The Flexible Nature of Verb Movement

Het flexibele karakter van werkwoordsverplaatsing
(met een samenvatting in het Nederlands)

PROEFSCHRIFT

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door
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Geboren op 22 oktober 1970 te Dongen

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Acknowledgements

It is often stated in acknowledgements that writing a dissertation is a soletary task. More often than not this remark is accompanied by apologies to friends and family for not having been around. If this is so, I must have been doing something entirely wrong these last four years. No need for such apologies because I have always shown my face, if only to complain about how difficult and frustrating writing a dissertation can be. Besides, the people working at the Utrecht Institute of Linguistics that I have not spoken to and that have not in some way contributed to this book clearly form a minority. It is therefore not without risk that I am going to mention only a few of them by name here.

First of all, I would like to thank my supervisors, Eric Reuland and Fred Weerman, who together formed a dream team to me. Their comments and suggestions time and again put me on the right track and led to significant improvements. Moreover, it was a lot of fun. Eric was very good at making me think harder, Fred was very good at making ideas more concrete and for cheering me up when needed. A warm thank you goes out to Ad Neeleman for his kindness and stimulating thoughts throughout the years. Chapter four and the appendix to Chapter one are based on collaborative work, but his influence certainly exceeds these sections. Needless to say, I take full responsibility for the final version.

Second, I would like to thank the members of my thesis committee (Peter Coopmans, Martin Everaert, Ger de Haan, Hubert Haider and Ad Neeleman) for reading the manuscript and for their very useful comments. Several people took the time to comment on parts of my work in a detailed way. For that I would especially like to thank Peter Ackema, Frank Drijkoningen, João Costa, Jan Don, Arnold Evers, Helen de Hoop, Kyle Johnson, Maaike Schoorlemmer, Peggy Speas and Jan-Wouter Zwart. I am grateful to NWO for funding my trip to the University of Umass and to the people over there for their hospitality and for showing an interest. Þorbjörg Hróarsdóttir deserves mentioning here for having answered my torrent of questions about Icelandic. Finally, I would like to thank the people working at Trans, some of whom became very dear friends to me. It became increasingly hard to resist tea and lunch breaks.

As fascinating and creative doing linguistics may be, I honestly cannot say that it 'rocks'. I am sure that this thesis benefited from the enthusiasm of my friends playing in Slurf and The Yearlings and from some great, great moments that we shared.

Chapter 1

Verb movement and functional projection
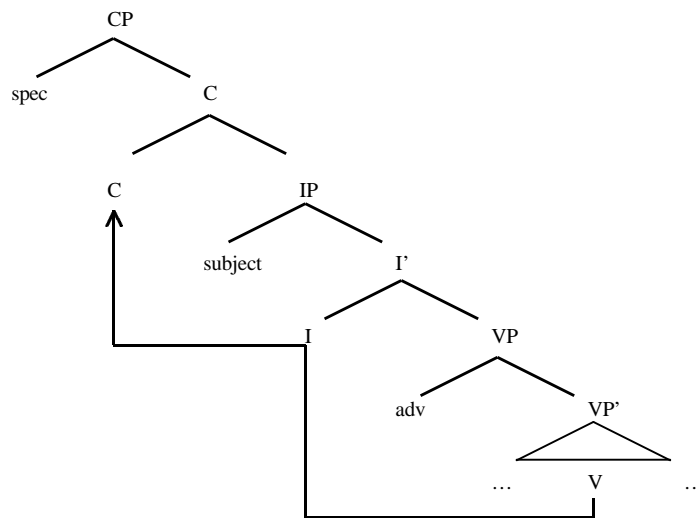
1. Introduction

Recent developments in linguistic theory fail to shed a new light on verb movement parameters. Although the language variation in this area has been well documented, theoretical approaches tend to be descriptive rather than explanatory in nature. It is the aim of this thesis to formulate triggers for verb movement in declarative clauses that account for cross-linguistic differences. Let me clarify in more detail.

