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Subject Positions and the Placement of Adverbials

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1. A sounding device for phrase structure

The position of adverbs relative to other elements has been a critical diagnostic in the analysis of phrase structure. Earlier generative work on adverbs, such as that of Jackendoff 1972 and Ernst 1984, allowed for some flexibility in adverb placement, but noted certain regularities. Work on other aspects of clausal structure, such as that of Emonds 1976 and Platzack 1983, exploited the regularities, taking adverbs to mark phrasal boundaries, and used them to demonstrate the movement of other elements across them.

Such work has actually been the primary motivation for functional heads in the clause. Morphological evidence is also used but usually in a supporting role. In this section I briefly examine some of the basic arguments using adverbs to motivate models of phrase structure. My purpose here is not to restate the arguments that have been made, which are explicated clearly in such works as Webelhuth 1992, Holmberg & Platzack 1995, Vikner 1995, and references there. My purpose in this section is rather to point out the extent to which adverb placement has been used as a diagnostic for the movement or location of other elements.

1.1. *Adverbs and heads*

Pollock 1989 proposed, based on the relative positions of verbs and adverbs in French and English, that the Infl node be split into at least two parts, Agr(eement) and T(ense), providing two different landing sites for the verb. Assuming that temporal and manner adverbials are adjoined to VP, below both Agr and T, but that negation is located between Agr and T, Pollock argued that Adv-V order was the result of no verb movement, Neg-V-Adv order was the result of short verb movement (to Agr), and V-Neg order was the result of long verb movement (to T).

Belletti 1990 proposed a modification of Pollock's analysis which was motivated primarily by morphological considerations. She proposed that Agr (or Agr_S)

dominates T, rather than the other way around, since subject agreement morphemes typically appear further from the stem than tense morphemes, in languages where they can be identified. The idea was that head movement of the verb to the functional positions was directly connected to the appearance of the inflectional morphemes.¹

Despite various critiques, the Split-Infl hypothesis has been employed in a wide range of analyses. I assume some version of it for most of this paper but in §4.5 I discuss an alternative which provides some advantages.

1.2. Adverbs and arguments

Various work on the structure of Scandinavian, for example Platzack 1983, 1986a, 1986b, and Holmberg 1983, 1986, has relied crucially on adverb placement to identify the VP boundary and thereby to demonstrate when verb movement takes place. For object shift in Scandinavian, and for scrambling in German, adverb placement has also proven useful in identifying the location of arguments, e.g. as in Webelhuth 1984, 1992, and Diesing 1992. This line has been extended to the location of subjects in Scandinavian in Jonas 1993 and Bobaljik & Jonas 1996, *inter alia*, where they argue that Icelandic, German, and one dialect of Faroese have two subject positions, while English, Mainland Scandinavian, and another dialect of Faroese only have one. This theory is pursued in Thráinsson 1994, Bobaljik 1995, and Bobaljik & Thráinsson 1997, where the connection between functional specifier positions and overt inflection is explored in detail. I discuss this issue more fully in §4.2 below.

1.3. Adverbs as primary motivation for clause structure

A more recent development, pioneered by Alexiadou 1997 and Cinque 1999, has been to use adverbials themselves to motivate clause structure. In those approaches, arguments from inflectional morphology (cf. §1.1) are combined with arguments from the distribution of adverbs, which are taken to occupy specifiers of functional heads.

Alexiadou identifies classes of adverbs with particular functional projections, both in terms of cooccurrence and in terms of word order. For example, Greek morphology motivates an aspectual projection for perfective versus imperfective features. These features interact with such adverbs as *sinithos* ‘usually’ and *djo fores* ‘twice’: the former are possible with the imperfective form of a verb, but not with the perfective, while the latter show the reverse restriction. Alexiadou also shows that the relative order of adverbs matches the relative order of morphemes: suffixes indicating mood are further from the stem than suffixes indicating aspect, and aspectual adverbs obligatorily appear lower in the tree than (i.e. to the right of) epistemic adverbs, which are sensitive to the mood of the sentence and arguably concern the same semantic domain as mood inflection.

Alexiadou accounts for these facts by connecting the adverbs explicitly to the functional structure: adverbs occupy the specifier positions of the various functional heads. Thus epistemic adverbials, in the specifier of MoodP, precede aspectual adverbials, in the specifier of AspP; and morphological material motivates the same order of functional heads.

In some cases, Alexiadou adopts functional heads which have been motivated for other languages in part because they provide a location for adverbs in Greek. For example, Alexiadou notes that certain negative polarity adverbs, such as *pja* 'anymore,' appear below subject-oriented adverbs (and above aspectual adverbs), although the negation particle appears to be higher in the tree than Agr_S , the head which Alexiadou argues to head the relevant functional projection for subject-oriented adverbs. There is in any case no inflectional indication of a negation head between Agr_S and Asp; however, Zanuttini 1997 has argued on the basis of an extensive analysis of Romance dialects that there is a lower Neg projection, Neg2, below Agr_S and above Asp. Alexiadou adopts a Neg2 projection for Greek as well, which then provides a site for the negative polarity elements.

Cinque 1999 represents a very similar enterprise but with a wider and more cross-linguistic scope. Starting from the relative order of a wide selection of adverbials in Italian, and then introducing supporting evidence from the relative order of adverbials and the relative order of inflectional morphemes in other languages, he proposes over thirty separate functional heads. I take up specific aspects of Cinque's arguments below, including Nilsen's 1998 application of Cinque's model to Norwegian.

1.4. Specifiers and adjuncts

A word or two needs to be said about the distinction between specifiers and adjuncts. The traditional assumption has long been that adverbs are adjuncts; this is assumed to be consistent with their optionality, their iterability, and restrictions on their extraction. Alexiadou 1997 and Cinque 1999 were noted above to argue, on the other hand, that adverbs occupy specifier positions. It is not clear that this raises any problems with respect to the properties of optionality, iterability, and difficulty of extraction. The optionality of a given adverb is not any more problematic on such a view than the optionality of any other filled specifier position (e.g. a possessor in a noun phrase); iterability is handled by the multiplicity of heads providing specifier positions; and restrictions on extraction can be stated in other ways (cf. for example Lasnik & Saito 1992). In fact, it is unclear that adjunction even necessarily exists on a model like Alexiadou's or Cinque's; cf. Hellan 1989, Hoekstra 1991 or Kayne 1994, where it is argued that there is no structural distinction between an adjunct and a specifier.

Hoekstra 1991 (cf. also Hellan 1989) specifically suggests that a specifier is, by definition, an adjunct which enters into an agreement relation with the head of the phrase it is adjoined to (cf. his p. 24). Uniqueness of specifiers, as Hellan 1989 argues, will generally be guaranteed by the nature of the relations that license them (e.g. feature checking). The iterability or non-iterability of adjunct elements, on this view, will be determined by the nature of their licensing.

An opposing view is provided by Kayne 1994, in which it is argued that more general constraints on phrase structure make impossible multiple adjunctions to the same phrase. Cinque's proposal in particular is fully consistent with Kayne's theory, while the one that I will propose here is not.

Critical to this discussion is the segment-category distinction. A common assumption is that a specifier is dominated by a 'category,' i.e. a maximal projection,

while an adjunct is not; adjunction to a projection creates a two-segment configuration, and the adjunct is dominated only by one of the two segments (Chomsky 1986). If segments are really non-distinct from each other, as is sometimes assumed (cf. May 1985), and if there is multiple adjunction, then linear order of two elements adjoined to the same phrase will not reflect their scope. Thus, for May, the two LF structures in (1) for the sentence *Exactly three girls kissed few boys* are semantically equivalent (i.e., for May, they would both be ambiguous)

- (1) a. [_Sexactly three girls_x [_Sfew boys_y [_S x kissed y]]]
 b. [_Sfew boys_y [_Sexactly three girls_x [_S x kissed y]]]

Similarly, if attributive adjectives in noun phrases involve multiple adjunction to NP, then the two structures in (2) should be equivalent, contrary to fact (cf. Svenonius 1993).

- (2) a. a [_{NP} dangerous [_{NP} dead [_{NP} animal]]]
 b. a [_{NP} dead [_{NP} dangerous [_{NP} animal]]]

The same observations carry over to adverbs. If adverbs are adjoined iteratively to the same node, say VP, then there are structures like those in (3).

- (3) a. Mockingbirds [_{VP} characteristically [_{VP} often [_{VP} imitate woodpeckers]]]
 b. Mockingbirds [_{VP} often [_{VP} characteristically [_{VP} imitate woodpeckers]]]

Given that the two different word orders represented in the sentences in (3) do not mean the same thing, just as with the noun phrase examples in (2), one of the two assumptions made above is incorrect: either adjunction is not iterative, to the same node, or else segments count for determining c-command relations (i.e. scope is not determined under M-command). If multiple adjunction is eliminated, then there must be a very large number of maximal projections in the clause, as is demonstrated by Cinque 1996 (cf. §2 below). If, on the other hand, multiple adjunction is to be retained, then each segment must receive a separate interpretation, as in Heim 1982; cf. Lasnik & Saito 1992 for syntactic arguments that segments should count as categories, and Barbiers 1995 for arguments that they must count for calculation of c-command relations. I will return to this issue in §5 below.

My working hypothesis in this paper is that multiple adjunction is allowed. The strongest arguments against multiple adjunction (Kayne 1994) are theoretical in nature, and subject to empirical motivation; Cinque 1999 constitutes empirical support for that position, but to the extent that the analysis here is successful, it provides an argument against it.

2. Challenges to the ‘Tight-fit’ theory

Ernst 1984, discussing Jackendoff’s 1972 analysis of adverb placement and interpretation in English, refers to Jackendoff’s proposal as a ‘Tight-fit’ theory, because of the restrictive way in which particular lexical items (i.e. adverbs) are linked to particular syntactic positions. Ernst points out that this leads to a great degree of

homonymity, since adverbs which can be used in different ways, e.g. as ‘speaker-oriented’ or as ‘manner’ adverbials, must have distinct lexical entries. Ernst proposes instead a ‘Loose-fit’ theory, in which adverb meanings are sufficiently flexible that their interpretation can be determined in part by their position, leading to a reduction in lexical entries. Thus, for Ernst, one and the same adverb may be attached in multiple locations.

In many ways the theories of Alexiadou and Cinque discussed in the previous section are reminiscent of the ‘Tight-fit’ position; there is, at any rate, a tight fit between adverb classes and syntactic positions. Despite the changes which have affected the standard theory since Jackendoff’s work (and Ernst’s), a number of problems still arise for any analysis which maintains that adverbs are consistently adjoined to certain nodes. Some are noted in Cinque 1999. Here I discuss some of the same problems as well as some additional ones.

2.1. Adverb placement versus adverb ordering

The first problem is that adverbs show a fair amount of variability in placement, but are subject to strict ordering restrictions. For example, from (4b) it can be seen that *already* can appear before the finite auxiliary *has* (although this order is slightly marked), and from (4c) it is clear that *probably* can appear after *has*.

- (4) a. John has already left.
 b. John already has left.
 c. John has probably left.
 d. John probably has left.

However, although the two adverbs can cooccur in a single clause, as shown in (5a), they cannot appear in the order *already-probably*.

- (5) a. John probably has already left
 b. ?? John already has probably left

Exactly the same facts can be demonstrated for Greek, as shown in (6-7), cf. Alexiadou 1997:166.

- (6) a. O Janis idi ehi figi. Greek
 the John already has left
 b. O Janis ehi idi figi.
 the John has already left
- (7) a. O Janis pithanos efi figi.
 the John probably has left
 b. O Janis ehi pithanos figi.
 the John has probably left

Just as in English, the two adverbs can cooccur, but their relative order is strict.

- (8) a. O Janis pithanos ehi idi figi. Greek
 the John probably has already left
 b. ?? O Janis idi ehi pithanos figi.
 the John already has probably left

Alexiadou argues for examples like (7a) that epistemic adverbs occupy SpecMoodP, and that Mood is higher in the tree than Agr_S, the head which the finite verb occupies. For examples like (7b), she suggests that there is a second MoodP dominating the participle (see also Kayne 1993, Collins & Thráinsson 1996 for analyses in which non-finite verb forms are dominated by a variety of functional projections).

However, if the distribution of adverbs is to be explained by linking them to functional projections, and if there are two sets of (some) functional projections in clauses with complex verbs, then additional assumptions are necessary to rule out examples like (8b).

Similar facts can be demonstrated for Finnish (examples taken from Holmberg et al. 1993).

- (9) a. Pekka ei olisi aina valittanut siitä. Finnish
Pekka not would always complained about.it
 ‘Pekka wouldn’t have always complained about it’
 b. Pekka ei aina olisi valittanut siitä.
Pekka not always would complained about.it
- (10) a. Pekka ei ehkä olisi valittanut siitä.
Pekka not perhaps would complained about.it
 ‘Perhaps Pekka wouldn’t have complained about it’
 b. Pekka ei olisi ehkä valittanut siitä.
Pekka not would perhaps complained about.it

In (9-10) it is shown that *aina* ‘always’ and *ehkä* ‘perhaps’ can appear both before and after the modal verb *olisi*. (11a) shows that the two adverbs can cooccur, and (11b) shows that their order is strict.

- (11) a. Pekka ei ehkä olisi aina valittanut siitä. Finnish
Pekka not perhaps would always complained about.it
 ‘Perhaps Pekka wouldn’t have always complained about it’
 b. * Pekka ei aina olisi ehkä valittanut siitä.
Pekka not always would perhaps complained about.it

Holmberg et al. suggest there is LF-movement of adverbs; thus, in an example like (10b), *ehkä* ‘perhaps’ appears below the position in which it is interpreted and licensed, and must raise at LF. (11b) is blocked because of Relativized Minimality (Rizzi 1990), which prevents one adverb crossing another (at LF, as well as overtly). However, phrasal movement of adverbs is in general seriously undermotivated²; allowing LF movement would tend to make false predictions with respect to the possible scopal interpretations of adverbs (a particularly clear statement of this can be found in Ladusaw 1988, for example).

