- b. Eva sade ingenting.
 Eva say.pst nothing
 SUBJ V_{FIN} NEG OBJ_{DIR}
 ‘Eva didn’t say anything.’

Either you use a sentential negation (*inte*) followed by an indefinite NP (28a) or you use a form where the negation is morphologically incorporated in the object (*ingenting*, ‘nothing’, glossed as NEG OBJ), as in (28b). However, when there is an auxiliary verb in the clause, and hence a VP according to our analysis, as in (29 a, b), it is impossible to have the incorporated negative object in the VP.

- (29) a. Eva har inte sagt någonting.
 Eva have.prs not said.ppart anything
 SUBJ V_{FIN} NEG V_{NON-FIN} OBJ_{DIR}
 ‘Eva hasn’t said anything.’
- b. *Eva har sagt ingenting.
 Eva have.prs say.ppart nothing
 SUBJ V_{FIN} V_{NON-FIN} NEG OBJ_{DIR}
- c. Eva har ingenting sagt.
 Eva have.prs nothing say.ppart
 SUBJ V_{FIN} NEG OBJ_{DIR} V_{NON-FIN}
 ‘Eva hasn’t said anything.’
- d. Eva has said nothing.
- e. *Eva has nothing said.

Note however that negated objects are fine in the midfield even when they precede the lexical verb, as in (29 c). This contrasts with English where negated objects are fine in the VP, (29 d), but impossible preceding the main verb, (29 e), cf. Christensen (2003). We take this contrast

between English and Swedish as further evidence for a flat clause structure in Swedish when there is no VP (cf. (4) and (5)).⁹

It seems highly plausible that the scope of the negation matters here. A negated object may precede not only its main verb but also other verbs, if the negation takes scope over them. An example illustrating this is given in (30). Note that (30b) only has the reading where the negation has scope over ‘want’.

- (30) a. Eva har inte velat säga någonting
 Eva have.prs not want.ppart say.inf anything
 SUBJ V_{FIN} NEG V_{NON-FIN} V_{NON-FIN} OBJ_{DIR}
 ‘Eva hasn’t wanted to say anything.’
- b. Eva har ingenting velat säga.
 Eva have.prs nothing want.ppart say.inf
 SUBJ V_{FIN} NEGOBJ V_{NON-FIN} V_{NON-FIN}
 ‘Eva hasn’t wanted to say anything.’
 *‘Eva has wanted there to be nothing that she says.’

To account for the placement of negated objects, we introduce the constraint in (31).

- (31) NEG-SCOPE: The position of negative phrases reflects their scope¹⁰

This constraint has to be ranked above $V < \text{COMPL}$ but below HEAD-L in order to give the correct result. Finally we give the complete ranking of the constraints we have suggested in this paper.

- (32) $\text{HEAD-L} \gg \text{NEG-SCOPE} \gg [V < \text{COMPL}] \gg [\text{SUBJ} < \text{OBS}] \mid \text{PRO}_{\text{WK-L}} \gg \text{SCOPE} \gg$
 $\text{ALIGN S-ADV} \gg \text{SUBJ-L} \gg \text{ADV-L} \gg \text{OBJ-L}$

Recall that this set of constraints is intended to handle the word order variation in the midfield. The highest ranked constraint essentially takes care of the verb second facts, since it places the finite verb initially in the F' -domain. Other analyses (Sells 2001) have proposed that a constraint topic-L should be highest ranked. We don’t make this assumption here, essentially because we think that a lot more research is needed into how information structure interacts with word order and intonation. Topics in Swedish may be initial, (i.e. in XP in (1)), but they can also occur elsewhere. The same is true for rhematic constituents, that may appear either initially, finally or in situ, provided they are properly accented.

There is some evidence that HEAD-L IN (32) may be outranked by a higher-ranking constraint applying to the F' domain. Consider the data in (33).

- (33) a. Hon bara vände på klacken och gick
 she only turn.pst on heel and leave.pst
 ‘She just turned around and left.’

⁹ Negated objects also cannot appear inside prepositional phrases in Swedish, whereas this is possible in English.

- (i) Eva talade inte med någon på festen
 Eva speak.pst NEG with anyone on party.DEF
 (ii) *Eva talade [ppmed ingen] på festen
 Eva speak.pst with noone on party.DEF
 (iii) ^{OK} Eva spoke to nobody at the party

¹⁰ This is a preliminary version of the constraint. Further research is needed to establish its interaction with other scope and information structure constraints, see Andréasson (2004)

- b. Han inte ens hälsade på oss.
 he NEG even greet.pst on us
 ‘He didn’t even greet us.’

The finite verb in F’ may be preceded by certain focus sensitive adverbs such as *bara* (‘only’) and *inte ens* (‘not even’) (cf. the discussion in Sells (2001:23)). Further work is hence needed in order to determine what types of information structure constraints are needed and how they are ranked.

4. Subordinate clauses

In this paper we have only discussed examples involving main clauses. In subordinate clauses in Swedish, the finite verb is initial in the VP and is preceded by subject and sentential adverbs. The word order in the midfield in subordinate clauses also shows a certain amount of variation, though less so than main clauses. If we assume that the complementiser is the head of the subordinate F’ domain, the ranking proposed in (32) will properly account for the possible word order variations in subordinate clauses as well.

- (34) a. Johan påstod att Eva inte gav honom några pengar.
 Johan claim.pst that Eva NEG give.pst he.acc any money
 ‘Johan claimed that Eva didn’t give him any money.’
- b. *Johan påstod att Eva honom inte gav några pengar.
 Johan claim.pst that Eva he.acc NEG give.pst any money
- c. Johan påstod att aldrig någon ville bo där.
 Johan claim.pst that never anyone want.pst live there
 ‘Johan claimed that no one ever wanted to live there.’

Object shift in subordinate clauses (34b) is not possible since $V < \text{COMPL}$ is ranked above $\text{PRO}_{\text{WK-L}}$ and the finite verb does not appear initially in the domain, not being the head. Adverb interleaving due to scope considerations is possible (34c) whereas information structure seems to affect the word order inside a subordinate clause less, as is to be expected.

5. Some conclusions and outstanding issues

In this paper we have argued that word order in the Swedish midfield varies, but not without reason. We have expressed the relevant factors as OT constraints. This means that we don’t need to assume ‘fixed canonical positions’ for grammatical functions. The proposed ranking of constraints provides a tool for investigating the interaction between syntactic, semantic, phonological and information structural constraints, which we think is promising. We note that some of our constraints crucially refer to grammatical functions as used in LFG and in much typological work. We don’t see how the analysis could be reformulated in a framework like the Minimalist Program, which derives grammatical functions from structural positions.

This analysis has been developed for Swedish but it can also serve as a point of departure for analysing the variation in object-shift between the Scandinavian languages. As Hellan & Platzack (1995) showed, there is a certain amount of variation across the Scandinavian languages in how object shift applies. For instance, in Icelandic not only weak pronominals but also non-rhematic NPs may precede sentential adverbs. Furthermore Swedish seems to

differ from Danish and Norwegian in allowing more variation in object placement. We plan to investigate the nature of this variation further, as well as what factors affect the relative order among sentential adverbs (cf. Cinque 1999).

Finally we want to say that the work presented here is very much work in progress. We believe that we have identified some necessary conditions for various word orders but we are convinced that they are not sufficient to account for all the systematic variation in the Swedish midfield that becomes visible in corpus based studies.

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