There are two verb movement operations of which the existence is well established. One of them, usually coined V to I movement, takes the finite verb from its base position and places it in a higher position which is, roughly stated, between the projection of the verb and the position in which the subject usually appears. It is commonly assumed that this movement is observable because the finite verb surfaces on the left of adverbs that are taken to be located at the left edge of the VP (as in the structure in (1) on the next page). The other verb movement under consideration is known as V to C movement and places the verb in a position higher than the structural subject position. An underlying assumption here is usually that, if the verb moves to C, it must do so via the I-position: V cannot move to C directly by skipping I.

Adding up, we are led to postulate the structure in (1), where the lexical domain, VP, is dominated by a functional domain consisting of two projections from functional heads, IP and CP. The first owes its name to the fact that its position is taken to be one where inflection is generated or licensed, the second to the fact that the C-position can be occupied by complementizers. Languages differ as to where the verb surfaces in declarative clauses: Both V to I and V to C appear to be parametrized options. It has been claimed in the literature that a language can have V to I movement but not V to C (French), or vice versa (Swedish), or that a language can have both

(Icelandic) or neither (English). We will also see that the position of the finite verb in main clauses can be different from the position in embedded clauses (German, Dutch, Swedish).

(1)

```
                        CP
                   ┌────┴────┐
                 spec        C
                        ┌────┴────┐
                        C        IP
                        ▲   ┌─────┴─────┐
                        │ subject      I'
                        │         ┌─────┴─────┐
                        │         I          VP
                        │              ┌──────┴──────┐
                        │             adv          VP'
                        │                       ┌───┴───┐
                        └───────────────────── ...   V   ...
```

The structure in (1) has led to three related but independent questions, which can be stated as in (2):

(2)   a.   What is the nature of the positions to which the verb moves?
        b.   What triggers verb movement to these positions?
        c.   What explains cross-linguistic and language-internal differences in verb placement?

Linguistic theorizing has been reasonably successful in formulating ideas that bear on questions (2a) and (2b) but far less successful in tackling question (2c). It is my belief that the lack of progress is a consequence of the following. It is generally accepted that the functional domain consists of a set of heads that instigate movement of elements from the lexical domain. This has led to the view that it must be properties of these functional heads that are responsible for word order differences in general, including differences in verb placement. To give an example, if language A has V to C and language B not, then C must have some property P in language A that is absent in language B. Although not an unreasonable hypothesis, it has proven to be extremely difficult to formulate a property P that can be independently motivated. In general,

proposals on verb movement parametrization more often than not have an ad hoc character: Property P is assigned to language A and not to language B so as to account for the observed difference in verb placement. Hence, what appears to be an arbitrary word order difference is accounted for in an equally arbitrary way. Given this state of affairs, there is ample justification for the formulation of alternative conceptions of verb movement.

The starting point of the alternative theory is my belief that (2a), and consequently (2b), are the wrong questions to ask if the attempt is to account for word order parametrization. Instead, I would like to take one step back and ask the more general question stated in (3):
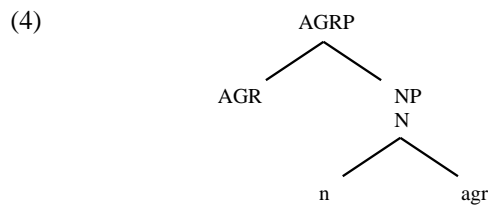
(3)   Why does the verb need to move to higher positions in the structure?

In a minimalist conception of syntax (Chomsky 1995), there is only one answer to (3): Output requirements determine that the verb cannot stay in a particular position. Since we know that verb placement is parametrized (that is, the finite verb surfaces in different positions in different languages or clause types), we must conclude that the verb can sometimes stay in a particular position without violating output conditions. The task is then to formulate conditions that have the effect of triggering or blocking verb movement in the right environments. On the basis of these conditions, we can then build a theoretical implementation that is descriptively and explanatorily adequate.