The problem is cast into sharper relief in Cinque’s 1999 examples. He gives sets of Italian sentences to demonstrate that between the various adverb positions there are head positions which can serve as a landing site for the verb. For example, he gives sentences similar to those in (12-13).³

- (12) a. Gianni **avrà** purtroppo ora deciso di partire. *Italian*
G. will.have unfortunately now decided to leave
 ‘Gianni will unfortunately have now decided to leave’
- b. Gianni purtroppo **avrà** ora deciso di partire.
G. unfortunately will.have now decided to leave
- c. Gianni purtroppo ora **avrà** deciso di partire.
G. unfortunately now will.have decided to leave
- (13) a. Non hanno **rimesso** di solito più tutto in ordine.
not have put usually anymore everything in order
 ‘They haven’t usually put everything in order anymore’
- b. Non hanno di solito **rimesso** più tutto in ordine.
not have usually put anymore everything in order
- c. Non hanno di solito più **rimesso** tutto in ordine.
not have usually anymore put everything in order

As can be seen, the finite verb in (12) and the participle in (13) can appear in various positions with respect to the adverbs, but the ordering of adverbs is strict. For Cinque, this means that the verb optionally moves to one of several different functional heads. If movement is motivated by strong features, this suggests a large number of optionally strong features in Italian (quite a few, if one considers the whole range of adverbial positions). Below, I will propose an alternative account of this variation which makes no use of optionally strong features.

2.2. Subject positions

A similar problem arises with subject positions. In many languages, the subject can appear in various positions with respect to adverbial elements (as has often been noted; fuller discussion and references are given in §4). For example, in Cinque’s hierarchy of adverbs, an adverb like ‘still’ is quite low, but in Icelandic the subject can follow it, as shown in (14a).⁴

- (14) a. Þess vegna ögra **ennþá** mörg leikrit áhorfendum nútímans. *Ice.*
this cause provoke still many plays audiences today’s
 ‘Because of this many plays still provoke today’s audiences’
- b. Þess vegna ögra mörg leikrit **ennþá** áhorfendum nútímans.
this cause provoke many plays still audiences today’s

Nilsen 1998 shows that the subject in Norwegian can precede or follow any adverb within IP (i.e., following an element in C) for the range of Cinque’s adverbial classes that extends from *ærlig talt* ‘honestly’ down to *snart* ‘soon’ (a couple of levels below *enda* or *fortsatt*, ‘still’); a representative example is given below (from Nilsen 1997:17).

- (15) a. ...at Per tydeligvis ikke lenger bestandig vinner. *Norwegian*
that Per evidently not anymore always wins
 ‘...that Per evidently doesn’t always win anymore’

- b. ...at tydeligvis Per ikke lenger bestandig vinner.
that evidently Per not anymore always wins
- c. ...at tydeligvis ikke Per lenger bestandig vinner.
that evidently not Per anymore always wins
- d. ...at tydeligvis ikke lenger Per bestandig vinner.
that evidently not anymore Per always wins
- e. ...at tydeligvis ikke lenger bestandig Per vinner.
that evidently not anymore always Per wins

If, as Cinque argues, the various possible positions for the subject in the string of adverbials indicate different landing sites for the subject, then the Norwegian facts motivate twenty different subject landing sites (only fifteen in Italian; the subject cannot appear as low in Italian, according to Cinque). This is in addition to the thirty or so functional projections necessary to host the adverbs. Not only must there be twenty AgrPs (or TopicPs, FocusPs, etc.) in Norwegian, but each one must have an optionally strong feature, to motivate subject movement in those cases where it occurs.

Cinque 1999 (ch. 5) suggests that the different subject positions may reflect different interpretational possibilities, e.g. distributive versus collective interpretations, focus versus topic interpretations, etc., as in Beghelli & Stowell 1997, in which such interpretations are linked to specific functional positions. Indeed, there is some interaction between subject position (relative to adverbs) and interpretation. I discuss this more fully in §4.

2.3. Object shift

The position of the object creates problems of a type very similar to those noted for subjects above. If object agreement morphemes are an indication, then object agreement is often low in the tree, e.g. it is placed below AgrS, Tense, and negation by Belletti 1990, below Tense and Mood by Julien 2000. A couple of suggestive examples showing object agreement inside tense and finiteness have been borrowed here from Julien 2000:

- (16) a. kaci -ma -ra -ygi *Tarma Quechua*
raise-1sO-PAST-2sS
 'you raised me'
- b. uni dal -oco -m -a -e *Santali*
he beat-caus-2sO-FIN-3sS
 'he makes you beat'

But object shift raises objects past not only aspectual adverbials, but also sentence adverbials.

- (17) a. Han sendte det heldigvis ned *Norwegian*
- b. Hann sendi það sem betur fer niður. *Icelandic*
he sent it fortunately down
 'He fortunately sent them down'

- c. Han sendte brevet heldigvis ned *Norwegian*
 d. Hann sendi bréfið sem betur fer niður *Icelandic*
he sent the.letter fortunately down
 ‘He fortunately sent the letter down’
 e. * Han har sendt {det/brevet} heldigvis ned *Norwegian*
 f. * Hann hefur sent {það/bréfið} sem betur fer niður *Icelandic*
he has sent it /the.letter fortunately down

(17a-b) show object shift of a pronoun across a sentential adverb meaning ‘fortunately’; (17c-d) show the same thing for a full DP.⁵ Object shift of full DPs is restricted in Mainland Scandinavian, but not to the extent usually assumed, as argued in Nilsen 1997, 1998. I use a particle verb here to demonstrate that the adverbial is not postposed; (17e-f) establish the same fact in that they show that the object cannot precede a sentential adverbial when the environment for object shift is not satisfied.

Since objects can also appear following these and other adverbials (cf. Nilsen 1997), it seems that a Cinquean analysis is forced to countenance a significant number of object landing positions. Nor is it enough to suggest that objects may avail themselves of the same landing sites as the subjects, since subject, indirect object, and direct object may all appear between the same pair of adverbs. Consider the following examples, from Icelandic (cf. also Collins & Thráinsson 1996, and Nilsen 1997:27 for Norwegian).

- (18) a. Þá gáfu vonandi alltaf einhverjir Sigríði hana tilbaka. *Icelandic*
then gave hopefully always somebody Sigrid it back
 ‘Then somebody hopefully always gave it back to Sigrid’
 b. Þá gáfu vonandi einhverjir Sigríði hana alltaf tilbaka.
then gave hopefully somebody Sigrid it always back
 c. Þá gáfu einhverjir Sigríði hana vonandi alltaf tilbaka.
then gave somebody Sigrid it hopefully always back

Since all three arguments can precede, intervene between, or follow the two adverbs, this seems to motivate three specifier positions, hence three heads, between every one of the head positions argued to exist for adverbial placement.⁶

Nilsen, taking Cinque’s analysis of the adverbial positions to be correct, interprets the type of pattern in as providing evidence against a movement to specifier account of subject and object positions, assuming that PF-reordering takes place. However, there are interpretive differences for different subject-adverb orderings (which I will detail in §4), differences which I locate in the LF component.

3. Introducing the right amount of flexibility into adverb placement

The solution I propose to the problems noted above is straightforward: Adverb attachment is driven by interpretation. This is the explicit assumption of earlier work, e.g. Jackendoff 1972, McConnell-Ginet 1982, and Ernst 1984, and more or less drives the intuitions behind more recent work. However, it goes against the thrust

of Alexiadou and Cinque, for whom there is a strict linking of adverb classes and functional categories, mediated in Cinque's theory by feature-checking. The Cinque and Alexiadou accounts are worked out in book length and are applied to a large number of specific cases. My account, in contrast, is less thoroughly developed and is applied only to one case, that of Germanic subject-adverb order. However, given that much of the received wisdom about adverb placement is based on exactly the kind of case that German subject-adverb order represents, my account, if successful, raises important questions for the functional head-based ones.

As noted above in §2, the approach pursued here is closer to Ernst's 'Loose-Fit' theory than the other proposals. This introduces flexibility at three points. First, a node of a given category may not always receive the same interpretation. For example, an adverb might attach to an event-denoting node, and not to a node that denotes a state of affairs, but VP might variably denote an event or a state of affairs. Second, since interpretation is a matter not of Deep Structure category labels, the relevant factor in the Tight-fit theories, but LF interpretations, any covert movement that affects interpretation can potentially affect adverb placement, including restructuring. Third, a node that contributes no semantic information that is relevant to the interpretation of a given adverb will be, in effect, invisible for that adverb. I discuss these various points in §3.1 immediately below.

I make the additional assumption, as noted in §1.4 above, that segments created by adjunction are nodes and receive their own interpretation. This assumption is logically independent from the assumption that adverb interpretation is sensitive to semantic interpretation only and not to syntactic category, but the two interact in a critical fashion. In §3.2 I show how these assumptions make sense of the head-adverb ordering facts discussed in §2.1 above, and in §3.3 I discuss adverb ordering restrictions.

3.1. *Adverbs are attached according to semantic interpretation*

Consider examples like those in (19).

- (19) a. Howard foolishly may have been trying to impress us.
 b. Howard may foolishly have been trying to impress us.
 c. Howard may have foolishly been trying to impress us.
 d. Howard may have been foolishly trying to impress us.

If the adverb in all of these sentences is the same, then these sentences indicate that such adverbs can be attached in a number of places. A head movement account is inadequate, since heads cannot generally cross other head positions. If all of the auxiliaries in (19a) occupy lower positions, and if they are all taken to have moved in (19d), then each one will have to have crossed at least two other head positions.

Assume, then, that *foolishly* attaches to any of several maximal projections, perhaps under the conditions that it be c-commanded by the controlling subject, and that it c-command the node that denotes the event or action that the subject was foolish to perform. The aspectual, temporal, and modal information represented by the auxiliaries is simply not relevant to these conditions.

- (20) a. Cari probably will have been finishing up by then.

- b. Cari will probably have been finishing up by then.
- c. % Cari will have probably been finishing up by then.
- d. ?? Cari will have been probably finishing up by then.

Here the semantics of the epistemic adverb dictate that the adverb scope over the tense, which is borne by the auxiliary *will*. If we assume that *will* is optionally in T or in Agr, then the adverb can occupy a single location (adjoined to TP) and scope over T. This is essentially the approach taken by Cinque. Assuming (20c-d) to be ungrammatical, as they are for many speakers,⁷ the correct results are achieved, but at the cost of an optionally strong head feature in Agr.

Another approach is that taken by Holmberg et al. 1993, in which a definition of c-command is adopted which allows the adverb in (20b) to scope over the head, even though it follows it linearly: c-command is determined by the first maximal projection, and the adverb, being adjoined to TP, is not dominated by TP; therefore, the first maximal projection dominating *probably* is in fact AgrP, which also dominates *will*. However, as noted in §1.4 above, this kind of approach to c-command means that adjacent strings of adverbs mutually c-command each other; for example, *already* c-commands *probably* in an example like that in (21a) below, assuming that they are adjoined to the same maximal projection.

- (21) a. Howard will probably already have been finishing up by then.
- b. * Howard will already probably have been finishing up by then.

If there is no asymmetric structural relation between the two adverbs in the examples in (21), then it is difficult to explain why (21b) is bad. In fact, it becomes generally difficult to explain why the linear order of adverbs correlates so well with their semantic scope. Instead, I suggest, *will* occupies the same node in (20a-b). Take that node to be, for example, Agr. The condition on *probably* is that it c-command tense, dictated by its interpretation. The interpretation of Agr is irrelevant to *probably*, so it can attach above or below that node.

Note that it is not necessary that there be a functional T node that *will* has moved from; in fact, the Agr node can be the T node (i.e., it is Infl, a combination of Agreement and Tense and perhaps other features). What is necessary is that there be a node below *probably* in which the tense feature is interpreted. This is true as long as *will* has undergone head movement in (20b) from some lower position (it might be a lexical projection), and can be interpreted in that position (under reconstruction). If, on the other hand, reconstruction of heads is not permitted, then there must be a T node below the position of *probably* in (20b).

3.2. A floating strong head feature is unnecessary

Given these assumptions, the examples in (12) and (13) in §2.1 above (repeated below as (22) and (23)) can be seen in a new light.

Rather than having to assume a floating strong feature (i.e., one which can appear in any of several locations), for each of the two cases there can be a single strong feature in a functional head whose interpretation is not relevant to the adverbials, for example Agr; the verbal head obligatorily moves to Agr.

- (22) a. Gianni **avrà** purtroppo ora deciso di partire *Italian*
G. will.have unfortunately now decided to leave.
- b. Gianni purtroppo **avrà** ora deciso di partire
G. unfortunately will.have now decided to leave.
- c. Gianni purtroppo ora **avrà** deciso di partire
G. unfortunately now will.have decided to leave.
 ‘Gianni unfortunately will now have decided to leave’

For the case in (22), say that the adverbs have to scope over T, but that Agr provides no information relevant to their interpretation. There is a strong feature in Agr, which attracts the verb. The verb always lands there, but the adverbs are optionally attached either to AgrP or to TP. Some may be attached to AgrP, others to TP. Alternatively, as noted above, there need not be any TP, but *avrà* can be taken instead to have moved from a lexical V position (as long as the tail of the chain it heads after movement contains a copy of the tense feature, or whatever feature is relevant for the adverbs).

