

Rethinking the Adjunct¹

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Abstract

The purpose of the present paper is twofold: first, to show that, when defining the *adjunct*, it is necessary to distinguish in a strict modular way between the syntactic level and the lexico-semantic level. Thus, the adjunct is a syntactic category on a par with the specifier and the complement, whereas the argument belongs to the same set as does (among others) the modifier. The consequence of this distinction is that there is no direct one-to-one opposition between adjuncts and arguments. Nor is there any direct one-to-one relation between adjuncts and modifiers.

The second and main purpose of the paper is to account for the well-known difference between the position of a specific set of modifiers (cause, time, place etc.) in, on the one hand, English and Swedish, on the other, German. In English and Swedish the default position of these modifiers is postverbal, whereas in German it is preverbal. Further, in English and Swedish, these modifiers occur in a mirror order compared with their German counterparts, an order which, from a semantic point of view, is not the expected one. I shall demonstrate that this difference is due to the different settings of the verbal head parameter, the former languages being VO-languages and the latter being OV-languages. I shall further argue that in English and Swedish these modifiers are base generated as adjuncts to an empty VP, which is a complement of the main verb of what I shall call the minimal VP (MVP), whereas in German they are adjuncts on top of the MVP. Finally, I shall argue that the postverbal modifiers move at the latest at LF to the top of the MVP, in order to take scope over it, the restriction being *Shortest move*. The movement results in the correct scope order of the postverbal modifiers.

The proposed structure also accounts for the binding data, in particular for the binding of a specific Swedish possessive anaphor *sin*. This pronoun, which may occur within the MVP, must not occur within the postverbal modifiers in the empty VP. This supports the assumption that there is a strict borderline between the MVP and the assumed empty VP. The account is also in accordance with the focus data, the specific set of modifiers being potential focus exponents in a wide focus reading in English and Swedish, but not in German.

1. Introduction

In GB-oriented literature the term *adjunct* is mostly used in the same way as is the term *adverbial* in traditionally oriented grammar descriptions. This means that the term is as vague as is the corresponding term *adverbial*, and it does not improve in clarity by as a rule being opposed to the argument.

The first purpose of this paper will be to show that it is necessary, in a strictly *modular* way, to distinguish between the syntactic level and the lexico-semantic level. The phrasal adjunct is a syntactic category, being daughter and sister (of a segment) of a maximal projection XP, in turn being a non-argument (see Chomsky 1986), whereas the argument is a lexico-semantic category, defined by its relation to a lexical head. At the syntactic level, the (phrasal) *adjunct* is a category in a set comprising also *specifiers* and *complements*, whereas at the lexico-semantic level the *argument* is a category in a set comprising (among others) also

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modifiers. These two sets of categories are in turn systematically interrelated at the lexico-syntactic interface.²

The second purpose of the paper is to offer an explanation of the well-known fact that, for example, English and Swedish differ from German with respect to the *preferred* position of a specific set of modifiers, post-VP and pre-VP, respectively. Further, the English and Swedish modifiers occur in a mirror order compared with the German ones. The following example (borrowed and adapted from Quirk et al. (1986, 8.87)) illustrates this difference; the categories in brackets are partly mine; the nuclear accent (NA) is marked by capitals:

- (1) a. John was probably [speaker-related] working on his hobby [PP-object] with great intensity [manner] in the rose garden [place] for several days [time] because of the beginning CHILLiness [cause].
 b. Johannes hat vermutlich [speaker-related] wegen der einsetzenden Kälte [cause] mehrere Tage lang [time] im Rosengarten [place] mit großer Intensität [manner] an seinem HOBBY [object] gearbeitet.
 'John has probably because of the beginning chilliness for several days in the rose garden with great intensity on this hobby worked'

It is to be noticed, though, that in English as well as in German there are other possible positions for these modifiers besides the preferred ones (cf. Quirk et al. (1986), for a detailed description). At least one of them may turn up pre-verbally, too. For the purpose of this paper, however, these options are by and large neglectable.

I set out from the assumption that the difference in word order between English and German primarily follows from different settings of the basic head parameter (VO vs. OV). This presentation, therefore, may also be regarded as a rejection of the assumption that basically all languages are VO-languages (Kayne's LCA theory (1994)). For a detailed rejection of Kayne, see Haider (1999a), who proposes an alternative theory based on the Branching Constraint³ (the BC). Haider argues that the predictions made by Kayne's assumption do not hold in at least five areas: (a) particles (being VP-internal) do not occur in the same positions in English and German; (b) objects that should be moved out of the VP in German in order to result in the OV-order are not subject to the expected (opacity) restrictions in spec-positions; (c) obligatory VP-internal selected adverbials should turn up in postverbal positions in German, since they cannot move out of the clause. They do have their base position in front of the verbal head, however; (d) what is traditionally classified as VP-topicalization should be topicalization to a functional projection. Topicalized projections, however, cannot contain the trace of the finite verb in German because of a crossing violation; (e) the order of auxiliaries is a mirror order compared with English: in English, the modals appear in front of the main verb; in German, (as a rule) after the main verb. The result of Haider's argumentation is that "central implications of the LCA-system with respect to the analysis of OV-structures are not compatible with the full range of the empirical evidence".

The paper is organized in the following way. After a short description of the theoretical framework and the hypotheses in section 2, section 3 will be devoted to a discussion of the

² I shall, therefore, not use the term adverbial. As a rule, I shall instead use the term modifier, in order not to anticipate the syntactic analysis.

³ BC: "Projection-internal branching nodes on the (extended) projection line *follow* their sister node." "The linear aspect of the head-complement relation is determined by the parametric direction of structural licensing. Licensing to the left triggers the OV-structure, licensing to the right the VO-structure." Haider compares the two systems: "In both systems, movement to the right is blocked. The reason is straightforward: The structure presupposed or generated by movement to the right is characterized as illformed. In both systems, asymmetric c-command equals precedence. Since movement targets commanding positions, movement is to the left." The differences between the two systems are the following ones: In Kayne's system "OV is derivative of a basic VO-structure. In the BC-system, the OV-structure is a potential base structure /.../. A complex head-initial projection of a lexical head is a shell-structure with a head chain."

internal structure of what I shall call the minimal VP (MVP), demonstrating that the MVP in the two types of languages contain the same set of modifiers in the same order. In section 4 I shall discuss different proposals to come to grips with the post-VP order of the above-mentioned specific set of modifiers. In section 5, finally, I shall propose my own solution. Section 6 summarizes the results.

The languages used for the demonstration will be English, German and Swedish.

2. Theoretical framework and hypotheses

The syntactic framework of this paper will be the Minimalist Program, with some more or less important deviations from the main line, however. As for the lexicon, I shall assume that each lexical entry determines its lexical structure in terms of arguments and other selected categories and that the ranking of selected categories in lexicon will in turn determine their hierarchical positions in syntax.