So far, nothing I have said here is new. The only deviation from standard discussion is that the central question is more general, thereby allowing more ways of tackling it. To be more specific, the question in (3) does not imply the importance of prefabricated head positions (I and C in the structure above) in the explanation of verb movement parameters. This is exactly what I would like to make use of. Following Chomsky (1995), I will assume that the verb is inserted fully inflected. Given the standard view on functional projections, adopted in checking theory, verb movement itself is enough to reveal the presence of a head position higher in the structure: If the verb enters the derivation with a complete feature matrix, verb movement *implies* the presence of some head triggering the movement. This is not a necessary implication, however. An alternative view becomes possible by combining two theoretical proposals from the literature, one by Kerstens (1993) and one by Ackema, Neeleman & Weerman (1993). Let me discuss each in turn.

Kerstens proposes that functional structure is projected from functional features of a lexical head. Phi-features, for instance, can project from the morphological head that they are a part of. Agreement features that are combined with the noun in morphology are taken to be essentially syntactic features that can (and in fact must) project from the noun. Rather than taking an empty head from the lexicon and merge it with NP, the head noun can project features from its morphological complement, agr,

after it has itself projected into NP. The result is given in (4), where syntactic AGR must be seen as directly projected from the agr features that are part of the morphological object:

(4)

```
                        AGRP
                        /\
                       /  \
                     AGR   NP
                           N
                          /\
                         /  \
                        n    agr
```

Although the origin of the functional projection is somewhat different, Kerstens' proposal is basically a notational variant of the standard conception, in which the lexical and functional projections constitute two separate domains. Under the assumption that N must ultimately move to AGR, the net effect is identical to that derived in checking theory, where N moves to check features with AGR. What both proposals have in common is that every feature is present twice. In checking theory, Agr features are generated on the verb as well as on an empty functional head. In Kerstens' proposal AGR and agr are identifiable as two elements in the structure. Such redundancy is conceptually undesirable (cf. Brody 1998 for a recent discussion) and I think unnecessary. In order to see this, let us turn to the second proposal that I will make use of.

    Ackema et al. (1993) propose that functional projections in the verbal domain are basically reprojections of the same verb. What happens is that the verb moves and merges with the structure it has already projected (cf. 5a). After this operation, the verb projects again and the result is a VP dominated by a functional projection (cf. 5b).

(5)   a.

```
              /\                              b.              VP
             /  \                                            /\
            /    \                                          /  \
          V_i     VP                                      ...   V'
          ↑      /\                                            /\
          |     /  \                                          /  \
          |___ t_i   DP                                      V    VP
```
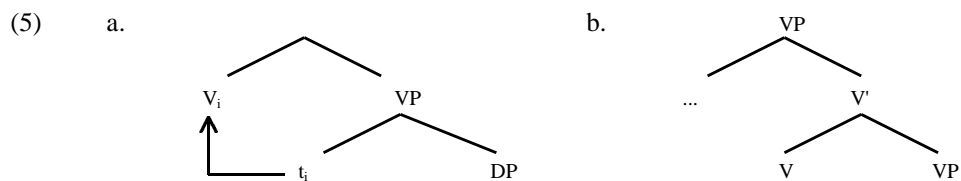
This view on functional structure eliminates feature redundancy. All features are present once, including the categorial features: They can simply project more than once. Chomsky (1995), however, provides a conceptual argument against such self-attachment of the verb to its own projection. It leads to an ambiguous phrase marker since the computational system cannot decide whether the top node is a projection of

the left or right branch. In set-theoretic terms, the node receives the same definition in both cases.[1] Even if we accept this objection against self-attachement, however, it is not necessary that this problem actually occurs. Observe that both feature redundancy and Chomsky's objection disappear once we combine Ackema et al.'s proposal with Kerstens' idea that lexical heads can project their functional features. Instead of assuming that the verb moves in order to "check" or "pick up" some feature, I propose that the verb moves in order to project it. In other words, the features are present only once, namely on the verb, and can be projected from the verb after movement. Let us adopt Giorgi & Pianesi's (1997:15) Feature Scattering Principle:[2]

(6)　　　　　　*Feature Scattering Principle*
　　　　　　Each feature can head a projection.