For the case in (23), assume another functional head, Agr, below T but above VP. The adverbs here must scope over VP, but once again, Agr is irrelevant. Agr contains a strong feature which attracts the participle.

- (23) a. Non hanno **rimesso** di solito più tutto in ordine *Ita.*
not have put usually any longer everything in order
- b. Non hanno di solito **rimesso** più tutto in ordine
not have usually put any longer everything in order
- c. Non hanno di solito più **rimesso** tutto in ordine
not have usually any longer put everything in order
 ‘They haven’t usually put everything in order anymore’

Again, this is not to say that Agr must be semantically vacuous, only that its contribution to interpretation is not relevant to this set of adverbials. The account sketched here reduces the number of functional heads necessary in the clause to two, whereas Cinque’s and Alexiadou’s require at least one per adverb. It also completely eliminates the need for a floating strong feature, and allows instead two consistently strong verbal features in the Italian clause.

This proposal is not consistent with Kayne’s claim that adjuncts are unique. In order for this model to be consistent with Kayne 1994, there must be one head for each adverb. However, this does not mean that Cinque’s position must be adopted. Nothing in Kayne’s theory requires that the heads be semantically coordinated with the phrasal expressions attached to them, given that interpretation occurs at LF, not at DS. The heads could even be semantically vacuous, in principle. Thus, a Kaynean version of the approach advocated here might involve free generation of vacuous Agr heads as needed to provide sites for adverb attachment.

3.3. Ordering restrictions

Alexiadou and Cinque assume that ordering restrictions are determined by the obligatory sequence of functional heads. On my account, this explanation for ordering restrictions is not available, and I must appeal to semantic interactions

among the adverbs. Cinque notes (ch. 6) that in many cases, ordering restrictions can be motivated by semantic factors, for example the fact that temporally-oriented adverbs precede aspectual ones. However, he suggests that there are several cases in which semantic considerations cannot explain the observed restrictions. He gives three examples. I will examine two of them briefly in turn.

First, Cinque suggests (p. 135) that the relative ordering of ‘evidentiality’ adverbials with epistemic ones, as seen in (24), is not semantically motivated.

- (24) a. Al evidently will probably give up.
 b. * Al probably will evidently give up.

However, it is not clear that no semantic account is available. Take, for example, *probably* to be a function from propositions to propositions (probably too simple, but sufficient for present purposes). If *evidently* operates on a propositional object and returns something else, say a FACT in the sense of Vendler 1967, then *probably* will not be able to apply to its output. In support of this, it seems that it is difficult to embed a sentence with *evidently* under a higher clause that expresses the probability of the embedded clause. Cinque gives a sentence like the one in (25a), which seems interpretable, though degraded. Note also that unlike (24a), *evident* in (25a) seems to assert evidentiality for arbitrary individuals, rather than for the speaker. Similar is (25b).

- (25) a. ? It is probable that it is evident that he is the guilty one.
 b. ? It is probable that Al evidently will give up.
 c. He discovered that Al evidently would give up.
 d. He probably discovered that Al evidently would give up.

As indicated in (25c), the same clause is much better when embedded under a factive verb like *discover*, which takes *fact* complements (cf. Kiparsky & Kiparsky 1970). This higher clause can be modified by *probably*, as expected.

Another example Cinque gives of an ordering which cannot be semantically motivated (p. 136) is the following: habitual adverbs like *di solito* ‘usually’ obligatorily precede Terminative adverbs like *più* ‘no longer.’

- (26) a. Dopo le 10, Gianni non beve di solito più niente. Ita.
after the 10 Gianni not drinks usually anymore anything
 ‘After 10, Gianni doesn’t usually drink anything anymore’
 b. * Dopo le 10, Gianni non beve più di solito niente.
after the 10 Gianni not drinks anymore usually anything

In this case, I agree with Cinque that there is no obvious semantic reason that an adverb marking the termination of an event or event-type should not be able to scope over a habitual adverb. However, in this case, exactly that is quite possible in other languages, for example English.

- (27) a. After 10, John usually no longer drinks anything.
 b. After 10, John no longer usually drinks anything.

The two examples show different interpretations in the expected way: (27a) means that it is usually the case that John no longer drinks (i.e. he drinks up until ten),

If the presence of a bound epistemic morpheme indicates the presence of an epistemic head in the syntax, then there will be a close correlation between the location of functional heads and the attachment site of adverbs, as in Cinque's theory; but in contrast to that theory, the fit will not be determined by feature checking, and will be as flexible as the semantics allow. I suggest that this is exactly the observed degree of flexibility, in contrast to the type of categorial rigidity ordinarily observed in morphological systems.

The Mirror Principle (Baker 1985) maintains that morphological processes must occur in the same order as, e.g., the grammatical function-changing processes which affect the lexical semantics of a stem (cf. fn. 1). One class of affixes that do not seem to be ordered by the Mirror Principle is the class of agreement affixes. Of course, the Mirror Principle makes clear (and as far as I know, correct) predictions about the relative order of agreement affixes and grammatical function changing morphemes. For instance, if a passive morpheme results in the promotion of a deep object to a surface subject, and a subject agreement morpheme shows agreement with the surface subject, then the passive morpheme must be closer to the stem than the subject agreement morpheme.

But why is subject agreement so frequently further from the stem than tense, as pointed out by Belletti? And why are there no 'deep' subject agreement morphemes? The distribution of agreement morphemes appears to be a much better candidate for an arbitrary syntactic fact, as opposed to a conceptually motivated fact. Even those accounts (Adger 1994) that ascribe a semantic contribution to Agr (specificity) don't make it clear why Agr morphology should be further from the stem than tense or aspectual morphology.

In §5, I will propose (tentatively) a role for Agr that will make better sense of its high position in the clause. But my account will not derive this property from necessary conceptual considerations, so it retains a degree of syntactic peculiarity.

4. Subject positions in Germanic

Before proceeding it is necessary to make clear what I am calling 'subject position' in Germanic, and to clear up some issues regarding the notion of 'topic.' In Germanic languages other than English, declarative main clauses are ordinarily V2, meaning that the finite verb appears in second position. Although subjects are common in first position (as in (29a) below), this position is not a 'subject position.' The exact characterization of the initial position in Germanic is not an easy matter. Traditionally it is described as a Theme position (in the Prague School sense), a Topic position (a closely related notion often characterized in terms of 'aboutness,' cf. Gundel 1974, Reinhart 1981), or as a position for 'background' information.⁹ However, none of these characterizations seems to capture initial elements like those in (29b-d), as has often been noted.

- (29) a. Er kam deshalb nicht zur Arbeit. *German*
 he came therefore not to work
 'Therefore he didn't come to work'

- b. Deshalb kam er nicht zur Arbeit.
therefore came he not to work
- c. Unglücklicherweise gibt es nur wenige Oasen.
unfortunately gives it only few oases
'Unfortunately there are only few oases'
- d. Es gibt unglücklicherweise nur wenige Oasen.
it gives unfortunately only few oases

The traditional description of the initial element as a topic correctly captures the fact that it does not typically provide new information. However, more clearly needs to be said. In fact, new information is possible in first position, as in the Norwegian example below (from Faarlund 1992), in which the indefinite associate in an existential construction has been fronted to initial position (an element specifically excluded from topic- or themehood e.g., in Firbas 1975). This example is legitimate as a response to a question like, "How were the accommodations?", where 'features of accommodations' are salient, and therefore 'background' in some sense.

- (30) Varmt og kaldt vann var det jo ikke *Norwegian*
warm and cold water was it after.all not
'After all, there wasn't hot and cold water'

If 'hot and cold water' were a topic, it could be expected either to have been commented on in the preceding discourse or to be commented on in the following discourse. This is not the case here. It seems that the initial position is typically used to indicate a *change* of emphasis or focus of attention in the discourse. Thus, when the initial element is argumental, it is better characterized as a SWITCH TOPIC or SHIFTED TOPIC, rather than as a CONTINUED TOPIC (cf. e.g. Aissen 1992, in which it is argued that this distinction is encoded in the grammar of Mayan, King 1995 for Russian). For example, the following passage is licit in response to the question, "Has the professor left?"¹⁰

- (31) a. Ja, for tre veckor sen fick professorn besök av en herre *Swe*
yes for three weeks ago got the.professor visit of a gentleman
som talade med stark brytning...
as spoke with strong accent
'Yes, three weeks ago a man with a strong accent came to see the professor'
- b. De talade länge
they spoke long
'They had a long talk'
- c. och sedan packade professorn och gav sig i väg
and then packed the.professor and gave RFX in way
med den främmande herrn...
with the unknown gentleman
'Then the professor packed his luggage and left with the stranger'

Clearly by the usual definitions of topic (cf. e.g. Givón 1990:900 ff), the professor is the topic of at least the first sentence. However, an expression referring to the

professor does not appear in initial position. This, I suggest, is because the speaker accepts the professor as having already been established as the topic by the preceding discourse, and he is therefore not a switch topic, but a continued topic. Thus the time adverbial 'three weeks ago' is initial in (31a), as it shifts attention to that time-frame. Then the plural pronoun 'they' occupies initial position, as attention is now shifted to the two men. In the context established for the third sentence, then, either the professor or the two men could be treated as the continued topic, but the initial element is the temporal deictic element 'then,' shifting attention to a time immediately following the discussion referred to in the previous sentence. The expression 'the professor' appears in subject position, as a continued topic.

I will not attempt to more fully detail the nature of the initial position, but will assume that the element in the sentence that is regarded by the speaker as most significantly redirecting the emphasis of the discourse is placed there. This is intended to include elements in contrastive focus, speaker-oriented adverbials, discourse connectives, scene-setting adverbials, and switch topics. Indefinites and elements expressing new information, including elements in (non-contrastive) focus, are ordinarily excluded. Unlike the situation with the switch-topic position in Mayan or Russian, the preverbal position in Germanic must be filled. This has the result that if there is no switch topic or other suitable element, a continued topic may appear in initial position (frequently the subject). The difference between a switch topic and a continued topic in initial position may be signalled by intonation (the continued topic is destressed; cf. Kristiansen 1996 for evidence from Danish). In the absence of any suitable element, an expletive may appear.

Another difference between the initial position in Germanic and the switch topic position in Mayan or Russian is that if argumental, it must be coindexed with a gap in the IP (this could be modeled by saying that it is not a case position); this has the result that there are no 'multiple subject' type constructions of the type known from Japanese and Russian. Consider the Russian sentence in (32a) (from Gundel 1974:185).

- (32) a. Ivan, ja ego ne ljubju. *Russian*
Ivan I him not like
 'Ivan, I don't like him'
- b. * Ivan liker jeg han ikke. *Norwegian*
Ivan like I him not
- c. Ivan liker jeg ikke.
Ivan like I not
 'Ivan, I don't like'
- d. Ivan, han liker jeg ikke.
Ivan him like I not
 'Ivan, him I don't like'

Russian, like Japanese, allows DP shift topics that do not correspond to any gap in the sentence. As indicated in (32b), this is impossible in Norwegian. Ordinarily, an element in initial position corresponds to a gap in the sentence, as in (32c). Left dislocation, as in (32d) is also possible, but then a coreferent pronoun appears in the initial position, and the left-dislocated element is outside the V2 clause (Icelandic

has left-dislocation with a pronoun in situ; cf. Thráinsson 1979:59; but there, too, the left-dislocated element precedes what I have been calling the ‘initial’ position). Multiple subject constructions in languages like Japanese do not even require a coreferent pronoun to appear (cf. e.g. Kuno 1973 on Japanese sentences corresponding to “Fish, I like red snapper,” Gundel 1974:189 on Russian; Gundel 1974:69-71 also claims that English Left-Dislocation has this property, but this seems only to be true when the ‘dislocated’ DP is supported by material such as *as for*).

Thus, although simple SV or SVO sentences in English will typically be translated, out of context, into subject-initial sentences in other Germanic languages, the initial position is not primarily a subject position. Faarlund 1992 finds that in spoken Norwegian, 40% of sentences have non-subject initial elements; similar statistics are demonstrated for German (Engel 1972).

I follow the analysis which has developed out of the work of den Besten 1977, Platzack 1983, and so on, by which the landing site of the verb is C, essentially the same position as the location of the complementizer in a subordinate clause. I will refer to the complement of C as IP, at least when no more fine-grained level of detail is necessary.¹¹

Inside IP there is what I call a ‘subject position,’ SpecIP. This, I will argue below, is a position for a potential continued topic like the internal topic of Aissen 1992, King 1995. I say ‘potential’ because if no other element occupies first position, the continued topic does; in other words, the subject position is occupied either by an overt element (generally the thematically highest argument in the sentence) or the trace of a subject in the initial position. In (33a), the subject is in SpecCP, and its trace is assumed to occupy SpecIP, immediately after the verb. In (33b), SpecIP is occupied by the subject, *han*, immediately following the complementizer. In (33c), SpecIP is occupied by an expletive subject, immediately following the verb in C.

- (33) a. Ole gikk inn i banken. *Norwegian*
Ole went in in the.bank
 ‘Ole went into the bank’
- b. Jeg så at han plutselig sprang ut igjen.
I saw that he suddenly ran out again
 ‘I saw that he suddenly ran back out’
- c. Etter han sprang det ei bevæpnet vakt.
after him ran it a armed guard
 ‘After him ran an armed guard’

In what follows, I will not distinguish between the subject position following a fronted verb and the subject position following a complementizer element, as there does not appear to be any structural distinction. On a split-infl analysis, it is possible that SpecIP corresponds to more than one position. I will discuss this possibility below.