In particular, the hypotheses will be the following ones:

1. As already mentioned, I assume a parametric difference between VO and OV languages. In its turn, this difference has consequences for the structure of the VP in these two types of languages, the former type having a VP organized as a Larsonian shell-structure (Larson (1988)), mostly with more than one head position⁴, the latter having a VP with only one head position, the head governing all constituents within the VP to the left (cf. Haider (1993, 1999a)). I will further assume (and argue for) a strict right branching clause structure, i.e. no right-adjunction, in accordance with the LCA as well as with the BC.
2. Another assumption will be that the only fixed base positions in syntax are the positions resulting from the discharge of the variables or θ -roles required by the main verb in lexicon, there being no principle from which we may derive other syntactic base positions, let alone movement of constituents (with resulting chains) (cf. Haider & Rosengren (1998)). Consequently, there cannot be any syntactically determined base positions reserved for "free" modifiers⁵. Their positions will be assumed to be scope positions determined by c-command and resulting from the interaction between their meaning and the meaning of the part of the clause which they c-command.
3. The above-mentioned modifiers in English and Swedish at the right edge of the clause will be assumed to be *adjuncts* to a VP with an empty head, below and to the right of the base position of the main verb. They are thus c-commanded by the main verb, whereas their counterparts in German are adjuncts to the MVP and c-command the main verb. As for the scope regularities of these modifiers, I will assume that, in English and Swedish, they are moved at LF, complying with the restrictions of *Shortest Move*.
4. It will finally be assumed that – irrespective of its semantic or syntactic category – the hierarchically deepest XP in a clause with basic word order will become the focus exponent (FE), carrying the nuclear accent (NA) in a wide focus reading⁶. If this is correct, the above-mentioned difference between OV- and VO-languages has consequences for the selection of which constituents may be FE in a wide focus reading in VO- and OV-languages, English and Swedish allowing, for example, time and place modifiers to have this function, whereas in German the same modifiers, occurring on top of the VP, cannot function in this way.

⁴ I will not make any commitments as to the question whether the empty V^0 s in the English and Swedish shell-structure are positions for light verbs, but I am not sure if this assumption is necessary, and it does not play any specific role for my own argumentation.

⁵ Cf. Frey & Pittner (1999) and Maienborn (1996, 1998), who propose syntactic base positions.

⁶ Note that this does not mean that there is only one pitch accent possible, namely, an accent on the FE. It only means that there must be a pitch accent on the FE.

I assumed above that modifiers which are not selected do not have a syntactically determined base position, neither in the MVP nor outside it. Their position is determined by their scope possibilities. From this follows that there cannot be any chains within or across the MVP except those arising from selected entities scrambling beyond other entities. In other words, non-selected modifiers do not scramble (see Haider & Rosengren (1998)). But, when narrowly focused, they may comply with the well-known tendency to place a narrowly focused constituent as far back in the clause as possible, although its expected scope position is further to the left. As for selected constituents, some of them (arguments and perhaps place- and time-modifiers) may scramble. Scrambling may, however, have other functions as well: thus scrambling out of the focus domain, in cases where the moved constituent is thematic, leads to a restriction of it. I shall assume that, whenever a selected constituent is not in its base position, it has scrambled.

Against the background of this focus theory, let us now look at the following examples. The focus reading is wide, when not otherwise indicated:

- (4) Was regt dich denn so auf / freut dich denn so?
 'what upsets you PRT so / makes happy you PRT so'
 What is upsetting you so / making you so happy?
- (5) a. daß Peter seine Zähne GRÜNDlich putzt
 'that Peter his teeth thoroughly cleans'
 that Peter thoroughly cleans his teeth
 b. daß Peter gründlich seine ZÄHne putzt (narrow?)
 c. daß Peter GRÜNDlich seine Zähne putzt (narrow)

We see that the modifier *gründlich* may occur to the left and to the right of the direct object (DO). More or less all informants seem to accept (5a) as a wide focus reading. As for (5b) they are much more uncertain in their judgment. This uncertainty may be due to the meaning of *gründlich*, which may be interpreted both as a subject-related and as a verb-related modifier. (I will henceforth use the following abbreviations: *s(subject)-related* and *v(erb)-related*, modifiers, when referring to MVP-internal modifiers, and *e(vent)-related* and *p(ropositional)-related* modifiers, when referring to assumed MVP-external modifiers.) Finally, the modifier in (5c) is narrowly focused, just as its position makes us expect.

The following modifiers are either s-related or v-related:

- (6) a. daß der Arzt gern einen Patienten GUT behandelt
 'that the doctor willingly a patient well treats'
 that the doctor willingly treats a patient well
 b. daß der Arzt gern einen PatiENTen behandelt
 c. daß der Arzt einen Patienten GERN behandelt (narrow)
 d. *daß der Arzt einen Patienten gut GERN behandelt
 e. *daß der Arzt gut/GUT einen PatiENTen/Patienten behandelt

Examples (6a/d) demonstrate that *gern* (s-related) and *gut* (v-related) cannot change their positions, presumably an effect of *gern* necessarily taking scope over *gut*. In (6b) the object, as expected, is the FE in a wide focus reading. But *gern* may also occur to the right of it (6c), however, only when narrowly focused. We may, therefore, assume that the DO has scrambled

in (6c) (cf. the Swedish data below), in order to place the narrowly focused constituent as far back in the clause as possible (see above). Contrary to this, the v-related modifier, irrespective of its being selected or not, cannot occur to the left of the DO, as (6e) and the following example demonstrate, where the modifier is non-selected:

- (7) a. daß Peter die Tür SCHIEF aufgehängt hat
 'that Peter the door awry hanged has'
 that Peter hanged the door awry
 b. ??daß Peter schief die TÜR aufgehängt hat

Cf. (5b) above and fn. 6: there, thus, may be more than one pitch accent in (7a), at least on the DO. As for (7b), the word order seems to be out.

We also find word orders, of course, where there is no real basic order:

- (8) a. Er hat seine Ferien in ITALien verbracht.
 'he has his leave in Italy spent'
 He has spent his leave in Italy.
 b. Er hat in Italien seine FERien verbracht.

 (9) a. Er hat eine phantastische Urlaubswoche auf einer INsel verbracht.
 'he has a phantastic week off on an island spent'
 He has spent a phantastic week off on an island.
 b. Er hat auf einer Insel eine phantastische URlaubswoche verbracht.
 'he has on an island a phantastic week off spent'

Although I think that (8a) and (9a) are somewhat more basic than (8b) and (9b), both variants may give rise to a wide focus reading, and in both cases the deepest XP is the focus exponent.

A somewhat more problematic modifier is *langsam*:

- (10) a. daß langsam Peter das ESSen kochen muß
 'that by and by Peter the food prepare must'
 that Peter by and by must prepare the food
 b. daß Peter langsam das ESSen kochen muß
 c. daß Peter das Essen LANGsam kochen muß
 'that Peter the food slowly prepare must'

As for (10) it has already been noticed by Frey & Pittner (1999) that *langsam* may have at least two positions: one in front of the direct object and one behind it. In (10a) the preferred reading is the one where *langsam* is interpreted as having the meaning 'allmählich', 'by and by', being a modifier taking the whole event in its scope (e-related). However, it may occur with this meaning to the right of the subject, too, (10b). This is unexpected, since the meaning of *langsam* cannot be s-related in this case. I will assume that *langsam* is outside the MVP in this case, too, and that the subject has moved to a position outside the MVP (see Rosengren 2000). Frey & Pittner give the following example, supporting this:

- (17) a. att Peter borstade sina tänder GRUNDligt
'that Peter brushed his teeth thoroughly'
b. att Peter grundligt borstade sina TÄNder (narrow)
c. att Peter GRUNDligt borstade sina tänder (narrow)

The behaviour of *grundlig* is the same as in German.