Suppose furthermore that morphological affixes themselves introduce the features that they refer to: The Tense affix introduces Tense features, the Agr affix introduces agreement features, etcetera. Given (6), every affix has the potential of becoming a syntactic head after the verb has moved. To be explicit, the lexical representation of a finite verb taking one affix looks as in (7):

(7)

　　　　　　V　　　　　　　F
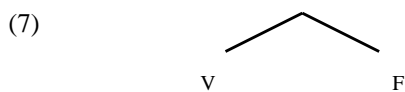
The structure in (7) is a complex of two heads, V and F. What I propose is that the lexicon makes available such complex heads without specifying which of the elements is the head in the syntax: Syntactic headedness is solely determined by output conditions, in line with minimalist assumptions. In principle, both V and F have the potential to head a syntactic projection. When the complex in (7) is inserted in the structure, however, V has no choice but to project. Otherwise this head could not discharge its theta roles, under standard assumptions. Therefore, (7) projects into a VP. Suppose now that in some language F must head a projection of its own in order to

---

[1] I do not think that this argument against self-attachment is convincing as it stands. It stipulates that the computational system cannot handle the ambiguity that arises. Alternatively, one could hypothesize that the grammar has a very good reason to analyze the top node in (5a) as a projection of the left branch. If it were a projection of the right branch, the top node VP would dominate two head positions, namely the verb and the trace of the verb. Under the standard assumption that every projection must have a unique head (which admittedly requires an explanation), such an analysis is consequently blocked. (Note by the way that Ackema et al. take a relativized view on bar levels (following Muysken 1982) in which VP becomes V' after self-attachment. I will assume throughout that it remains maximal, i.e. VP.)

[2] Note that the entailment is not that every feature *must* head a projection, only that it can. Which feature must project depends on one's formulation of output conditions.

satisfy some output constraint. In that case, the verb is forced to move. It is therefore taken from the structure and merged again with VP. The result of this operation is given in (8a). After self-attachment of the verb to VP, nothing excludes syntactic projection of F, as in (8b). In that case, no ambiguity arises and the phrase marker is well formed.

(8)   a.   ?   b.   F

         [V [F]]   VP   [V [F]]   VP

                                      t   t
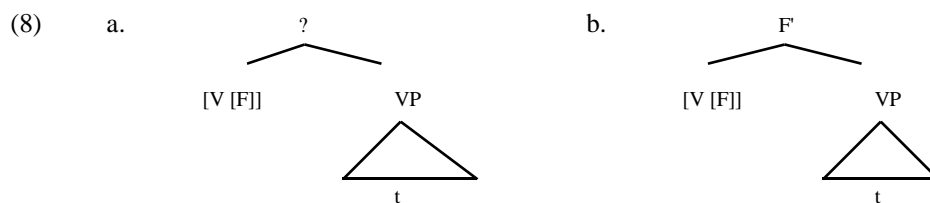
To conclude, the statement that verbs enter the derivation fully inflected can be made compatible with the idea that there is no empty head triggering verb movement. Under the assumption that an affix can project after movement, the result is a functional projection dominating VP.[3] Of course, still needed is a set of output conditions that together account for the array of verb placement facts. They must explain why the verb needs to project certain functional features in a VP-external position and, consequently, why such projection is sometimes blocked, namely when no verb movement can be observed. Chapters 2 and 3 will offer triggers for V to I and V to C respectively. In order to understand more clearly where these proposals come from, some background is provided in this chapter. The organization is as follows.

        Before we can start designing triggers for verb movement, we must establish how many of these operations have to be minimally accounted for. For this reason, section 2 will focus on the evidence for verb movement. On the basis of the facts discussed, I will conclude that indeed two verb movements are well established. Although more operations cannot be categorically excluded, I will show that their prime motivation hinges on additional theoretical assumptions. This implies that they are significantly less reliable as a basis on which to formulate a theory of verb movement parametrization.