4.1. German and the Mapping Hypothesis

It has long been noted that the IP-internal syntax of German is sensitive to information structural considerations. Kratzer 1995 and Diesing 1992 have developed what is known as the Mapping Hypothesis, based on German data like that in (34) (from Kratzer, p. 153). The same basic facts obtain for Dutch, cf. for example de Hoop 1992.

- (34) a. ...weil sie immer Briefe aus Europa beantwortet German
since she always letters from Europe answers
 ‘...since she is always engaged in answering letters from Europe’
- b. ...weil sie Briefe aus Europa immer beantwortet
since she letters from Europe always answers
 ‘...since she never leaves a letter from Europe unanswered’

According to the Mapping Hypothesis, there is a boundary, marked in (34) by the adverb *immer* ‘always,’ above which quantified elements receive a strong reading (in the sense of Milsark 1974), and below which they are caught under the scope of existential closure, receiving a weak or existential interpretation. Diesing identifies this boundary with the VP boundary, and states the Mapping Hypothesis as follows (her p. 10): “Material from VP is mapped into the nuclear scope. Material from IP is mapped into a restrictive clause.”

However, it appears that simply being in the restriction or the nuclear scope of existential closure, or of syntactically present quantifiers, is inadequate to explain all the facts for German. Meinunger 1995:90 discusses the following example, where capitals indicate sentence accent.

- (35) a. ...als er weider rauskam war auf einmal der HUND
when he again out.came was of once the dog
 verschwunden. German
disappeared
 ‘...when he came back out, all of a sudden the DOG had disappeared’
- b. ...als er weider rauskam war der Hund auf einmal
 verSCHWUNden.
when he again out.came was the dog of once disappeared
 ‘...when he came back out, all of a sudden the dog had disapPEARed.’

Here, the DP which appears variably above and below the VP-boundary is definite. The interpretation is in both cases Milsark-strong, but there is still an interpretational difference, which Meinunger argues has to do with topicality: ‘the dog’ is a topic in (35b), but not in (35a). This is consistent with Diesing’s claim that DPs outside the VP boundary are ‘presuppositional’; Meinunger proposes to account for this type of data by assuming that DPs to the left of boundary-marking adverbials occupy the specifiers of Agr phrases, and by linking Agr to topicality (using the model of topicality developed by Krifka). A similar approach is taken in Adger 1994, where Agr is linked to familiarity, in Heim’s sense. Possibly, these ap-

proaches obviate the need to locate existential closure at the VP level, since specific and generic indefinites may be topical or familiar in the relevant sense; see Cresti 1995 (and references there) on specific indefinites as ‘topical.’

4.2. *Scandinavian*

Bobaljik & Jonas 1996 take as a starting point Diesing’s mapping hypothesis, expand it, and extend it to Scandinavian data. They argue that German and Icelandic have two subject positions, SpecAgr_SP and SpecTP, but that Mainland Scandinavian and English have only one. Assuming that Diesing’s boundary is at TP, rather than VP, they suggest that in sentences like that in (36b) (from their p. 196), where the subject follows an adverb, it occupies SpecTP.

- (36) a. Í gær kláruðu þessar mýs sennilega ostinn. *Icelandic*
yesterday finished these mice probably the.cheese
 ‘Yesterday these mice probably finished the cheese’
- b. Í gær kláruðu sennilega margar mýs ostinn.
yesterday finished probably many mice the.cheese
 ‘Yesterday many mice probably finished the cheese’

Holmberg 1993 points out that adverb placement would seem to indicate two positions in Swedish as well, as in his example in (37) (from his p. 32), though he suggests that the lower position is reserved for subjects in focus (cf. his p. 38); hence (37b), without stress-marked focus, is marginal.¹²

- (37) a. Har någon student möjligen läst boken? *Swedish*
has any student possibly read the.book
 ‘Has any student possibly read the book?’
- b. ?? Har möjligen någon student läst boken?
has possibly any student read the.book
- c. Har möjligen NÅGON STUDENT läst boken?
has possibly any student read the.book
 ‘Has ANY STUDENT possibly read the book?’

Many, though not all, speakers of Swedish concur; but the focus effect appears to be rather weak, in that the contrast needed to make (37c) good is not hard to achieve. In addition, this may vary with register; examples with non-focused subjects are easy to find in texts, as in the examples in (38) (context makes it clear in each case that no contrast is intended), including older texts like the one whence (38c) is taken.

- (38) a. Där skall nu vajorna kalva. *Swedish*
there shall now the.reindeer.does calve
 ‘The reindeer does are going to calve there now’
- b. I Mars anföll därpå Danmark Holstein-Gottorp.
in March attacked thereon Denmark Holstein-Gottorp
 ‘After that, in March, Denmark attacked Holstein-Gottorp’
- c. Här uppe äro nämligen nätterna mycket långa, kölden sträng, ...
here up are namely the.nights very long the.cold severe
 ‘Because up here the nights are very long, the cold severe...’

Norwegian has already been shown to allow adverb-subject order (in §2.2 above); an additional pair of examples is given here.

- (39) a. Så provoserer Salomes mannshunger fortsatt dagens publikum.
so provokes Salome's man.hunger still the.day's audience
 'Then Salome's hunger for men still provokes today's audiences'
- b. Så provoserer fortsatt Salomes mannshunger dagens publikum.
so provokes still Salome's man.hunger the.day's audience

Some speakers report a sensitivity to focus, in the direction of the Swedish pattern. However, the general pattern for Norwegian is the one represented in (39); no intonationally signalled focus is necessary for adverb-subject order. On the other hand, subject-adverb order is strongly preferred with weak pronominal subjects, as indicated in (40) (this is true of Icelandic as well).

- (40) a. Så provoserer den fortsatt dagens publikum. *Norwegian*
so provokes it still the.day's audience
 'Then it still provokes today's audiences'
- b. ?? Så provoserer fortsatt den dagens publikum.
so provokes still it the.day's audience
- c. Så provoserer fortsatt DEN dagens publikum.
so provokes still that the.day's audience
 'Then THAT still provokes today's audiences'

In Danish, as Holmberg notes, subjects obligatorily precede adverbials in IP, regardless of focus.

- (41) a. Næste eftermiddag laa stenene endnu urørte. *Danish*
next afternoon lay the.stones still unmoved
 'The next afternoon the stones still lay unmoved'
- b. * Næste eftermiddag laa endnu stenene urørte.
next afternoon lay still the.stones unmoved
- c. * Næste eftermiddag laa endnu STENENE urørte.
next afternoon lay still the.stones unmoved

However, adverb-subject order appears to be a recent casualty: Diderichsen 1946:191 gives (41b), without describing it as marked or archaic. In fact, in the text, when he introduces the examples in (42b-d), he uses the sentence in (42a). In that example, there is contrast with the preceding text, but the contrasted element is the adverbial expression *også i Hovedsætninger*, 'even in main clauses', forming a focus set with 'subordinate clauses' (on his p. 189); the subject, *Adverbialet*, 'the adverbial' is not in focus (in these examples I have preserved his capitalization conventions).

- (42) a. Dog kan også i Hovedsætninger Adverbialet staa foran Subjektet,...
yet can also in main.clauses the.adverbial stand before the.subject
 'Yet the adverbial can precede the subject, even in main clauses'
- b. Saa maatte jo /nok /vist Kongen bøje sig
so must you.know/I.suppose/it.appears the.king bend rfx
 'So of course the king had to yield'

- c. Saa var pludselig Døren sprunget op
so was suddenly the.door burst open
 ‘Then the door had suddenly burst open’
- d. I Købstæderne har sædvanligvis hvert Hus en lille Have
in the.market.towns has usually every house a little yard
 ‘In the market towns every house usually has a little yard’

However, none of these examples is fully acceptable to speakers I have consulted. It is worth noting at this point that English appears to pattern with Danish, if subject-aux inversion structures are taken as indicative.

- (43) a. Have any students {probably/possibly/already} read the book?
 b. * Have {probably/possibly/already} any students read the book?
 c. * Have {probably/possibly/already} ANY STUDENTS read the book?
 d. I think that {probably/possibly/already} some students have read the book.

As indicated in (43b-c), adverb-subject order is impossible after a verb in C, with or without focus, as in Danish. However, English diverges from the pattern with respect to subordinate clauses, where adverbs quite freely precede the subject. The contrast, however, may be illusory. In general, English fairly freely allows main clause phenomena within embedded clauses, e.g. neg-inversion. Thus, (43d) may simply reflect the possibility of CP-recursion in English (however that should be analyzed). The similarity to Danish can be seen by comparing (43d) to (44).

- (44) a. * Jeg tror at muligvis nogen student har læst bogen. *Danish*
I think that possibly some student has read the.book
 b. Jeg tror at muligvis har nogen student læst bogen.
I think that possibly has some student read the.book
 ‘I think that possibly some student has read the book’

(44a) is impossible in Danish (though it is perfect in Norwegian, and possible in Swedish with focus on ‘some student’). (44b) is possible, as an instance of CP-recursion (cf. Vikner 1995), with the result that V2 is forced in the embedded clause.

Taking English to be like Danish, I have shown three patterns: Icelandic and Norwegian, which allow both orders freely, Swedish, which has adverb-subject order only with focus, and Danish, which never allows adverb-subject order. Swedish and Danish appear to have recently been more like Norwegian and Icelandic.

There is a difference, however, between Icelandic and Norwegian. The difference has to do with restrictions on what sorts of subjects may follow adverbial elements. I discuss this in the next section.

4.3. DP Readings

As Bobaljik & Jonas 1996 note, definites are not generally licit following adverbs in Icelandic, as indicated in (45) below (cf. Sigurðsson 1990:50).

- (45) a. Núna hafa bófarnir líklega stolið smjörinu. *Icelandic*
now have the.gangsters probably stolen the.butter
 ‘Now probably the gangsters have stolen the butter’
- b. ?? Núna hafa líklega bófarnir stolið smjörinu.
now have probably the.gangsters stolen the.butter
- c. Núna hafa líklega BÓFARNIR stolið smjörinu.
now have probably the.gangsters stolen the.butter
 ‘Now perhaps THE GANGSTERS have stolen the butter’

(45c) is acceptable with contrastive focus (indicated intonationally with an accent peak) on the subject, but not without. This is the same pattern as observed above in Swedish and Norwegian, except for the nature of the DP: in Swedish, focus is necessary to license even quantified subjects following adverbials, whereas quantified subjects are more generally licit in this configuration in Icelandic. In Norwegian, only pronouns require this additional stress. Bobaljik & Jonas take the Icelandic facts to support their analysis in terms of the Mapping Hypothesis, assuming that the low position (SpecTP, on their analysis) corresponds to the weak readings possible in Diesing’s German sentences for indefinites below the boundary adverbs. However, there are some problems with this correlation, as Vangsnes (this volume) points out. I will return to these momentarily.

Jonas 1993 shows that there are two different lects of Faroese; the one she calls ‘Faroese+’ is like Icelandic, in that adverb can precede quantified DPs, as in (47b), but not definites, as in (46b); and the one she calls ‘Faroese–’ is like Norwegian, in that all four of the sentences in (46-47) are acceptable.

- (46) a. Í dag tekur Jógvan kanska súpan í skúlan *Faroese*
today takes John maybe soup in school
 ‘Today John might take soup to school’
- b. * Í dag tekur kanska Jógvan súpan í skúlan (* in Far+, ok in Far–)
today takes maybe John soup in school
- (47) a. Í dag taka nakrar gentur kanska súpan í skúlan *Faroese*
today take some girls maybe soup in school
 ‘Today some girls might take soup to school’
- b. Í dag taka kanska nakrar gentur súpan í skúlan
today take maybe some girls soup in school

Thus, for Jonas and for Bobaljik & Jonas, Icelandic, German, and Faroese+ have two subject positions (SpecAgrP and SpecTP), which can be distinguished syntactically according to the position of sentential adverbials, which attach to TP, above the lower subject position.¹³ The same two positions can be distinguished semantically, according to the interpretive possibilities: subjects in SpecTP can only be Milsark-weak, following Diesing (modulo the location of the boundary), while subjects in SpecAgrP can only be Milsark-strong. Mainland Scandinavian and English only have one subject position, SpecAgrP or SpecTP. According to Jonas 1993, to the extent that adverbs can appear preceding subjects in MS, this is because in those languages, adverbs can be attached to AgrP, unlike the situation in Icelandic, Faroese+, and German. The pattern for Icelandic is represented schematically in (48).

- (48) a. $[\text{AgrP } \text{þessar mýs}] [\text{TP } \text{sennilega}] [\text{TP}] [\text{VP}]$
 b. $[\text{AgrP}] [\text{TP } \text{sennilega}] [\text{TP } \text{margar mýs}] [\text{VP}]$
 c. * $[\text{AgrP } \text{sennilega}] [\text{AgrP } \text{þessar mýs}] [\text{TP}] [\text{VP}]$
probably these mice probably many mice

(48a) corresponds to (36a), (48b) to (36b). The order adverb-definite DP is impossible, because definite DPs cannot remain in SpecTP, and, as shown in (48c), adverbs cannot be adjoined to AgrP. The pattern for Norwegian, on this account, is demonstrated in (49).

- (49) a. $[\text{AgrP } \text{musene}] [\text{TP } \text{sannsynligvis}] [\text{TP}] [\text{VP}]$
 b. * $[\text{AgrP}] [\text{TP } \text{sannsynligvis}] [\text{TP } \text{mange mus}] [\text{VP}]$
 c. $[\text{AgrP } \text{sannsynligvis}] [\text{AgrP } \text{musene}] [\text{TP}] [\text{VP}]$
probably the mice probably many mice

Here, no DP can remain in SpecTP, so (49b) is impossible; the subject-adverb order represented in (39a) above has the structure in (49a), like its Icelandic counterpart; but the adverb-subject order in (39b) has the structure in (49c).