- (18) a. att läkaren gärna behandlar en patient VÄL
'that the doctor willingly treats a patient well'
b. att läkaren gärna behandlar en patiENT
c. *att läkaren behandlar en patient GÄRna
d. *att läkaren behandlar en patient väl GÄRna
e. *att läkaren väl/VÄL behandlar en patient/patiENT

Note the difference between (6c) and (18c). No scrambling in Swedish. No other differences compared with German.

- (19) a. *att Peter långsamt måste koka maten
'that Peter by and by must prepare the food'
b. att Peter måste koka maten LÅNGsamt
'that Peter must prepare the food slowly'

The e-related meaning of the modifier ('by and by') in (10a/b) is not possible in Swedish (19a).

- (20) a. att Peter bor mycket spartanskt i ett gammalt HUS
'that Peter lives very spartanly in an old house'
b. ??att Peter bor i ett gammalt hus mycket sparTANSKT (narrow)
c. att Peter bor mycket sparTANSKT / i ett gammalt HUS
d. att Peter äntligen BOR (narrow)

The difference between (20b) and (12c) may be due to the prohibition against scrambling in Swedish. For the rest, the word order is in principle the same as in German.

- (21) a. att Peter dansade på gräsmattan hela NATten
'that Peter danced on the lawn the whole night'
b. att Peter hela NATten dansade på gräsmattan (narrow)

We cannot directly compare (13a) with (21a), since the time-modifier is on top of the MPV in German and obviously (cf. also (1)), prototypically, is to the right of it in Swedish. I will return to this kind of difference below.

Finally the SPs:

- (22) a. att Peter torkade rent BORdet / torkade bordet RENT
'that Peter wiped clean the table / wiped the table clean'
b. *att Peter rent torkade bordet

- (23) a. att Peter åt köttet RÅTT
 'that Peter ate the meat raw'
 b. *att Peter rått åt köttet
- (24) a. att Peter lämnade rummet TRÖTT
 'that Peter left the room tired'
 b. ??att Peter trött lämnade RUMmet

The SPs (22)-(24) behave in principle as in German, the differences being due to the Swedish shell structure. As (22a) demonstrates, the last constituent will be the FE. Note, however, that the first variant with the modifier in front of the DO resembles the German counterpart (14a), the verb and the modifier forming a kind of verbal complex with the main verb. The unacceptability of the b-cases is probably due to the Swedish shell-structure. It is not possible to place MVP-internal material outside the MVP.

Summarizing, we may conclude that in Swedish the MVP contains the same set of arguments, modifiers and SPs as in German, with in principle the same positions and word orders, the differences being due to the different VP-structures and the prohibition against scrambling in Swedish. We may, therefore, expect that these modifiers will precede the post-verbal modifiers. This assumption is supported by the word order in (1). In the next section, we shall discuss the position of these modifiers in some detail.

4. MVP-external modifiers

As was already demonstrated in (1), MVP-external modifiers (for instance, cause-, time- and place-modifiers) differ as to their positions and relative order in English and Swedish compared to German. I shall discuss some proposed solutions to capture this difference.

4.1. Cinque's functional spec-theory

It is evident that Cinque's (1997) theory (as Cinque himself acknowledges, p. 40ff.) cannot satisfactorily explain the English and Swedish data. All the same, it is, of course, worth discussing whether it could explain the German data. As Haider demonstrates (1998, 1999b), however, this is not the case either. Haider takes as his starting point the well-known prohibition against extraction in English in the following cases (the examples are borrowed from Haider (1999b)):

- (25) a. Which house_i did you leave the car at e_i?
 b. the car e_i that he left his coat in e_i (Quirk et al. (1985:664))
 c. the day which_i/that she was born on e_i (Quirk et al. (1985:1254))
- (26) a. the constraint_i that it became difficult [to talk about e_i]
 b. *the constraint_i that [talking about e_i] became difficult
 c. *Which kind of constraints_i did [talking about e_i] become difficult?

These data show that it is impossible to extract out of subjects in spec-positions in English. This is well-known. The following example demonstrates extraction out of a PP-object, which is not possible either:

(27) *Who_i did [to e_j] she give it?

As Haider admits, however (p.c.), there may be problems with wh-movement and topicalization. He proposes instead the following examples with embedded clauses:

(28) I think that to Peter you would not give such a present.
*I wonder who_i [to e_j]_j you would not give such a present e_j.

(29) I think that a picture of Dix he would buy.
I wonder who_i he would buy a picture of e_j.
*I wonder who_i [a picture of e_j]_j he would buy e_j.

Contrary to English, German allows extraction out of what, according to Cinque's theory, should be spec-positions, since the positions are in front of other assumed spec-positions:

(30) a. Wen_i hat [e_j damit zu überzeugen]_j *schon jemals* wer versucht e_j?
'Who has [it-with to convince] already ever someone tried?'
Who has someone ever tried to convince with this?
b. Wen_i ist [e_j damit zu überzeugen]_j *leider kaum* wem gelungen e_j?
'Who has [it-with to convince] unfortunately hardly someone succeeded?'
Who did unfortunately hardly anyone succeed to convince with this?

Haider concludes that the expected spec-positions in German are VP-positions (in tree (3) above: adjuncts). He also emphasises that, in clear cases of spec-positions in German, the relevant opacity conditions operate as in English. Such clear cases are, for instance, positions preceding the finite verb in V2-clauses. In these cases extraction is not possible in German, cf. Haider (1998), example (14).

Haider mentions some more data which seem incompatible with Cinque's analysis. I shall not comment on all of them here, only point to two of them. Cinque's analysis requires that pre-VP-modifiers occur in a fixed order in all languages. This is not always the case. Thus, it is possible to arrange modifiers of this kind in different positions. Cinque is, of course, aware of this possibility and accounts for it by assuming that these modifiers have different meanings. But as Haider argues, not their meaning is different, their scope is different. The following German example demonstrates this clearly (the same holds, in principle, for its Swedish counterpart):

(31) a. Peter hat leider gestern aufgrund einer Erkältung kaum etwas essen können.
'Peter has unfortunately yesterday because of a cold hardly anything been able to eat'
Peter could unfortunately hardly eat anything yesterday because of a cold.
b. Peter hat gestern leider aufgrund einer Erkältung kaum etwas essen können.
c. Peter hat aufgrund einer Erkältung gestern leider kaum etwas essen können.

We would also expect a prohibition against stacking, of course, since the spec-positions do not form a constituent. But stacking is possible in German, as well as in English and Swedish. The following example is borrowed and adapted from Haider (1999b):

- (32) [Im Hörsaal als der Vortrag begann] hustete er wie verrückt.
'In the auditory when the lecture began coughed he like mad'
In the auditory when the lecture began, he coughed like mad.

I shall return to the stacking problem below, since it is a problem for an adjunct analysis, too.