        In section 3, I will discuss previous theoretical approaches to verb movement and the link with functional structure. Attention will be paid to the idea that functional heads comprise morphological affixes as well as to a more abstract view on functional structure. I will conclude from the discussion that, despite their insights, the answers to

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[3] Note that, besides eliminating feature redundancy, there is another conceptual advantage over checking theory: Head movement is no longer an adjunction operation. After movement, some features of the head project. Hence, verb movement no longer violates the extension condition (Chomsky 1995), requiring that every overt movement extends the root of the clause.
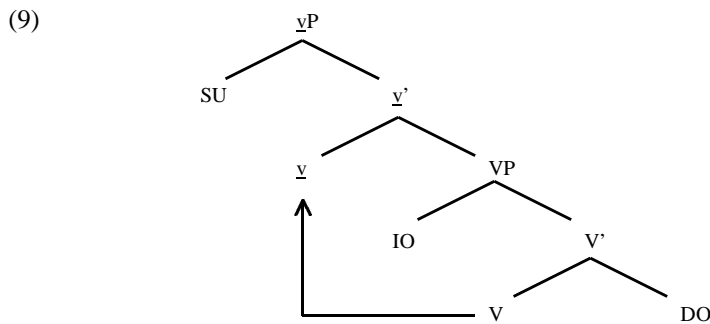
the questions in (1) that are provided by these approaches are only satisfactory to a limited extent when it comes to explaining verb movement parametrization.

In section 4, finally, I will give more substance to the alternative theory that I have sketched above. On the basis of previous observations and insights I will suggest two triggers for verb movement that will be worked out in subsequent chapters. This section will end with an overview of the thesis. The triggers that I propose will both refer to the notion "predicate". It is therefore essential to understand what assumptions concerning predication and theta role assignment I have in mind. In the appendix to this chapter I will spell these out.

2. Evidence for verb movement

Since the existence of verb movement is hardly a matter of debate within the generative tradition and has received a lot of attention, it will come as no surprise that none of the evidence presented here is new. The goal of this chapter is different, namely to set up the empirical domain that is relevant for the central questions of this thesis. Since I am mainly concerned with verb movement *parametrization*, the goal will be to locate those environments where verb positioning clearly differs across languages.

As we will see, the evidence for V to I and V to C is relatively straightforward and depends on distributional facts that are more or less transparent. There are also environments, however, where differences in verb positioning are less obvious. Although this potentially complicates the task of designing a theory of overt verb movement, note that it is not so clear that all evidence for verb movement is directly relevant for the issue of what determines verb movement parametrization. In order to see this, take the case of predicate-internal verb movement. It has been argued (cf. Larson 1988; Hale & Keyser 1993; Chomsky 1995, among others) that at least (in)transitive predicates consist of two VP-shells, the higher often coined 'small V', or $\underline{v}$. In overt syntax, V moves to $\underline{v}$, as indicated (cf. 9). This higher head is sometimes taken to be a causative element, licensing an agentive argument. In some proposals $\underline{v}$ is explicitly equated with a causative morpheme.

(9)

```
                    vP
              ┌──────┴──────┐
             SU             v'
                      ┌──────┴──────┐
                      v            VP
                      ▲      ┌──────┴──────┐
                      │     IO            V'
                      │               ┌────┴────┐
                      └──────────── V          DO
```

This structure with predicate-internal verb movement is motivated by binding facts (cf. Barrs & Lasnik 1986). In English, for instance, an indirect object is able to bind an anaphoric direct object (cf.10), suggesting that the former c-commands the latter, as is indeed the case in (9).