However, there are some problems with this account. First, it is unclear why adverbs should be allowed to attach to AgrP in Norwegian, but not in Danish, Icelandic, or German. Second, it is not clear that the two positions are adequate to explain the full range of word orders; recall from §2.2 and §2.3 above that there are many possibilities both for subject and objects above, below, and between adverbials. Icelandic, for example, can have sentential adverbs both before and after a quantified subject (cf. e.g. (18) above); the second of the two, on this account, would have to be attached to some node lower than TP.

Similarly, consider the Dutch examples in (50), from de Hoop 1992:182.

- (50) a. ...dat er waarschijnlijk enkele taalkundigen lui zijn. Dutch
that there probably some linguists lazy are
 ‘...that some linguists are probably lazy’
 b. ...dat er enkele taalkundigen waarschijnlijk lui zijn.
that there some linguists probably lazy are

Dutch, which has Transitive Expletive Constructions, should be like Icelandic, on Bobaljik & Jonas’ account. In the examples here, there is an expletive after the complementizer, presumably in SpecAgrP. In (50a), then, the subject must be in SpecTP. However, in (50b), the subject also appears preceding the adverb, suggesting either that there is yet another subject position or else that adverbs can be attached lower than TP in Dutch as well.

A third problem for the account sketched in (48-49) is that the interpretive possibilities for the different positions do not actually correlate with Milsarkian strength (nor, it seems, with quantificational restrictions). Note, for example, that the reading of the subject in (50a) above is the same as in (50b), that is, strong (partitive). In the same vein, Vangsnes (this volume; see also Vangsnes 1995) shows that strongly quantified elements, including universally quantified DPs, are possible in the lower position in Icelandic. In fact, the interpretive possibilities appear to vary significantly across languages, a problem for Diesing’s account, and hence for Bobaljik & Jonas’.

Recall from §2.2 above that Nilsen 1997, 1998 applies a Cinque-style analysis to Norwegian adverb placement, finding something on the order of twenty different possible relative sites for the subject, e.g. above ‘still’ but below ‘usually,’ above ‘usually’ but below ‘not,’ above ‘not’ but below ‘maybe,’ and so on. He briefly addresses the issue of subject interpretation, suggesting that the boundary observed by Diesing may be located around the adverb *kanskje* ‘maybe.’ He gives the sentences in (51) (his 1997:23) to support this finding.

- (51) a. Røykeforbudet brøt en student kanskje allerede i går. *Nor.*
the.smoking.ban broke a student maybe already yesterday
 ‘A (specific) student might have violated the smoking ban as early as yesterday’
- b. Røykeforbudet brøt kanskje en student allerede i går.
the.smoking.ban broke maybe a student already yesterday
 ‘Some student (or other) may have violated the smoking ban as early as yesterday’

The preferred readings are as indicated in the glosses. Compare a much higher adverbial, *sannsynligvis* ‘probably’ (also from Nilsen 1997:23).

- (52) a. Røykeforbudet brøt en student sannsynligvis allerede i går. *Nor.*
the.smoking.ban broke a student probably already yesterday
 ‘A (specific) student probably violated the smoking ban as early as yesterday’
- b. Røykeforbudet brøt sannsynligvis en student allerede i går.
the.smoking.ban broke probably a student already yesterday
 ‘A student probably violated the smoking ban as early as yesterday’
 (AMBIGUOUS)

Here, according to Nilsen, the preferred reading is the strong one for the subject in (52a), whereas (52b) is ambiguous. This is expected if *sannsynligvis* marks a higher position than Diesing’s boundary: a subject higher up must be outside the nuclear scope, while a subject lower down could be either outside it or inside it. Finally, consider one more pair from Nilsen (*ibid.*).

- (53) a. Røykeforbudet brøt en student vanligvis uansett. *Norwegian*
the.smoking.ban broke a student usually anyway
 ‘A student usually violated the smoking ban anyway’ (AMBIGUOUS)
- b. Røykeforbudet brøt vanligvis en student uansett.
the.smoking.ban broke usually a student anyway
 ‘Usually some student or other violated the smoking ban anyway’

The adverb *vanligvis* ‘usually’ is lower down than *kanskje*. According to Nilsen, (52b) has only the weak reading, while (52a) is ambiguous, as expected if there are several possible positions above *vanligvis*, including positions inside and outside Diesing’s scopal boundary.

At first blush, these results strongly support a model in which Norwegian has several available subject positions. However, the results are not quite as neat as (51-53) suggest. For one thing, the readings given there are preferred readings,

rather than being the only readings possible. The readings in (52a) and (53b) can easily be reversed, as shown in (54).

- (54) a. Røykeforbudet brøt en eller annen student sannsynligvis *Nor.*
the.smoking.ban broke a or other student probably
 allerede i går.
already yesterday
 ‘Some student or other probably violated the smoking ban as early as yesterday’
- b. Røykeforbudet brøt vanligvis en viss student uansett.
the.smoking.ban broke usually a certain student anyway
 ‘One particular student usually violated the smoking ban anyway’

If the strong readings for indefinites involve topicality, as argued in Cresti 1995, then what (51-53) show is that an indefinite preceding an adverbial has a tendency to be interpreted as topical (and that this tendency is stronger with certain adverbials than with others). This is overridden by using an expression like *en eller annen student*, ‘some student or other,’ and is not critically associated with the relative position vis-à-vis adverbials. A similar independence of noun phrase interpretation from relative position can be demonstrated for Icelandic.

- (55) a. Þess vegna ögra **enn**þá mör g leikrit áhorfendum nútímans.
this account provoke still many plays audiences today’s
 ‘For this reason, many plays still provoke today’s audiences’
- b. Þá ætla margir málvísindamenn vonandi að koma.
then intend many linguists hopefully to come
 ‘Then many linguists hopefully plan to come’

Recall from §2.2 that ‘still’ is a very low adverb in terms of relative order (following Cinque 1999 and Nilsen 1998; but cf. fn. 4). The quantified DP in (55a) is easily, even preferably, read as weak, but can also be taken to have a strong interpretation: ‘Many plays are such that they still provoke today’s audiences.’ ‘Hopefully,’ on the other hand, is a very high adverb, relatively speaking, in that it must precede most other adverbs if they cooccur, including ‘probably’ and ‘maybe.’ Yet (55b), for at least some speakers, can be read with the subject taking narrow scope, that is, ‘I hope that many linguists will come (but I don’t care which ones)’. On close scrutiny, it seems, the correlation between position and strong/weak readings breaks down completely (cf. Nilsen 1997 for some additional mismatches).

However, there are still some clear tendencies to contend with, and the complex pattern of cross-linguistic variation demonstrated in §4.2. In §5, I will provide an account for this variation that treats the scopal tendencies noted, and which correctly allows for the reversal of those tendencies in the presence of contributing factors.

4.4. Summary of the data

In the previous two subsections, a complex pattern of variation was presented. Here I quickly summarize the pattern for the various languages, and recast the findings of §§4.2-4.3 in terms of topicality, specifically *continued* topichood.

German shows a sharp tendency for strong readings when DPs precede sentential adverbials; these strong readings manifest themselves variously as wide scope or presuppositional readings for quantified elements, and specific or generic readings for indefinites including bare plurals. DPs following sentential adverbials show a strong tendency for weak readings, including narrow scope for quantified elements and existential readings for indefinites. In addition, a topicality effect is observed for definites, as discussed by Meinunger; his example (35) from §4.1 is repeated as (56) below.

- (56) a. ...als er weider rauskam war auf einmal der Hund verschwunden
when he again out.came was of once the dog disappeared
 ‘...when he came back out, all of a sudden the dog had disappeared’
- b. ...als er weider rauskam war der Hund auf einmal verschwunden
when he again out.came was the dog of once disappeared
 ‘...when he came back out, all of a sudden the dog had disappeared.’

As noted above, Meinunger argues that the difference in interpretation has to do with topicality: ‘the dog’ is topical in (56b) but not in (56a). According to Meinunger, the other interpretational effects noted by Diesing also follow from topicality. For German, objects also show this effect. In the other languages discussed here, objects (almost) never cross subjects within IP (this is also generally true of Dutch, which otherwise shows the same sort of interpretational effects as German).

Norwegian was demonstrated above to freely allow subjects both above and below adverbials. Furthermore, Norwegian generally shows the same kinds of effects as German: subjects preceding sentential adverbials preferably show ‘strong’ readings, and subjects following sentential adverbials generally have a ‘weak’ reading. Norwegian also patterns with German when it comes to definites.

- (57) a. Da han kom tilbake ut hadde plutselig hunden forsvunnet.
when he came back out had suddenly the.dog disappeared
- b. Da han kom tilbake ut, hadde hunden plutselig forsvunnet.
when he came back out had the.dog suddenly disappeared

The choice between the two appears to be a subjective one, based on the speaker’s perception of the structure of the discourse. I argued above that initial position was appropriate for switch topics. Now I suggest that the IP-internal subject preceding a sentential adverbial is most naturally interpreted as a continued topic. Consider another example.

- (58) a. For eksempel kan vann plutselig trengje seg inn i treverket. *Nor.*
for example can water suddenly force RFX in in the.woodwork
 ‘For example, water could suddenly force its way into the woodwork’
- b. For eksempel kan plutselig vann trengje seg inn i treverket.
for example can suddenly water force RFX in in the.woodwork
 ‘For example, water could suddenly force its way into the woodwork’

Both examples are perfectly acceptable, though indefinite subjects in actual discourse are rare (Kulbrandstad 1978 examined 200 pages of transcribed Norwegian speech, finding no weak indefinite subjects; Heltoft & Jakobsen 1996:200 observe for Danish that indefinite subjects are unusual and largely confined to fiction writing).

The subject in (58a) cannot be interpreted as generic or specific, which is surprising on Diesing's account. Instead, the subject in (58a) is weak, but topical; (58a) is felicitous, for example, as the answer to the question, "Could water damage the house?" (58b) is regarded as a slightly odd way to answer that question, because the subject is not topical. (58b) is, on the other hand, perfectly natural as an answer to the question, "What could go wrong now?" (cf. Gundel 1974:60 ff. on indefinite topics).

The examples with indefinite and quantified subjects given in §4.3 succumb to a similar analysis. The question is not whether the subject is in the restriction of a generic or specific quantifier, but whether it is considered by the speaker to continue the topic of the discourse. Pronouns, of course, are most naturally seen in this way, so it is natural that unstressed pronouns should be odd following sentential adverbials.

Swedish, it will be recalled, showed a sensitivity to focus. Here, the default is to place even non-topical DPs before sentential adverbials, unless they are clearly part of the focus of the sentence.

Icelandic represented a different pattern. Quantified DPs behaved like Norwegian DPs, being apparently sensitive to the strong/weak parameter, but upon closer inspection, this broke down. I now suggest that the position for quantified DPs in Icelandic with respect to adverbials is also sensitive to topicality: weakly interpreted DPs generally make bad topics, and are therefore better following sentential adverbials. Quantified adverbials that are continued topics are preferably placed preceding sentential adverbials. As for definites, they followed the Swedish pattern, preceding adverbials unless contrastively focused.

I have not undertaken a systematic investigation of Faroese. However, based on Jonas 1993, it appears that Faroese+ can be treated like Icelandic, as she suggests, while Faroese- might be like Norwegian.

Finally, there is the Danish pattern, in which all DPs precede all sentential adverbials. English appears to pattern with Danish, at least with respect to subject-aux inversion structures, although in non-inversion structures there is apparently quite free adjunction of adverbs before subjects.

A brief historical note might be in place here. In Old Norwegian and Middle Norwegian legal documents, basing my observations on Christoffersen 1993 and Mørck 1999 respectively, full noun phrases almost universally follow sentential adverbials within IP, while pronominal subjects almost always follow.¹⁴ Some representative examples are given in (59), from Christoffersen.

- (59) a. ...skal iafnan sa fyr arf taka *Old Norwegian*
 shall always that man inheritance take
 '...that man shall always receive the inheritance'

- b. ...oc take hann fyrst skulld sina upp sua sem domer doemde.
and takes he first debt his up such as judge deemed
 ‘...and first he settles his debt in the way that the judge determined’

At first, this looks like yet another pattern. However, examination of Modern Norwegian texts yields a similar pattern; full noun phrases are most commonly used when they are not anaphoric to the previous discourse and are therefore not continued topics. Thus it seems possible that Old Norwegian was not very different from Modern Norwegian.

Old Icelandic sagas show a much higher incidence of subject-adverb order, with a variety of subject types (but pronominal subjects almost always precede adverbials). A few examples are given in (60); (60a-b) show that the same adverbial, *jafnan* ‘always,’ can appear both before and after a subject, and (60c-d) show the same for *þá* ‘then.’ (60c) shows that a definite subject can follow an adverb, in contrast to modern Icelandic (the context, in *Barðarsaga Snæfellsáss*, makes clear that contrast is not intended), and (60d) shows that a weak indefinite can precede it.