As already mentioned above, Cinque (1997, 40ff.) is conscious of the specific problem connected with the post-VP-modifiers⁹. He first notices that these modifiers are typically realized in prepositional form or are bare NPs. Furthermore "they cannot appear in any of the pre-VP positions open to AdvPs proper". Finally, they do not have operator status. They are modifiers "predicated of an underlying event variable". It is necessary, therefore, to treat this type of modifiers in another way than the typical pre-VP-modifiers. One of his examples is the following one:

- (33) a. He attended classes every day of the week in a different university.
b. He attended classes in each university on a different day of the week.

He mentions that these adverbials are interchangeable, "depending on their mutual structural relation". Since he also changes the quantifier in (33), we had better keep to the above assumption that the prototypical post-VP-order (cf. example (1)) is place>time, i.e. the reverse order compared with the corresponding pre-VP-modifiers. It is this difference which we have to account for.

Cinque discusses two possible accounts for the postverbal positions of these circumstantials: one is the tentative proposal found in Chomsky (1995), namely, that "if a shell structure is relevant at all, the additional phrases might be supported by empty heads below the main verb" (p. 333). I shall propose a solution in this direction below.

Tentatively, Cinque proposes another solution (suggested to him by Øystein Nilsen), where the modifiers are predicates predicated of VP. As for the following variant of (33):

- (34) John attended classes at the university every day.

this would mean that *at the university* is predicated of the VP *John attended classes*, and *every day* is predicated of the larger VP *John attended classes at the university*. According to Cinque, a variant of this proposal would be to regard this structure as derived from a base structure where the adverbials are in VP-spec-positions on top of the VP containing the phrase *John attended classes*. Not telling how this derivation is brought about, he concludes that further work is necessary and leaves the topic.

Since none of these solutions are really elaborated, we have to conclude that Cinque does not solve the problem that we set out to solve. We may therefore leave his proposals and look for more adequate solutions.

4.2. Right-adjunction

The binding of anaphors plays an important role in the look-out for an adequate proposal. The following data, known as Pesetsky's paradox, demonstrate the problem (Pesetsky's data (1995)):

⁹ He calls them circumstantials, this type comprising (among others) place, time, reason, purpose and manner; note that I have tried to show above that manner modifiers are MVP-internal; they should therefore not be subsumed under circumstantials.

- (35) a. He photographed each_i one with greatest care on his_i birthday.
 b. He photographed them_i with greatest care on each other's_i birthday.
 c. and [give the book to them_i] he did in the garden on each other's_i birthday

The examples (35a/b) demonstrate the base position of the time-modifier and the expected binding of the anaphor. Example (35c), however, gives rise to the assumption that, on the one hand, there cannot be any c-command of the anaphor, since the topicalized constituent would not be able to topicalize, were it not a constituent to the right of the anaphor. On the other hand, the binding of the anaphor suggests that it is c-commanded by its antecedent. Hence the paradox. Pesetsky tries to solve this problem by assuming that each clause has dual structures, one left-branching and one right-branching. This is a very uneconomic solution, to say the least, and it does not have any theoretical back up either. There are also other problems connected with it (see Phillips 6.1.2.).

Ernst (1994) (cf. also (1998, 1999)), argues instead for a traditional right-adjunction analysis, i.e. right adjunction somewhere above the VP, based on m-command + precedence. It is under the ban of the LCA and the BC (see fn. 3), which I think is a severe shortcoming. By and large, it makes, however, the right predictions as to word order, right adjunction resulting in the overt word order with the place and time modifiers on top of the VP and hence to the right of the MVP. As argued by Ernst, it may also account for the above binding data.

But what about the following Swedish binding data? It is well-known that the subject may bind the possessive anaphor *sin* in Swedish (see Teleman et al. (1999, 2, 326ff.)). As for the object, however, there are restrictions¹⁰. Cf. the following examples:

- (36) a. Jag la tillbaka fläsk_i i dess_i/sin_i förpackning.
 'I laid back the bacon in its wrapping'
 I returned the bacon to its wrapping.
 b. Jag la barn_i i dess_i/sin_i säng därför att det skrek så.
 'I laid the child in its bed because it screamed so'
 I put the child to bed because it yelled.

In (36) we have a directional modifier, which, according to the theory proposed above, has its position within the MVP, c-commanded by the DO, this in turn binding the anaphor *sin*. The following example, in which the anaphor is ungrammatical, is not easily accounted for by Ernst's analysis:

- (37) a. Jag fotograferade var och en_i med stor omsorg framför hans_i/*sin_i port på hans_i/*sin_i födelsedag.
 'I photographed each one with great care in front of his doorway on his birthday'
 b. Jag fotograferade vännerna_i med stor omsorg på deras_i/?varandras_i/*sin_i födelsedag.
 'I photographed the friends with great care on each other's birthday'

What we see here is that *sin* is quite ungrammatical when occurring in a place and time modifier at the end of the clause (there is also some doubt about the reciprocal anaphor, which seems to be acceptable in English). Cf. also:

¹⁰ These data were pointed out to me by Cecilia Falk. Thanks for discussing them with me.

- (38) a. Jag h rde henne_j sjunga sina_j egna l tar p  sina_j f delsedag.
 'I heard her sing her own songs on her birthday'
 b. *Jag h rde henne_j p  hennes_j/*sina_j f delsedag.
 'I heard her on her birthday'

The object in the ECM-construction (38a) is the "subject" of the embedded construction and therefore binds the anaphor, whereas in (38b) the object is a complement itself and, obviously, cannot bind the anaphor.

The following unselected place modifier is v-related (within the MVP) and allows *sin*:

- (39) a. Jag planterade blommorna_j i deras_j/sina_j gamla krukor.
 'I planted the flowers in their old pots'

Cf. also the following examples, where *sin* is blocked in the PP in (40b), being a post-verbal modifier, but not in (40a), where the PP is an object within the MVP:

- (40) a. Vi eggade upp barnen_j mot deras_j/sina_j f r ldrar.
 'we roused the children against their parents'
 b. Vi fick med oss studenterna_j trots deras_j/*sina_j protester.
 'we made the students come along in spite of their protests'

The rather sharp borderline in Swedish between binding of possessive *sin* within the assumed MVP and blocking it within the assumed post-VP-modifiers seems to call for another account than the one proposed by Ernst, there being no borderline in his VP, which could account for these differences.

One more question may be mentioned with regard to Ernst's account. How does focusing work in Ernst's model? I have maintained (Rosengren (1993, 1997)) – as have most linguists working in this field – that focusing is hierarchically based in the syntactic tree (see above). In a wide focus reading, the focus feature is assigned to the VP, and the FE should be at the bottom of the focus domain (cf. above). PF is assumed to operate on the syntactic structure, assigning the NA to the FE. As is correctly argued by M rnsj  (1999), the post-VP-modifiers in Swedish are FEs in wide focus readings. If we accept right-adjunction, this must mean that the FE will be as high up in the tree as is the last post-VP-modifier. This proposal requires, therefore, another kind of focus theory, where the focus feature is assigned to a constituent as far right as possible in the linear structure. From this position it may result in a wide as well as narrow focus reading. Such a focus theory may be developed, but it does not exist yet, and I do not think that it will be able to account for all focus data. I will just mention some data which may be difficult to account for against this background. With a linear account, we have to explain why the verb in the embedded German clause (being the last constituent) cannot be FE (see M rnsj 's (1999) discussion of Zubizarreta's (1998) proposal), and, also, why the manner and time modifier in (6c), (12c), (13c), being overtly the last XP, cannot be FE in a wide focus reading. As far as I understand, a linear account would not be able to identify hierarchical differences responsible for these restrictions.