(10)   a.   John showed Tim$_i$ himself$_i$
        b.   John showed each teacher$_i$ his$_i$ pupil

Since the verb precedes both internal arguments, it must have moved from its base position. Even if this evidence is taken to be conclusive, it tells us nothing about the nature of v yet. The hypothesis that small v is a licenser of an agentive argument is not undebated. I refer to Jackendoff (1990) and Neeleman & Weerman (1999) for alternative views. At this point I have nothing to add to this discussion. What is relevant here is that the proposed movement is one that seems to take place in languages invariably. Since I take it that these binding facts can be repeated for all languages referred to in this thesis, overt verb movement to v will have to be postulated for all of them, under the assumption that it is the right solution.[4] In this sense, it can be distinguished from the verb movement operations that *will* be considered, namely verb movement to the head of IP and movement to the head of CP. These two movement operations are clearly parametrized options: Languages can have one, both or neither of the two. So, if the aim is to find out what is fundamental about differences in verb placement, the topic of this thesis, we had better focus on those instances where languages clearly differ. For this reason, it makes sense to leave V to v movement aside for the moment. In section 2.3.1 and 2.3.2 I will argue that a similar conclusion is

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[4] Whether V to v takes place overtly in OV languages is very much dependent on one's theoretical assumptions about these languages. If vP is a head-final projection in OV languages, the operation is string-vacuous and hence invisible to the eye. If vP is head-initial, the verb either does not move to v or the internal arguments have moved out of the predicate, making it hard to establish whether V to v has taken place.

warranted for proposals to split up IP into several projections, as argued by Pollock (1989) and Belletti (1990). Rizzi (1995) proposes to split up CP in a similar way. As I will discuss in section 2.4, this proposal is not immediately relevant for the issues at hand either, since the proposed functional system he proposes is not V-related to the same extent as the IP-system is.

Also excluded from the discussion is verb raising. According to standard analyses (Evers 1975; Rutten 1991), this operation moves a verb and adjoins it to a higher one, as indicated in (11).

(11)   a.   Dat Jan [dit boek lezen] wil
          b.   Dat Jan [dit boek t_i] wil lezen$_i$

I will pay some attention to this phenomenon in chapter 2, where it is shown that there are reasons to assume that the operation should not be analyzed as a case of verb movement but rather as the output of a reconstruction process (Huybregts 1983; Haegeman & van Riemsdijk 1986 and others). If so, it does not bear on the issues of this thesis. In any event, the availability of the reconstruction analysis of these verb clusters makes it less straightforward to consider these facts as central to the formulation of a theory of verb movement parametrization.

Let us now turn to environments where verb positioning is clearly parametrized and where verb movement is relatively uncontroversially assumed.

2.1 V to C movement

It is a striking phenomenon within the Germanic language group that, with the exception of English, the finite verb appears in second position in main clauses. If another element than the subject appears in first position, subject-verb inversion is obligatory. This basic fact is illustrated below for Icelandic (cf. 12a), Yiddish (cf. 12b), Swedish (cf. 12c) and Danish (cf. 12d) respectively. The sentences in (12) all become ungrammatical if some element is placed between the sentence-initial XP and the finite verb.

(12)   a.   [$_{CP}$ Bókina keypti [Jón ekki]]   Icelandic
                      books bought John not
          b.   [$_{CP}$ Dos bukh shik [ikh avek]]   Yiddish
                      the book send I away
          c.   [$_{CP}$ Boken köpte [Ulf inte]]   Swedish
                      books bought Ulf not
          d.   [$_{CP}$ Denne film har [børnene set]]   Danish
                      this film have the children seen

The most straightforward analysis of the general pattern is to adopt two movement operations: One moves some XP to sentence-initial position, the other puts the finite verb in second position. Given standard X-bar assumptions, verb second is then straightforwardly captured by postulating a functional projection, mostly referred to as CP. The fronted XP then fills the unique specifier position of the moved verb, as indicated in (13):