- (60) a. Hafa og foreldrar þínir jafnan í stórmælum staðið. *Old Ice*
have also parents your always in big.dealings stood
 ‘Your parents have also always been involved in major dealings’
- b. ...og spurðust jafnan óspektir norðan frá þeim Óspaki.
and was.heard always trouble north from them Ospak
 ‘...and from the north there was always news of trouble regarding
 Ospak and the people associated with him’
- c. Dundi þá blóðið um hann allan
poured then the.blood over him all
 ‘Then the blood poured all over him’
- d. Sáu menn þá blóðrefjar nokkurar í útidyrum.
saw people then blood.traces some in the.outer.door
 ‘Then people noticed some blood traces in the doorway’

The pattern can be fairly closely duplicated in Modern Norwegian. Recall from (58) above that existentially interpreted indefinites can precede adverbials within IP if they are sufficiently ‘topical.’ Compare (60d): here ‘people,’ though indefinite, has a high degree of topicality. The previous sentences are ‘The head of the household had disappeared. This, people thought was strange.’ Thus it seems reasonable to assume that ‘people’ in (60d) is a continued topic.

It is possible that the high incidence of full DP-adverb order represents a difference between Old Icelandic and Old Norwegian, but it seems more likely that it has to do with the nature of the texts, where the legal texts are dry and formulaic while the sagas employ a wider range of stylistic devices. Many of the examples are verb-initial (cf. Sigurðsson 1990 on V1 in Icelandic), which may be significant.

To conclude this section, there appear to be four major patterns: Norwegian and German, which can be analyzed fairly straightforwardly as sensitive to the notion of continued topic, Swedish, which is sensitive to focus, Icelandic, which is sensitive to definiteness, and Danish, which is rigidly subject-adverb.

5. Analysis

As a first pass, imagine an analysis based on Bobaljik & Jonas' analysis of Icelandic, utilizing the specifiers of Agr and T. First, assume that sentential adverbs attach to TP, recursively; semantic factors will determine relative ordering, as discussed in §3. Second, assume that subjects in Germanic generally move to SpecTP (this assumption will be revised below), for concreteness motivated by a strong D feature in T. Third, SpecAgrP is a position for a continued topic, as discussed in §4. This can be formalized by positing an optional strong +Topic feature in Agr (as in Meinunger 1995), matched by a +Topic feature placed on a continued topic. I will furthermore assume that the assignment of this +Topic feature to DPs can be grammaticized, in the sense that a given language may assign the +Topic feature automatically to DPs which have certain morphosyntactic characteristics, even if they are not continued topics in the discourse.

In German and Norwegian, on this model, actual continued topics receive the +Topic feature, and they appear in SpecAgrP. In addition, weak pronouns are lexically marked +Topic, whether they are informationally continued topics or not. This ensures that subject pronouns always precede adverbs within IP (I return to object pronouns below) For Icelandic, definite D is marked +Topic, and definite DP subjects must therefore move to SpecAgrP. Quantified subjects remain in SpecTP unless they are in fact continued topics, just as in German and Norwegian.

Non-subjects must generally be prevented from moving to SpecAgrP. For the time being, assume that this is due to Relativized Minimality: a non-subject cannot cross the subject in SpecTP (recall that strong D in T attracted the subject to that position). +Topic features on non-subjects can be checked in Agr at LF; only one DP (the subject) must move overtly to satisfy the strong feature in Agr. Note that if the strong feature in Agr is optional, then it will appear only when needed to check +Topic on some DP. I return to the matter of objects in §5.3 below.

In Swedish, non-focused DPs are assigned +Topic, representing a greater degree of grammaticization than observed in Icelandic. Finally, Danish and English behave as though all subjects were marked +Topic, in that they all move to SpecAgrP. This is equivalent to there being a strong +D feature in Agr and represents the complete grammaticization of the +Topic feature, which no longer serves to identify topics at all in those languages.

The upshot is that what is being moved to SpecAgrP in the different languages is in fact a POTENTIAL TOPIC, where each language is sensitive to a different overt indicator of potential topicality. German and Norwegian, I contend, are the most discourse-configurational, in that full DPs which are not continued topics are not ordinarily forced to move to SpecAgrP. Icelandic is the next most discourse-configurational, followed by Swedish.

This account has the advantage that it makes relatively precise the distribution of the +Topic feature, compared with other accounts postulating such a feature. It also makes sense of the fact, observed in §3.5 above, that Agr is quite high in the clause (e.g. subject agreement inflection tends to be outside other verbal inflection); if Agr is linked to topicality, then it would be expected to be outside other functional projections which have to do with proposition-internal semantics, as topicality is in a sense meta-propositional.

The analysis does not sit well with the parameter that Bobaljik & Jonas argue for, by which Mainland Scandinavian does not have a SpecTPposition at all. Their account is intended to unify a range of properties, including the possibility of (i) adverbs preceding subjects within IP, (ii) Object Shift for full DPs, (iii) the possibility of ‘Transitive Expletive Constructions,’ and (iv), separate tense and agreement morphemes. These factors generally distinguish German and Icelandic on the one hand from Mainland Scandinavian and English on the other. However, as we have seen, Norwegian does have property (i). In addition, Nilsen 1997, 1998 has argued persuasively that Norwegian does in fact have property (ii) (as noted in §2 above). However, it does have properties iii-iv). Similarly, Dutch has (iii) but not (iv) (cf. Maling & Zaenen 1978). Such variation represents a compromise of the systematic correlation of features for which Bobaljik & Jonas’ account was designed, strengthening the possibility that Mainland Scandinavian might have SpecTP after all.

In subsection §5.1 I refine the analysis, noting some remaining problems, and in §5.2 I propose a more dramatic refinement, one which does away with the Agr node altogether, while retaining the predictive power of the approach outlined here. In §5.3 I show how the account extends to object shift phenomena.

5.1. Refinements

The analysis just sketched requires some immediate refinements. First, it has been necessary to stipulate that adverbs cannot adjoin to AgrP. Otherwise, adverb-subject orders would be possible in all cases, with all kinds of subjects. However, I believe that this problem has a well-motivated solution. I have argued elsewhere (Svenonius 1994) that IP is not entity-denoting; it is an open function. This can be modelled formally by saying that TP denotes a proposition, sort p (of type e), and that CP denotes an information unit, which is sort i , not sort p : an information unit is ANCHORED to a context; C provides an anchoring, represented by w (for possible world). Agr is type $\langle p, \langle w, i \rangle \rangle$, i.e. it combines with a proposition-denoting element (TP) to return an open function from anchorings to information units. If sentential adverbs are basically functions over sorts of entities, for example propositions, then AgrP will not be the right sort of element for those adverbs to combine with. On the other hand, it is reasonable to assume that at least some sentential adverbs are basically quantificational, as in de Swart 1991. But even so, quantificational adverbs can very sensibly be seen as combining only with entity-denoting nodes (they give relations among sets; if part of their semantics is to derive sets from entity-denoting nodes, then the right result is achieved).

Turning to another problem, consider the fact that in Danish, there is the equivalent of a strong D in Agr, while in the other languages, there is a strong D in T. This is reminiscent of the ‘floating feature’ for which I criticized Cinque’s analysis in §2 above. However, it is different in a significant way. On Cinque’s analysis, Italian had a floating strong verbal feature that could appear anywhere in a long string of functional heads. There was also a floating nominal feature for subject movement. Here, the strong feature is strictly parameterized by language, and varies only among two heads, just like the strong finite feature in C in V2 languages versus the strong finite feature in Infl in Italian.

Another potential problem regards the nature of the EPP in German and Icelandic. It is well known that certain expletive subjects do not appear within IP in those languages (cf. Platzack 1985, Vangsnes this volume). Haider 1986 (inter alia) argues that there is no EPP in German, and Bennis 1986 argues the same, at length, for Dutch. If these arguments are accepted, then it is a simple matter to revise the account above, by eliminating the strong D feature in T. Then subjects that are not attracted by one of the other strong features will only raise to SpecTP if they need Case, as on Bennis' account.

Another refinement concerns the location of the subject with respect to adverbials. Recall from §2 that the subject can appear between adverbials, as demonstrated by Cinque and Nilsen. This means that it won't do to simply attach all adverbials to TP, below SpecAgrP and above SpecTP. But if they are allowed to attach to AgrP, then adverb-subject orders will be overgenerated. On the other hand, if they are allowed to attach to VP (or AgrOP, or some other lower node), then the conditions on adverb placement are substantially weakened (e.g. the account would predict that adverbs that scope over tense could not follow a subject which was in turn preceded by another adverb; this seems wrong), and subject-adverb orders will be overgenerated: all the examples with subjects preceding adverbials should easily admit non-topic type readings, since the subject could be in SpecTP as well as in SpecAgrP. This is not the case; in (61a), repeated from (51a) above and in (61b), the preferred reading of the subject is specific.

- (61) a. Røykeforbudet brøt en student kanskje allerede i går. *Nor.*
the.smoking.ban broke a student maybe already yesterday
 'A (specific) student might have violated the smoking ban as early as yesterday'
- b. Det hadde uheldigvis en student kanskje allerede brøt i går.
that had unfortunately a student maybe already broken yester - day
 'A (specific) student unfortunately had maybe already violated it yesterday'

In fact, any example with adverbs both before and after the subject, such as (61b), indicates that adverbs must be attachable lower down than to TP, given the assumptions outlined above. However, in §1.4 I adopted the position that there is no structural distinction between specifiers and adjuncts; this means that both the subject and the adverbs in both examples in (61) can be adjoined to TP; the adverb is Merged first with TP, and then the subject is raised and adjoined, outside the adverb (this is basically equivalent to adjoining the adverb to T', in a model with a specifier-adjunct distinction). This deviates from Chomsky's 1995, ch. 4 assumption that strong features must be checked immediately (cf. his p. 233): T is introduced with a strong D feature, forcing subject raising, but an adverb is Merged first. I assume instead that a strong feature must be checked before Spell-Out, as in Chomsky 1995, ch. 3.

This is not to say that no adverbs can be attached to lower nodes; in fact, in §3 above, I proposed exactly this, for certain adverbs; for example, if Tense is irrelevant to the interpretation of an adverb like *stupidly*, I suggested, then it can adjoin above or below Tense.

But the possibility of adjunction to TP below the position of the subject (the functional equivalent of adjunction of T') opens the way for an account without Agr, which I detail in §5.2.

5.2. *Doing without Agr*

In this subsection I present an alternative treatment of subject-adverb order in Germanic that does not utilize two specifier positions at all. It requires some additional machinery, but avoids some of the difficulties discussed in §5.1, and simplifies others. The basic idea is that rather than reflecting two different subject positions, relative subject-adverb order simply shows the order in which the different elements have adjoined to IP. In other words, I do not make use of AgrP at all. This is consistent with the position of, for example, Iatridou 1990, Baker 1991, and Chomsky 1995, ch. 4, in which the motivation for Agr as an independent node in the clause is challenged.

Recall that the evidence for the two positions, SpecTP and SpecAgrP, relies almost solely on adverbial data. But once adverbs are allowed to adjoin either before or after a subject has raised to a functional projection (the equivalent, in earlier versions of X'-theory, of allowing an adverb to attach to XP or to X'), the interpretation of that evidence changes substantially. I have now suggested that there is one derivation leading to adverb-subject order, i.e. one in which a subject raises to check features in T, and then an adverb is adjoined to TP; but two derivations leading to subject-adverb order: one in which the adverb is first adjoined to TP, and then the subject is raised to check features in T, adjoining outside that adverb, and another in which the subject raises to SpecAgrP. I am now suggesting that this second option can be dropped.

The difference between a subject in SpecAgrP and a subject in SpecTP was taken above to be a question of whether that subject had a +Topic feature, including, for example, all definite subjects in Icelandic, and all pronominal subjects in Norwegian, but also subjects in both of those languages that actually serve as continued topics. There was a +Topic feature in Agr which checked that +Topic feature, and was deleted (in accordance with the checking theory of Chomsky 1995). In addition, there was a strong D feature in T. Now I am assuming just one functional head, Infl. Thus the +Topic feature and the D feature must both be located there. Since D is strong, the +Topic feature will be checked whenever the subject is topical; thus the +Topic feature need not be strong. This eliminates the need to make the Topic feature in Agr optional.

Adverb-subject order results when a subject raises to check D but does not check +Topic, because it is not topical. An adverb is Merged afterward – note that the D feature is checked, but the +Topic feature is still unchecked at the point where the adverb attaches. Subject-adverb order, on the other hand, is the result of an adverb Merging first with IP, with unchecked D and +Topic features, followed by raising of a topical subject, checking both of the features.

What is clearly not allowed is adverb-subject order when the subject is topical in the relevant sense (i.e. pronominal in Norwegian, definite in Icelandic, unfocused in Swedish, at all in Danish). In this model, the illicit derivation would be

one in which a topical subject adjoined to IP, checking both D and +Topic, and then an adverb Merged with that IP. The generalization can be stated thus:

- (62) An adverb may not attach to IP with a checked +Topic feature.

Since adverbs relatively freely follow the subject in all the languages discussed, adverb attachment to IP with an unchecked +Topic feature is fairly free.

In Danish, it will be recalled, as in English, adverbs never precede the subject within IP. The simplest assumption to capture this pattern is that all DPs check +Topic in Danish, even focused ones. In other words, the +Topic feature and the categorial D feature of DPs are not distinct in Danish.

The account can be cast in two slightly different ways. It can be thought of as a derivational account, in which case what matters for adverb attachment is whether the +Topic feature in Infl has been checked at the point in the derivation where the adverb is to be Merged with IP. Subsequent checking of the +Topic feature in Infl, by a topical subject adjoined higher up, can then affect the entire IP, without consequence for the attached adverb. Alternatively, the account can be thought of representationally. In that case it is necessary to imagine that an IP node to which an adverb is attached still has a +Topic feature, even when the IP node higher up, to which the subject is adjoined does not, due to checking and deletion. In other words, different nodes created by adjunction must have different featural specifications, as expected given the discussion in §1.4 above.