Summarizing: it seems difficult to accept a right-adjunction analysis. There are theoretical as well as empirical objections against it.

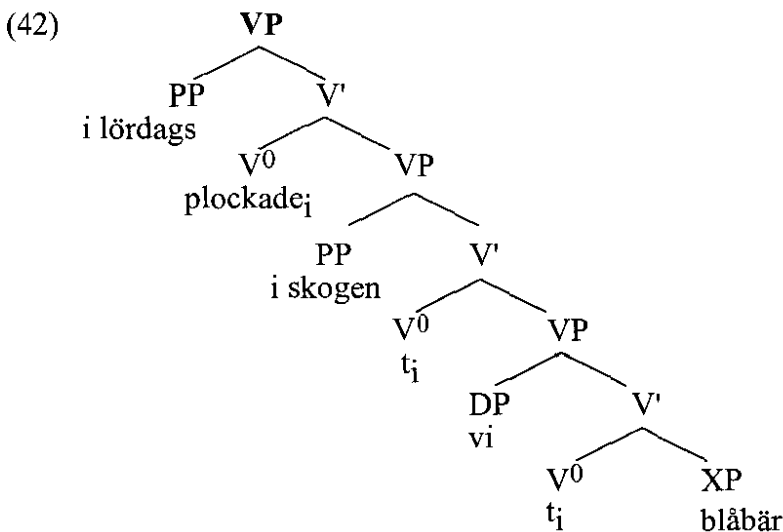
4.3. Short raising of V and N in Scandinavian

Josefsson & Platzack (1998) propose another account of the right position of the modifiers, starting with the following examples:

- (41) a. att vi inte plockade blåbär i skogen i lördags
 'that we not picked blueberries in wood-the in Saturday'
 that we did not pick blueberries in the wood last Saturday.
 b. att vi inte hade plockat blåbär i skogen i lördags
 'that we not had picked blueberries in wood-the last Saturday'

First, they reject a solution in which the modifiers are merged in VP-shells below the direct object. One of the reasons for rejecting this solution is that the DO would be generated in different positions, depending on the existence of modifiers. This would, of course, be an unwanted result, the head-complement relation being "fundamental and 'typically, associated with thematic θ -relations' (Chomsky (1995:172))". Another objection, related to this objection, is a conceptual one: the external and internal θ -roles should have distinct positions in order to guarantee that they are assigned to the right chains.

They, thus, assume that the modifiers at the right edge of the clause are base generated on top of the VP and that the material to the right is moved out of the VP to the left. The following tree represents the basic hierarchy:



The relevant features are strong but hosted below the negation, which is evident from (41); since the examples are subordinate clauses, the verb is not raised to the V2-position.

This account is somewhat *ad hoc*, however. First, we may notice that the assumed position of the relevant modifiers in (42) are in spec-positions within the shell structure of the VP. They, thus, have the same status as have the subject and the DO. This assumption needs some more theoretical support to be convincing. Second, even if we would assume that they are *adjoined* to the whole MVP, there is no empirical evidence supporting this idea, since there is no overt order corresponding to the word order in (42). Third, the proposal does not account for the above discussed behaviour of Swedish *sin*.

In support of their account, J & P notice, however, that DP-objects but not PPs seem to move past the modifiers, which follows from their account that case movement is triggered by ϕ -feature attraction. Further they assume free scrambling within lexical shells. Their example is the following one:

- (43) a. Han kan tänka på sådana problem koncentrerat i flera timmar.
 'he may think about such problems attentively for several hours'
 He may think about such problems attentively for several hours.
 b. ??Han kan tänka på sådana problem i flera timmar koncentrerat.
 c. Han kan tänka koncentrerat på sådana problem i flera timmar.
 d. Han kan tänka koncentrerat i flera timmar på sådana problem.
 e. Han kan tänka i flera timmar koncentrerat på sådana problem.
 f. ??Han kan tänka i flera timmar på sådana problem koncentrerat.

There are some problems with this argument, though. First, *koncentrerat* 'attentively' is an s-related manner modifier. As already mentioned above, there are reasons to assume that such a modifier has its scope position within what I have called the MVP, directly after the position of the finite verb (giving rise to (43c)), although it may occur after the DO, too (giving rise to (43a)), which is somewhat more marked, however. Second: as (44b) demonstrates, the DO does not easily move to the left of the manner modifier. Why is this so, if the DO moves out of the VP? Third: much the same holds for the PP-object (44c), also being part of the MVP. It does not like scrambling past the manner modifier.

- (44) a. Han skrev snabbt ett brev till sin väninna på hennes födelsedag.
 ' he wrote quickly a letter to his friend on her birthday'
 b. *Han skrev *ett brev* snabbt till sin väninna på hennes födelsedag.
 c. *Han skrev ett brev *till sin väninna* snabbt på hennes födelsedag.

Data such as (43) and (44), therefore, do not seem to support the account of J & P rightaway. (Cf. also Haider & Rosengren (1998), who maintain that scrambling is only possible in OV-languages.)

The second main argument provided by J & P for their account of the position of modifiers is the compulsive position of CP-objects:

- (45) a. Han hade avslöjat för henne på bussen att de var gifta.
 'he had revealed for her on bus-the that they were married'
 He had revealed to her on the bus that they were married.
 b. ??Han hade avslöjat [att de var gifta] för henne på bussen.

German, too, places its CP-object to the right of the clause, in German, obviously, due to extraposition. (For a detailed discussion of extraposition in German, see Buring & Hartmann (1995); Haider (1995, 1997); Rosengren in preparation):

- (46) a. Er hatte ihr im Bus anvertraut, daß sie verheiratet seien.
 'he had her in the bus revealed that they were married'
 He had revealed to her on the bus that they were married.
 b. ??Er hat ihr, daß sie verheiratet seien, im Bus anvertraut.

If it is extraposition in German, it may be extraposition in Swedish, too, in spite of the fact that extraction out of the CP-clause but no out of an extraposed DO is possible:

- (47) a. Han hade sett i affären idag en lampa med guldfot.
 'he had seen in shop-the today a lamp with golden foot'
 Today he had seen a lamp with a golden foot in the shop.
 b. ??Vad hade han sett i affären idag en lampa med _ ?

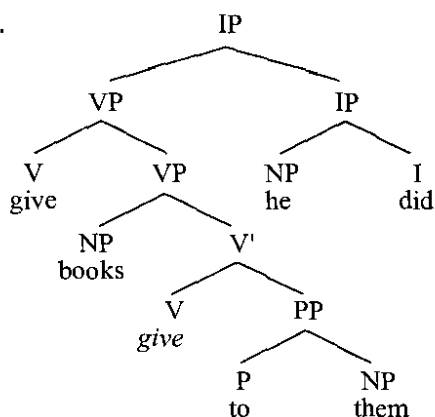
The most problematic drawback, however, is that J & P do not account for the mirror order of the relevant modifiers at the right edge of the clause. Nor do they discuss focus data.