(13)
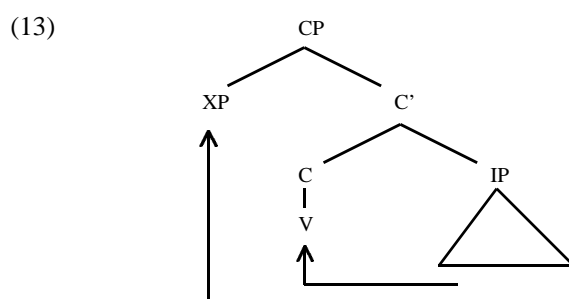
In short, verb second effects present us with evidence for a verb movement operation that roughly moves the verb from its base position and places it in a position higher than the subject.[5]

     If (1) is taken to be the underlying structure of clauses in general, i.e. of main and embedded clauses alike, a consequence is that we can explain why verb second only takes place in root clauses in languages such as Dutch, German and Mainland Scandinavian. Den Besten (1983) suggests that if C is filled by a complementizer in embedded contexts, verb movement fails to apply because it simply cannot. Hence, the Dutch and German examples (14a'-14b') are ungrammatical. Likewise, no subject-auxiliary inversion takes place in embedded WH-questions in English (cf. 14c): The WH-constituent presumably moves to the embedded spec-CP, the head of which is filled by a phonologically empty complementizer. Hence, verb movement is out (cf. 14c').

---

[5] If the subject is used as a diagnostic for verb movement, a question is whether the analysis in (13) should also apply when the subject itself appears sentence-initially. Some hold it that verb second is a uniform process and that the subject moves to the same position other XPs move to (Den Besten 1983; Weerman 1989; Vikner 1990), accompanied by verb movement to C. Others have argued that when the subject is in sentence-initial position, it is structurally lower than fronted XPs are, i.e. in spec-IP or some equivalent position (Travis 1984; Zwart 1993). The issue is notoriously difficult to settle because arguments go both ways (cf. Schrijnemakers 1999 for a recent overview). At this point, I merely note the debate here and conclude that if Travis and Zwart are right, subject-initial clauses in V2 languages provide evidence for V to I rather than for V to C. The analysis of verb second presented in chapter 3, however, is incompatible with this view.

(14) a. Ik geloof [$_{CP}$ dat [$_{IP}$ Jan de waarheid spreekt]]
    I believe that Jan the truth speaks
  a'. *Ik geloof dat spreekt$_i$ Jan de waarheid t$_i$
  b. Ich glaube dass es nicht funktioniert
    I think that it not works
  b'. *Ich glaube dass funktioniert$_i$ es nicht t$_i$
  c. I wonder [$_{CP}$ what$_i$ ø [$_{IP}$ John will tell t$_i$]]
  c'. *I wonder what$_i$ will$_j$ John t$_j$ tell t$_i$

Hence, these root/non-root asymmetries are accounted for by assuming an identical structure for main and embedded clauses.
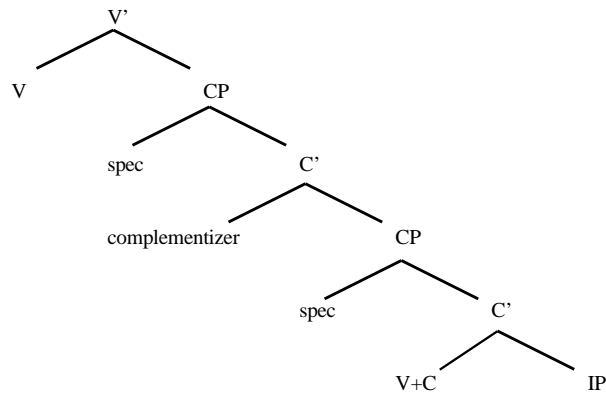
   Unfortunately, it is not true that the presence of a complementizer always blocks verb second from taking place. In Icelandic and Yiddish, we find the phenomenon in embedded clauses quite unrestrictedly, as the following examples show.[6]

(15) a. að í herberginu hefur kyrin staðið   Icelandic
    that in the room has the cow stood
  b. az morgn vet dos yingl zen a kats   Yiddish
    that tomorrow will the boy see a cat