So far, (62) is a descriptive generalization, without any theoretical motivation. There is, however, a way to connect it with a larger framework of sentence interpretation. Recall from §5.1 above the rationalization for the failure of adverbs to attach to AgrP. The problem, I suggested, was that AgrP denotes an open function, and was therefore not the right type for adverbial modification. Specifically, I suggested that AgrP lacked ‘anchoring’ in order to become a full-fledged information unit. I propose that exactly the same account applies to IP with a checked +Topic feature. In other words, IP with the +Topic feature unchecked denotes a proposition, an intensional entity without the information-packaging structure of an information unit. An information unit contains additional information about topic and focus structure. This kind of information is organized at the CP level. C mediates anchoring to the context of the discourse, as I argued in Svenonius 1994. Above, I suggested that Agr was type $\langle p, \langle w, i \rangle \rangle$. Now, I suggest, the +Topic feature in Infl represents that type, in that $IP_{[+Topic]}$ translates as type p , and $IP_{[+Topic]}$ (i.e. with the feature checked) translates as type $\langle w, i \rangle$. This is most naturally understood in the context of Norwegian or German. In general, the elements there that check the +Topic feature are in fact topical. This means that when a topic moves to adjoin to IP, the IP node created to dominate that topic denotes an open function, ready for discourse anchoring (mediated, as noted, by C). This anchoring includes not only information about the topic, but also whether the sentence is declarative, interrogative, and so on. When an expletive is adjoined to IP (to check the D feature), there is no topic in the sentence, but since pronouns are formally marked +Topic, the switch is set anyway (the possibility of expletives checking the feature suggests that it would be better labeled -Focus, as in Holmberg & Nikanne, this volume).

5.3. Accounting for object shift

This account can treat object shift and scrambling phenomena in a parallel way, given two additional assumptions: Infl must be able to check +Topic features on more than one DP (cf. Chomsky 1995, ch. 4, Richards 1997), and something must ensure that subjects raise even when another DP (the object) has moved to the checking domain of Infl. I will assume that movement of two elements to the same checking domain involves crossing, rather than nesting, as detailed in Richards 1997: the subject raises first, because it is closer to the target (TP); then the object raises; but Shortest Move ensures that it targets the same node to which the subject is adjoined, thus attaching below the subject, resulting in subject-object order.¹⁶

In Norwegian and German, pronouns and full DP objects which are in fact topical are marked +Topic. Thus they move to adjoin to IP. This has the result that they precede sentential adverbials, since those adverbials cannot be attached afterwards, in accordance with (62). However, the subject can also be attached to IP, but is attached first, resulting in subject-object-adverb order, as in (63).

- (63) a. Heute lasen die Studenten es wahrscheinlich nicht. *German*
 b. I dag leste studentene den sannsynligvis ikke. *Norwegian*
today read the students it probably not
 ‘Today the students probably didn’t read it’

In German, it is also possible for an object to cross over a subject, appearing to its left; in the system adopted here, this means that a subject can move after an object has already raised (it is also possible, under more limited circumstances, in Swedish; cf. Holmberg 1986, Josefsson 1993). This is not possible in Norwegian, though I have no explanation as to why. It is also impossible in Dutch, so it is apparently not connected with OV order. A fact which apparently *is* connected with OV order is the fact that object shift cannot cross a verb, as indicated below.

- (64) a. Heute haben die Studenten es wahrscheinlich nicht gelesen. *Ger*
 b. I dag har studentene {*den} sannsynligvis ikke lest {den}. *Nor*
today have the students it probably not read it
 ‘Today the students probably haven’t read it’

I will not try to provide an account for this fact, either; cf. Holmberg 1997. What it shows is that the trigger for object shift cannot be a strong feature. This is consistent with the assumption made above, that +Topic is not a strong feature. In Icelandic and Mainland Scandinavian it is obligatory when possible with weak pronouns, and appears to be fully optional with full DPs. Arguably, with full DPs it is not strictly optional but linked with topicality. I will assume this to be the case, as it is with subjects.

- (65) a. Ola betalte {henne} heldigvis {*henne} tilbake. *Norwegian*
Ola paid her fortunately her back
 ‘Ola fortunately paid her back’
 b. Ola betalte {Kari} heldigvis {Kari} tilbake.
Ola paid her fortunately Kari back
 ‘Ola fortunately paid Kari back’

Setting pronouns aside, the assumption is that when an object is informationally topical, which in Norwegian and German corresponds to being marked +Topic, then it undergoes object shift if possible, e.g. if it does not have to cross a verb. This appears at first glance to be the opposite of the situation with Procrastinate, where a movement is postponed if it can be; here a movement is not postponed unless it must be. Such a situation can be handled by Economy in the sense of Chomsky 1995, ch. 2, if the derivation in which the object moves overtly is more economical than the one in which it does not; this is true if the overt movement makes unnecessary a separate covert movement, for example to C. This is what I will assume.¹⁷

Swedish is different in that all (non-focused) DPs are formally marked +Topic. However, the object shift facts are essentially the same as for Norwegian: pronouns obligatorily undergo object shift, and full DPs optionally do.

- (66) a. Lars gav {dem} lyckligtvis {*dem} till Ulla. *Swedish*
 Lars gave them fortunately them to Ulla
 ‘Lars fortunately gave them to Ulla’
- b. Lars gav {pengarna} lyckligtvis {pengarna} till Ulla.
 Lars gave the.money fortunately the.money to Ulla
 ‘Lars fortunately gave the money to Ulla’

I assume exactly the same mechanisms as for Norwegian. If the object is informationally topical, then everything proceeds as in Norwegian. If, on the other hand, the object is not informationally topical, then it does not need to move to the checking domain of C at LF. Thus the overt movement of the object will violate Procrastinate, even if it is formally +Topic. The object may, on the other hand, move covertly to Infl (or its features may, following Chomsky 1995, ch. 4), to check its +Topic features, given the assumption made above that Infl may check +Topic features on more than one DP, e.g. the subject as well as the object.

Similar assumptions apply for Icelandic, in which all definite DPs are formally marked +Topic, and for Danish, in which all DPs check the +Topic feature.

This is only a rough sketch, and additional issues need to be addressed. As the account now stands, (62) will ensure that no sentential adverbs precede an informationally topical object that has been permitted to escape VP. However, as seen in §2.3 above, object shift sometimes leaves an object between sentential adverbs (even with light pronouns, in Swedish; cf. Holmberg & Platzack 1995:153, n. 11). This might represent movement to check some feature other than +Topic, or it might mean that (62) is sensitive to whether the element having checked the +Topic feature is Nominative. I will not speculate further on this matter here.

6. Conclusion

I have examined the evidence for multiple subject positions in Germanic; as this evidence was primarily wrapped up in questions of adverb placement, my route took me through various difficult issues regarding adverbials, which I realize I have not done justice to. However, I think that I have established that the assumption made in a great deal of the foundational literature, that adverbs can be used to iden-

tify specific clausal boundaries, is too optimistic, and that a certain degree of variability must be countenanced. However, there is also a great degree of rigidity, something which I suggested could be handled by a proper semantic treatment.

I then examined the nature of the different subject positions, and suggested that a properly conceived notion of topicality could account for most of the differences in interpretation noted in the literature, essentially in agreement with Adger 1994 and Meinunger 1995.

For sentential adverbials, I have allowed an important part of the variability of adverb placement to play itself out in the order of adjunction: adverbs can, I suggested, adjoin before or after the adjunction of a feature-checking element such as a subject. This leads ultimately to such a reduction in the structural role of Agr that its elimination can be considered.

Notes

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1. This is consistent with Baker's 1985 Mirror Principle. The Mirror Principle states that morphological derivations must directly reflect syntactic derivations (and vice versa); e.g. if an 'applicative' process first promotes an oblique argument to direct object status, and then a passive process promotes that direct object to subject status, then the morphological processes must also apply in that order. If head movement of the verb to combine with a T or Agr head is classified as a 'syntactic derivation' in this sense, then Belletti's ordering is in fact forced by the Mirror Principle.

2. Incorporation of adverbs is well-attested, cf. for example Rivero 1992, Alexiadou 1995. However, incorporation is arguably motivated by morphological considerations, such as whether a morpheme is or is not a bound one (Baker 1988, Rizzi & Roberts 1989), absent in phrasal movement.

3. The original sentences, from chapter 2 of a pre-publication draft of Cinque 1999:

- [i] Gianni avrà purtroppo probabilmente ora forse stupidamente __
Gianni will.have unfortunately probably now perhaps stupidly
 deciso di partire *Italian*
decided to leave.
- [ii] Da allora, non hanno rimesso di solito mica più sempre completamente __
since then, not have put usually not any.longer always completely
 tutto bene in ordine
everything well in order

where ' __ ' marks the lowest possible position for the verb in each case, and all the intermediate positions are also possible. Cf. pp. 45 and 49 of Cinque 1999.

4. Tom Ernst cautions (p.c.) that 'still' can also appear relatively high; but the fact is that subjects can follow preverbal adverbs in Icelandic quite generally.

5. The fact that *sem betur fer* (literally 'as better goes') is phrasal, while *heldigvis* is a single word, is irrelevant; the same pattern obtains for Icelandic single-word adverbs like *sennilega* 'probably' and for Norwegian phrasal adverbs like *ærlig talt* 'honestly' (literally 'honestly said').

6. Nor do the arguments move as a unit: adverbs may intervene between the subject and indirect object, or between the indirect object and direct object, as long as elements following adverbs are not pronominal (since object shift is obligatory when possible for pronouns). The relative order subject-indirect object-direct object is fairly strict.

7. Jackendoff 1972: 67 gives an example like (20c) "?" (and on p. 76 a slightly different one is "**"); on p. 81 it's ruled out by Jackendoff's formal rules, and the relative acceptability of some adverbs after

Modal + have is noted as an anomaly; Ernst 1984:255 marks such a sentence with “(?)” and notes that it is “not fully acceptable to many speakers”. I will take it to be ungrammatical here.

8. An anonymous reviewer observes that the obligatory Italian ordering also holds of the corresponding French adverbs *d’habitude* and *plus*. Thus the restriction on Italian is not entirely parochial, either.

9. The literature on this subject is vast. See, for example, Abraham 1992 or 1995, chapters 13-14, for some discussion of German, with references; Rögnvaldsson 1982 for discussion and references for Icelandic, Faarlund 1992 for Norwegian.

10. Uttered by the butler in the Swedish translation of Herge’s (1953) *Les Aventures de Tintin: Objectif Lune*, p. 1 (translated by Karin and Allan B. Janson, Bonnier Carlsen Bokförlag, Stockholm).

11. I will not discuss the alternative view that subject-initial sentences are IPs, while non-subject initial sentences are CPs. See e.g. Zwart 1993 or Vikner 1995.

12. Cf. É. Kiss 1996 for arguments for two subject positions in English.

13. The two positions can also be distinguished by the possibility of an expletive: the expletive appears in the higher subject position, so it cannot cooccur with contentful subject appearing there. See Vangsnes (this volume) for detailed discussion of the so-called Transitive Expletive Construction.

14. Thanks to Endre Mørck for discussion of Middle Norwegian.

15. This is not to say that there is no independent evidence for the head positions Agr and T; cf. e.g. Manzini & Savoia (this volume). However, as I noted in §3.5, releasing adverbs from the very strict confines of feature-checking in a spec-head configuration introduces a degree of flexibility in their placement just when the semantics of the head does not completely determine the applicability of the adverb, as is arguably the case with a head like Agr. Thus I would argue that even if the more radical stance taken here is rejected, that of eliminating Agr altogether, the account proposed for adverb-subject order is superior to one which connects Germanic subject-adverb order to subject movement to SpecAgrP.

16. If movement involved nesting, then subject-object order would reflect a derivation in which the object moved first, then the subject. But in the model to be developed here, it would then be difficult to explain EPP effects (because a shifted object would check the strong D feature that I assuming forces subject raising).

17. One possibility, roughly sketched, is that the object must move covertly to the checking domain of C, because it is topical, and C mediates information structure. If the verb moves overtly to C, then a shifted object can pass its +Topic feature up to C as a free rider. This favors overt object shift just in case the verb moves to C. If the verb does not move to C, then additional movement will be necessary for the object regardless, rendering the Procrastinate violation gainless and therefore impossible. However, this account faces various problems, including some of the ones noted in Holmberg 1997 for competing accounts.

References

- Abraham, Werner. 1992. Wortstellung im Deutschen – theoretische Rechtfertigung, empirische Begründung. In Ludger Hoffman (ed.), *Deutsche Syntax. Ansichten und Aussichten*, 484-522. Walter de Gruyter, Berlin.
- Abraham, Werner. 1995. *Deutsche Syntax im Sprachenvergleich. Grundlegung einer typologischen Syntax des Deutschen*. Gunter Narr Verlag, Tübingen.
- Adger, David. 1994. *Functional Heads and Interpretation*. Ph.D. dissertation, University of Edinburgh.
- Aissen, Judith. 1992. Topic and focus in Mayan. *Language* 68, 43-80.
- Alexiadou, Artemis. 1997. *Adverb Placement*. John Benjamins, Amsterdam.
- Alexiadou, Artemis, & Elena Anagnostopoulou. 1998. Parametrizing AGR: Word order, V-movement, and EPP-checking. *Natural Language & Linguistic Theory* 16, 491-539.
- Baker, C. L. 1991. The syntax of English *not*: The limits of core grammar. *Linguistic Inquiry* 22, 387-430.