4.4. The incremental derivation theory

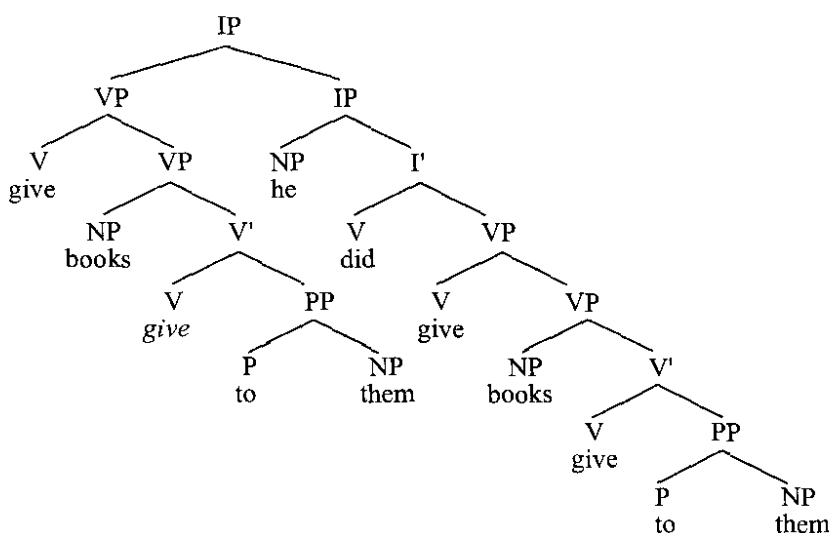
Still another proposal is found in Phillips (1998). Phillips starts out from the assumption that tree structures are formed incrementally from smaller segments, from left to right. This means that parts of the final structure may move (e.g. topicalize) before the rest of the structure is added. This solves the problem connected with Pesetsky's paradox. Phillips demonstrates the procedure by the following tree structures, constituting (48):

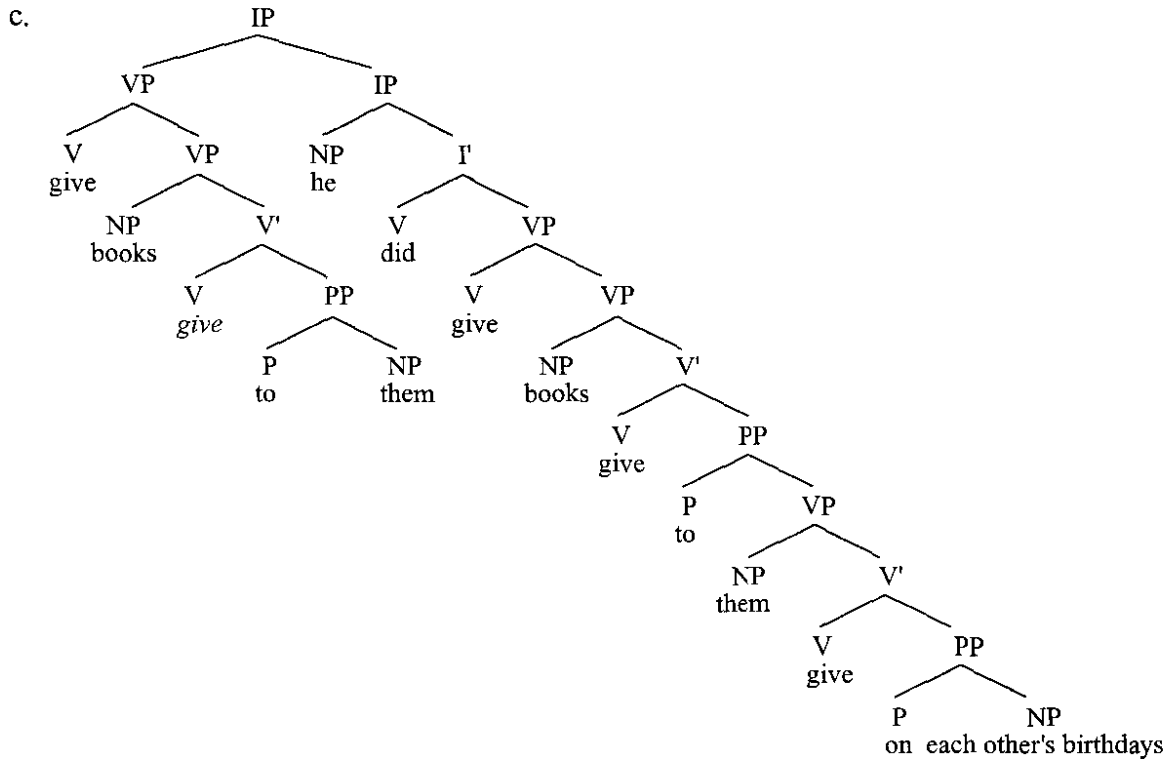
- (48) Give the books to them he did on each other's birthdays.

(49) a.



b.



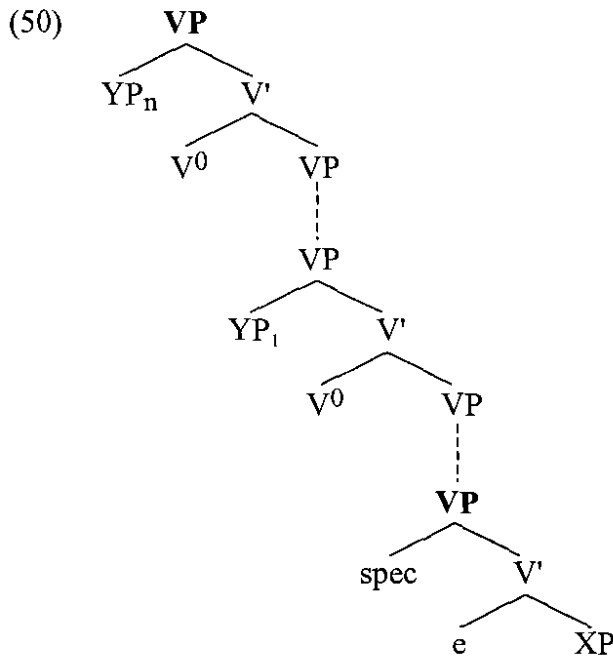


The three structures show how the final structure is built up by first copying the fronted VP-material (49a) into its underlying position in (49b), in which θ -assignment is possible. In (49c), then, "the stranded PP containing the anaphor *each other* is added to the right of the reconstructed VP, at the bottom of the right-branching VP" (Phillips, 15). The created structure allows appropriate c-command and hence binding of the anaphor. Note that the procedure has the effect of destroying the constituency of the copied VP. The consequences are most evident in (49c), where *them* appears in the spec-position of the added VP, whereas in (49b) it is the complement of P. This model is interesting but stipulative, and in its present shape neither capable of accounting for the fact that the modifiers occur at the bottom of the tree, nor capable of accounting for the mirror order between them. Finally, it does not account for the above mentioned binding differences with regard to the possessive anaphor *sin* in Swedish (section 4.2.). However, what is worth speculating about is Phillips' general assumption that the tree structure may be built incrementally. I shall return to this below, when discussing my own solution.