- Baker, Mark. 1985. The Mirror Principle and morphosyntactic explanation. *Linguistic Inquiry* 16, 373-416.
- Baker, Mark C. 1988. *Incorporation*. The University of Chicago Press, Chicago.
- Barbiers, Sjef. 1995. *The Syntax of Interpretation*. Ph.D. dissertation, Rijksuniversiteit te Leiden. HIL dissertations 14, Holland Academic Graphics, The Hague.
- Beghelli, Filippo, & Tim Stowell. 1997. Distributivity and negation: The syntax of *each* and *every*. In Anna Szabolcsi (ed.), *Ways of Scope Taking*, 71-107. Kluwer, Dordrecht.
- Belletti, Adriana. 1990. *Generalized Verb Movement*. Rosenberg & Sellier, Torino.
- Bennis, Hans. 1986. *Gaps and Dummies*. Foris, Dordrecht.
- Besten, Hans den. 1977. On the interaction of root transformations and lexical deletive rules. Ms. University of Amsterdam. Published 1983 in *On the Formal Syntax of the Westgermania*, ed. by Werner Abraham, 47-131. John Benjamins, Amsterdam.
- Bobaljik, Jonathan. 1995. *Morphosyntax: The Syntax of Verbal Inflection*. Ph.D. dissertation, MIT.
- Bobaljik, Jonathan, & Dianne Jonas. 1996. Subject positions and the roles of TP. *Linguistic Inquiry* 27, 195-236.
- Bobaljik, Jonathan, & Höskuldur Thráinsson. 1997. Two heads aren't always better than one. Ms. Harvard and McGill Universities and University of Iceland.
- Chomsky, Noam. 1986. *Barriers*. MIT Press, Cambridge, Ma.
- Chomsky, Noam. 1995. *The Minimalist Program*, MIT Press, Cambridge, Ma.
- Christensen, Kirsti Koch. 1991. AGR, adjunction, and the structure of Scandinavian existential sentences. *Lingua* 84, 137-158.
- Christoffersen, Marit. 1993. *Setning og sammenheng: Syntaktiske studier i Magnus Lagabøters landslov*. Ph.D. dissertation, Agder College. ADH-serien 65, Agder distriktshøgskole, Kristiansand.
- Cinque, Guglielmo. 1999. *Adverbs and the Universal Hierarchy of Functional Projections*. Oxford University Press, New York.
- Collins, Chris, & Höskuldur Thráinsson. 1996. VP-internal structure and Object Shift in Icelandic. *Linguistic Inquiry* 27, 391-444.
- Cresti, Diana. 1995. *Indefinite Topics*. Ph.D. dissertation, MIT.
- Diesing, Molly. 1992. *Indefinites*. MIT Press, Cambridge, Ma.
- Emonds, Joseph. 1976. *A Transformational Approach to English Syntax: Root, Structure-preserving, and Local Transformations*. Academic Press, New York.
- Engel, U. 1972. Regeln zur "Satzgliedfolge." Zur Stellung der Elemente im einfachen Satz. In *Linguistische Studien I*, 17-75 [Sprache der Gegenwart 19]. Düsseldorf.
- Ernst, Thomas. 1984. *Towards an Integrated Theory of Adverb Positions in English*. Ph.D. dissertation. Indiana University Linguistics Club, Bloomington, Indiana.
- Faarlund, Jan Terje. 1992. *Norsk syntaks i funksjonelt perspektiv*. Universitetsforlaget, Oslo.
- Firbas, J. 1975. On the thematic and non-thematic section of the sentence. *Style and Text*, 314-334.
- Givón, Talmy. 1990. *Syntax: A Functional-Typological Introduction*. John Benjamins, Amsterdam.
- Gundel, Jeanette. 1974. *The Role of Topic and Comment in Linguistic Theory*. Ph.D. dissertation, University of Texas at Austin. Published 1988 by Garland Press, New York. Page numbers here refer to the Garland Press version.
- Haider, Hubert. 1986. Configurationality in disguise: Word-order and the V-2 property. In Werner Abraham & S. de Meij (eds.), *Topic, Focus, and Configurationality*, 39-64. John Benjamins, Amsterdam.

- Heim, Irene. 1982. *The Semantics of Definite and Indefinite Noun Phrases*. Ph.D. dissertation, University of Massachusetts at Amherst.
- Hellan, Lars. 1989. A two-level X-bar system. *Working Papers in Scandinavian Syntax* 44, 61-74.
- Heltoft, Lars, and Lisbeth Falster Jakobsen. 1996. Danish passives and subject positions as a mood system: A content analysis. In Elisabeth Engberg-Pedersen et al (eds.), *Content, Expression, and Structure: Studies in Danish Functional Grammar*, 199-234. John Benjamins, Amsterdam.
- Hoekstra, Eric. 1991. *Licensing Conditions on Phrase Structure*. Ph.D. dissertation, Rijksuniversiteit Groningen. Grodil, Groningen.
- Holmberg, Anders 1983. The finite sentence in Swedish and English. *Working Papers in Scandinavian Syntax* 3.
- Holmberg, Anders. 1986. *Word Order and Syntactic Features*. Ph.D. dissertation, University of Stockholm.
- Holmberg, Anders. 1993. Two subject positions in IP in Mainland Scandinavian. *Working Papers in Scandinavian Syntax* 52, 29-41.
- Holmberg, Anders. 1997. The true nature of Holmberg's Generalization. In Kiyomi Kusumoto (ed.), *Proceedings of the North East Linguistic Society* 27, 203-217. GLSA, University of Massachusetts, Amherst, Ma.
- Holmberg, Anders, Urpo Nikanne, Irmeli Oraviita, Hannu Reime, & Trond Trosterud. 1993. The structure of INFL and the finite clause in Finnish. In Anders Holmberg & Urpo Nikanne (eds.), *Case and Other Functional Categories in Finnish Syntax*, 177-206. Mouton de Gruyter, Berlin.
- Holmberg, Anders, & Christer Platzack. 1995. *The Role of Inflection in Scandinavian Syntax*. Oxford University Press, New York.
- Hoop, Helen de. 1992. *Case Configuration and Noun Phrase Interpretation*. Ph.D. dissertation, Rijksuniversiteit Groningen. Grodil, Groningen.
- Iatridou, Sabine. 1990. About Agr(P). *Linguistic Inquiry* 21, 551-576.
- Jackendoff, Ray. 1972. *Semantic Interpretation in Generative Grammar*, MIT Press, Cambridge, Ma.
- Jonas, Dianne. 1993. The TP parameter in Scandinavian syntax. In Cecilia Hedlund and Anders Holmberg (eds.), *Proceedings of the XIVth Scandinavian Conference of Linguistics and the VIIIth Conference of Nordic and General Linguistics*, 33-60. Gothenburg Papers in Theoretical Linguistics, Gothenburg University.
- Josefsson, Gunlög. 1993. Scandinavian pronouns and object shift. *Working Papers in Scandinavian Syntax* 52, 1-28.
- Julien, Marit. 1997. On syntax and morphological structure. Ms. University of Tromsø.
- Kayne, Richard S. 1993. Toward a modular theory of auxiliary selection. *Studia Linguistica* 47, 3-31.
- Kayne, Richard S. 1994. *The Antisymmetry of Syntax*. MIT Press, Cambridge, Ma.
- King, Tracy. 1995. *Configuring Topic and Focus in Russian*. CSLI, Stanford, Ca.
- Kiparsky, Paul, & Carol Kiparsky. 1970. Fact. In Manfred Bierwisch & Karl Erich Heidolph (eds.), *Progress in Linguistics*, 143-173. Mouton, The Hague.
- Kiss, Katalin É. 1996. Two subject positions in English. *The Linguistic Review* 13, 119-42.
- Kratzer, Angelika. 1995. Stage-level and individual-level predicates. In Gregory Carlson and Francis Pelletier (eds.), *The Generic Book*, 125-175. The University of Chicago Press, Chicago.

- Kristiansen, Erik. 1996. Topic continuity and prosody: An experimental study in Danish. In Elisabeth Engberg-Pedersen et al (eds.), *Content, Expression, and Structure: Studies in Danish Functional Grammar*, 261-282. John Benjamins, Amsterdam.
- Kulbrandstad, L. A. 1978. Presenteringskonstruksjonen i moderne norsk – struktur, funksjon og bruk. M.A. Thesis, University of Oslo.
- Kuno, Susumu. 1973. *The Structure of the Japanese Language*. MIT Press, Cambridge, Ma.
- Ladusaw, William. 1988. Adverbs, negation, and QR. In *Linguistics in the Morning Calm 2: Selected Papers from SICOL-1986*, 481-488. Hanshin Publishing Company, Seoul.
- Lasnik, Howard, & Mamoru Saito. 1992. *Move Alpha: Conditions on its Application and Output*. MIT Press, Cambridge, Ma.
- Maling, Joan, and Annie Zaenen. 1978. The non-universality of a surface filter. *Linguistic Inquiry* 9, 475-497.
- May, Robert. 1985. *Logical Form: Its Structure and Derivation*. MIT Press, Cambridge, Ma.
- McConnell-Ginet, Sally. 1982. Adverbs and logical form. *Language* 58, 144-184.
- Meinunger, André. 1995. *Discourse Dependent DP (De-) Placement*. Ph.D. dissertation, Universität Potsdam.
- Milsark, Gary L. 1974. *Existential Sentences in English*. Ph.D. dissertation, MIT. Published 1979 by Garland, New York.
- Mørck, Endre. 1999. Midtfeltet i mellomnorske heilsetninger. *Norsk Lingvistisk Tidsskrift* 17, 183-200.
- Nilsen, Øystein. 1997. Adverbs and A-shift. *Working Papers in Scandinavian Syntax* 59, 1-31.
- Nilsen, Øystein. 1998. The Syntax of Circumstantial Adverbials. M.A. thesis, University of Tromsø.
- Platzack, Christer. 1983. Germanic word order and the COMP/INFL parameter. *Working Papers in Scandinavian Syntax* 2.
- Platzack, Christer. 1985. The Scandinavian languages and the null subject parameter. *Working Papers in Scandinavian Syntax* 20.
- Platzack, Christer. 1986a. COMP, INFL, and Germanic word order. In Lars Hellan & Kirsti Koch Christensen (eds.), *Topics in Scandinavian syntax*, 185-234. Reidel, Dordrecht.
- Platzack, Christer. 1986b. The position of the finite verb in Swedish. In Hubert Haider & Martin Prinzhorn (eds.), *Verb Second Phenomena in Germanic Languages*, 27-47. Foris, Dordrecht.
- Pollock, Jean-Yves. 1989. Verb movement, Universal Grammar, and the structure of IP. *Linguistic Inquiry* 20, 365-424.
- Reinhart, Tanya. 1981. Pragmatics and linguistics: An analysis of sentence topics. *Philosophica* 27.1.
- Richards, Norvin. 1997. Agr P Paper presented at the 13th Comparative Germanic Syntax Workshop at Cornell University, Ithaca, NY.
- Rivero, Maria-Luisa. 1990. The location of nonactive voice in Albanian and Modern Greek. *Linguistic Inquiry* 21, 135-46.
- Rivero, Maria-Luisa. 1992. Adverb incorporation and the syntax of adverbs in Modern Greek. *Linguistic Inquiry* 21, 135-146.
- Rizzi, Luigi. 1990. *Relativized Minimality*. MIT Press, Cambridge, Ma.
- Rizzi, Luigi, & Ian Roberts. 1989. Complex inversion in French. *Probus* 1, 1-30.
- Rögnvaldsson, Eiríkur. 1982. *Um orðaröð og færslur í íslensku*. Master's thesis, University of Iceland. Published 1990 as vol. 2 of *Málfræðirannsóknir*, Málvísindastofnum Háskola Íslands, Reykjavík.

- Sigurðsson, Halldór Ármann. 1990. V1 declaratives and verb raising in Icelandic. In Joan Maling and Annie Zaenen (eds.), *Modern Icelandic Syntax*, 41-69. Academic Press, New York.
- Svenonius, Peter. 1993. The structural location of the attributive adjective. In Erin Duncan, Eric Potsdam, & Philip Spaelti (eds.), *Proceedings of the Twelfth Annual West Coast Conference on Formal Linguistics*, 438-454. CSLI, Stanford, Ca.
- Svenonius, Peter. 1994. *Dependent Nexus: Subordinate Predication Structures in English and the Scandinavian Languages*. Ph.D. dissertation, UCSC, Santa Cruz, Ca.
- Swart, Henriëtte de. 1991. *Adverbs of Quantification: A Generalized Quantifier Approach*. Ph.D. dissertation, Rijksuniversiteit Groningen. Grodil, Groningen.
- Thráinsson, Höskuldur. 1979. *On Complementation in Icelandic*. Ph.D. dissertation, Harvard University. Published 1979 by Garland Press, New York.
- Thráinsson, Höskuldur. 1994. On the (non-)universality of functional categories. MS. Harvard University and University of Iceland.
- Vangsnes, Øystein Alexander. 1995. Referentiality and argument positions in Icelandic. *Working Papers in Scandinavian Syntax* 55, 89-109.
- Vendler, Zeno. 1967. *Linguistics in Philosophy*. Cornell University Press, Ithaca, NY.
- Vikner, Sten. 1995. *Verb Movement and Expletive Subjects in the Germanic Languages*. Oxford University Press, New York.
- Webelhuth, Gert. 1984. German is configurational. *The Linguistic Review* 4, 203-246.
- Webelhuth, Gert. 1992. *Principles and Parameters of Syntactic Saturation*. Oxford University Press, New York.
- Zanuttini, Raffaella. 1997. *Negation and Clausal Structure*. Oxford University Press, New York.
- Zwart, Jan-Wouter. 1993. *Dutch Syntax: A Minimalist Approach*. Ph.D. dissertation, University of Groningen. Grodil, Groningen.