Summarizing, this section has shown that none of the proposed accounts of modifiers at the right edge of the clause satisfactorily covers the relevant data concerning binding, focus and word order.

5. A solution for English and Swedish?

The account of the modifiers that I shall present here, is based on a proposal made by Haider (1995, 1997, 1999b), who, in turn, bases his proposal on Phillips (1998): syntactic structures are built incrementally. Haider further assumes that the postverbal modifiers in, for example, English are base generated in an position outside and below the VP, in a VP with an empty head:

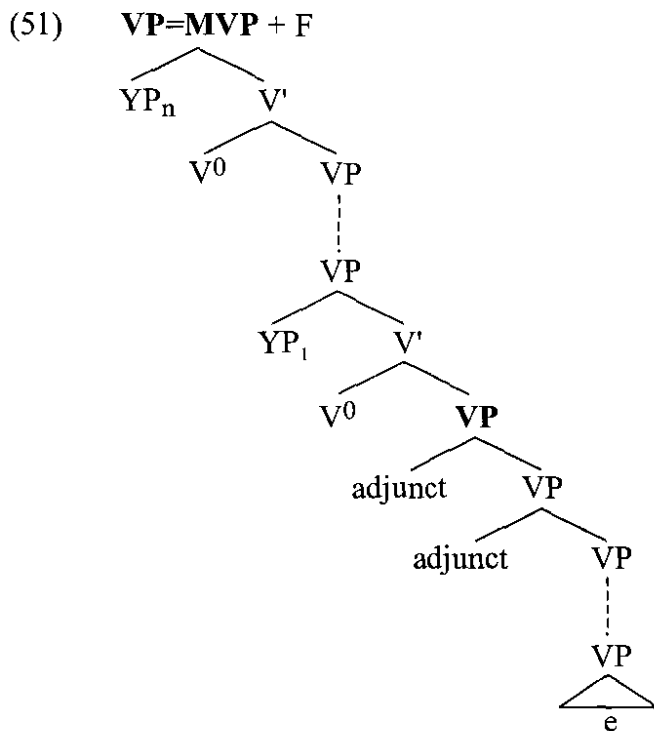


According to Haider (1999b), the empty head differs from a lexical head (being a licenser and an identifier) in being only a structural licenser: "it guarantees endocentricity plus binary branching, and it must be structurally licensed by a lexical head itself". The differences between English and German are due to the modifiers in an OV-language being integrated in an incomplete VP, whereas, in the VO-language they are incrementally added to a complete VP. This also accounts, of course, for Pesetsky's paradox. Further, the mirror order is a result of the extraposition of the modifiers, the VP-closer modifier preceding the more remote modifier. "Being unselected, they are semantically integrated in a linearly incremental fashion." As far as I can see, this proposal does not explain, however, how the semantic integration (i.e. the composition of the meaning of the clause) is brought about.

Yet another thing is not quite understandable in this proposal: the modifiers (say, a time modifier and a place modifier), being adjuncts in German on top of the VP, are, in the English version, in a spec-position and a complement-position respectively. Since they are assumed to take scope over the whole VP, this is an unwanted result. They should be adjuncts.

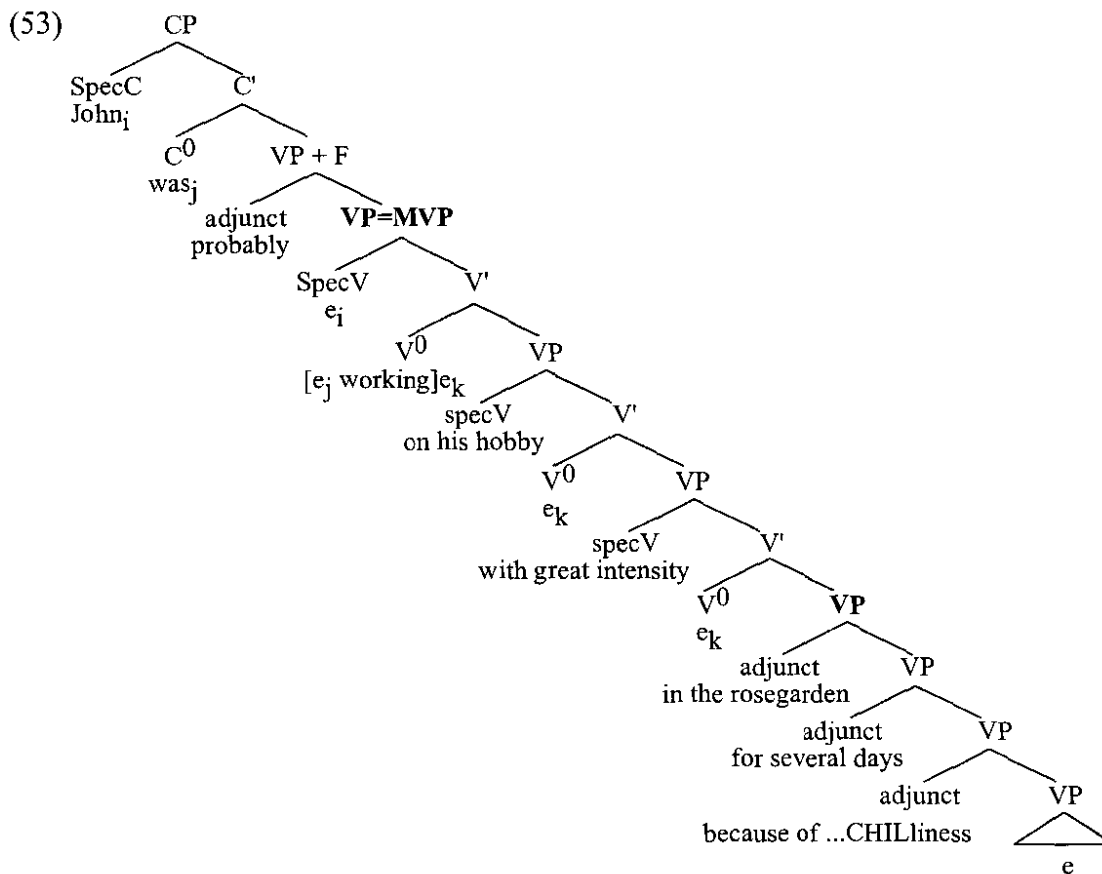
Concluding this discussion, it could be said that Haider's assumption that the postverbal modifiers are in a kind of extraposition domain, being structurally licensed by an empty head, is probably the best proposal hitherto. I believe, however, that the structure of this VP cannot be the one proposed by Haider.

My own solution, therefore, differs somewhat from the one proposed by Haider. It seems more adequate to assume that the extraposed complement-VP is a VP with an empty head, to which place, time and cause modifiers (and perhaps some other types as well) are *adjoined*. The only function of the empty head is to project to a VP, and (being a kind of expletive head) it will be deleted at the latest at LF. This assumption would result in the following structure:



Example (1), here repeated for convenience, will result in (53):

(52) John was probably [speaker-related] working on his hobby [PP-object] with great intensity [manner] in the rose garden [place] for several days [time] because of the beginning CHILLiness [cause].



In line with Phillips and Haider, we may assume that the completed VP is produced before the postverbal modifiers are added. If the extraposed VP further has its own (empty) head and only as a whole is a complement of the main verb, without having any other link to the MVP than being in the c-command-domain of the main verb, we will, of course not expect it to react as part of the MVP. This accounts for the quite sharp borderline between MVP-internal and MVP-external modifiers with regard to binding of Swedish *sin*. There is no link from the closed VP to the postverbal VP which would allow binding of possessive *sin* in postverbal modifiers.

The problematic stacking mentioned above is, of course, not easy to explain. Remember that in V2-clauses, the initial field normally does not allow topicalization of more than one constituent. How, then, is stacking possible at all? Interestingly enough, the stacked constituents turn up in the reverse order *place>time>cause*, where *place* does not take scope over *time*; *time* not over *cause*. The modifiers rather seem to be at the same level, taking scope over the clause separately. They, thus, just as in English, do not seem to form a constituent:

- (54) Framför hans/*sin port på hansj/*sinj födelsedag fotograferade jag honomj med stor omsorg.
 'In front of his door on his birthday photographed I him with great care'
 In front of his door on his birthday, I photographed him with great care.

The reverse order gives rise to the assumption that the modifiers have moved from a postverbal position (much the same may hold for stacking in German (cf. above (32))). In this position they are adjuncts to an empty VP. In some way or other, they manage to topicalize separately. If the above assumption that they are adjuncts to a VP with an empty head, is correct, the only possibility to topicalize as one constituent would be that the VP with the empty head topicalizes, too. The following example supports, however, the assumption that the VP does not topicalize:

- (55) a. Vi meddelade Peter via e-mail på hans födelsedag att vi skulle besöka honom en annan gång.
 'we informed Peter via e-mail on his birthday that we would visit him another time'
 b. *På hans födelsedag att vi skulle besöka honom en annan gång, meddelade vi honom via e-mail.

If our assumption that what is extraposed in German is extraposed in Swedish is correct, we may assume that the constituent-clause in (55a) is extraposed. We may further assume that it is located within the empty VP, since it obviously is a complement. But why can it not stack together with the time modifier in (55b)? The reason seems to be that the modifiers (being adjuncts) and the object-clause (being a complement of the empty V^0) cannot stack in the initial field together because of their different status. They are not three separate constituents at the same level and the VP itself cannot move. The following set of examples supports this account:

- (56) a. Peter sa till henne utanför restaurangen direkt efter middagen trött och ledsen över alla diskussioner att han inte tänkte följa henne hem.
 'Peter said to her outside the restaurant directly after the dinner tired and sad about all discussions that he did not intend to accompany her home'
 b. Utanför restaurangen direkt efter middagen trött och ledsen över alla diskussioner sa Peter till henne att han inte tänkte följa henne hem.

- c. *Utanför restaurangen direkt efter middagen trött och ledsen över alla diskussioner att han inte tänkte följa henne hem sa Peter till henne.
- d. Att han inte tänkt följa med henne hem sa Peter till henne utanför restaurangen direkt efter middagen trött och ledsen över alla diskussioner.

Leaving the object-clause behind makes the topicalization in (56b) acceptable (cf. (56c)). (Note that the s-related depictive may occur together with the modifiers in the initial field; cf. also (16) and (24)). What is topicalized in (56a), hence, is a separate place and time modifier (together with an SP) without the empty head (and the constituent-clause). As expected, the constituent clause may topicalize alone, cf. (56d).

The most intriguing question has, however, not been answered yet. Why do we have this double VP at all, it being much easier to understand a structure like the German one with pre-MVP modifiers. I will assume that the reason is to be looked for in the difference between German as a left-governing language and English and Swedish as right-governing languages (see also Haider 1998, 1999b). It goes without saying that if the verb governs to the left, it may govern the whole verbal extension within the VP. It is obvious that this cannot be the case in English and Swedish. Adjuncts on top of the MVP will not be in the licensing domain of the head (see Haider, who distinguishes between a direct and an indirect licensing domain). Since this is the case, they prefer the position to the right of the closed VP¹¹. But in this position, they cannot take scope over the MVP. The only way out of this dilemma is, I believe, to assume that they will be moved to an adjunct position on top of the MVP, the restriction being *Shortest move*, operating on the modifiers in the order in which they occur. In this pre-MVP-position, they then get the correct position for scope-taking: in (1) *cause>time>place*. Modifiers like *probably*, *actually* etc (p-related modifiers) – also taking the whole VP in their scope, but, since they are operators, not needing this type of licensing – will, of course, not turn up post-verbally. This does not prevent them from being adjuncts, however.

Finally, the focus behaviour may get an explanation, too. If focusing is the result of +F being assigned to the syntactic structure before spell-out, +F, assigned to the top of the VP, will automatically define a focus domain comprising the whole clause below it. If, further, the word order is basic, a FE far back in the clause will automatically give rise to a possible wide focus reading. This is the reason why a time-modifier in Swedish may be FE in a wide focus reading, whereas the same modifier in German cannot, since it is adjoined on top of the MVP.

6. Summary

In this paper I have argued that it is necessary, in a strictly modular way, to distinguish between the syntactic and the lexico-semantic level. The *adjunct* is a syntactic category in a set comprising also the *complement* and the *specifier*, whereas the *argument* is a category in a set comprising among others also *modifiers*. I have furthermore tried to provide an explanation, based on different settings of the verbal head parameter (VO vs. OV), of the positions (postverbal vs. preverbal) as well as of the reverse order of a set of modifiers (cause, time, place etc), taking scope over the whole VP. I first demonstrated that these languages have the same order, with regard to arguments and modifiers within what I called the MVP. I then reviewed some recently suggested proposals, trying to capture the difference with regard to the VP-external modifiers, all of which, however, were shown to have certain shortcomings,

¹¹ Note that I assumed above that it would be possible to adjoin at least one of these modifiers to the left of the MVP in English and Swedish, too. As a rule, however, this word order then is slightly marked. There may be focus differences as well.

preventing them from accounting for all data. My own solution is based on a proposal by Haider (1998, 1999b), who assumes that the postverbal modifiers are complement and specifier in a VP with an empty head. Also this solution has some shortcomings, however, and I, therefore, suggested that in English and Swedish the MVP-external modifiers are generated as adjuncts to an empty VP, the head of which is not coindexed with the head of the MVP. It is deleted at the latest at LF. The remaining modifiers, being in the mirror order compared with the preverbal modifiers, are moved to the top of the lexical MVP, the restriction being *Shortest Move*, operating on the modifiers in the order in which they occur. This solution does not only explain the position and mirror order of the modifiers in English and Swedish, compared with German. It is also in accordance with the binding data of the possessive anaphor *sin* in Swedish, and, in addition, it may contribute to account for specific properties of stacking. Finally, it also accounts for the focus data in English and Swedish, these modifiers (contrary to their counterparts in German) being potential focus exponents in a wide focus reading. The consequence of this proposal is that the overt syntactic difference between, on the one hand, English and Swedish, on the other, German, will vanish at LF, both types of languages at LF having the same preverbal modifiers in the same order.

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