Under the assumption that clauses usually consist of VP plus IP and CP (cf.1), it is not obvious how we should account for data like (15). Roughly two different approaches can be found in the literature. One way of looking at these data is to conclude that Yiddish and Icelandic have a richer tree structure in embedded clauses, consisting of two functional heads c-commanding the canonical subject position. Vikner (1990, 1995), for instance, suggests that the data are best accounted for by allowing CP-recursion, a process originally introduced to capture the phenomenon of embedded verb second under bridge verbs mentioned in footnote 6 (cf. for instance de Haan & Weerman 1986 for Frisian, Holmberg 1986 for Swedish). The structure of an embedded clause in (15) would then look as in (16):

---

[6] In Yiddish and Icelandic, subject verb inversion in embedded clauses is almost always a possibility. In Mainland Scandinavian, only a couple of verbs, like 'say', 'believe', 'think', etc. are able to select complement clauses showing subject verb inversion. This class of so-called bridge verbs is basically the same one that allows for 'erlebte Rede' in German, embedded clauses with main clause order. For some reason, the complementizer is obligatorily dropped in German only. The general consensus is that these structures should be analyzed as 'embedded main clauses' in some sense. In the remainder of this thesis, I will discard these cases and focus instead on the contrast observable with non-bridge verbs: Mainland Scandinavian and German display a root/non-root contrast, unlike Icelandic and Yiddish. I refer to Vikner (1994, 1995) for further discussion.

(16)

```
                              V'
                     ┌────────┴────────┐
                     V                 CP
                              ┌────────┴────────┐
                            spec               C'
                                       ┌────────┴────────┐
                                 complementizer         CP
                                              ┌──────────┴──────────┐
                                            spec                   C'
                                                          ┌─────────┴─────────┐
                                                        V+C                  IP
```

Others have argued that the parametrization lies in spec-IP being either a structural subject position, as in (17a), or a(n optional) topic position, as in (17b) (cf. Diesing 1990; Santorini 1992 for Yiddish; Rögnvaldsson & Thráinsson 1990 for Icelandic). In Icelandic and Yiddish the latter option (cf. 17b) is chosen, thereby allowing topicalization to spec-IP and verb movement to I (Evidence for a head position between CP and VP will be discussed extensively in section 2.2).

(17)   a.

```
                        CP
               ┌────────┴────────┐
             spec               C
                        ┌────────┴────────┐
                        C                IP
                                 ┌────────┴────────┐
                              su/*top            I'
```

         b.

```
                        CP
               ┌────────┴────────┐
             spec               C
                        ┌────────┴────────┐
                        C                IP
                                 ┌────────┴────────┐
                               su/top             I'
```
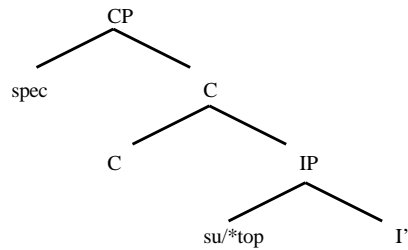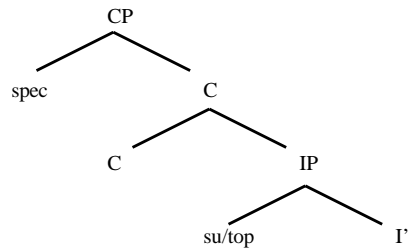
Since this section discusses the evidence for the number of verb movement operations and functional head positions, it will be clear that a choice between the two proposals is not trivial: It immediately affects the number of verb movement operations to be accounted for in Icelandic and Yiddish and therefore influences the theory on verb movement in general.

I will not go into a detailed comparison of the two proposals however (see Vikner & Schwartz 1991, Vikner 1995 and Rohrbacher 1994 for this), but make a more general remark instead. Note that both approaches raise a similar question. If Yiddish and Icelandic have CP-recursion in embedded clauses and Dutch, German and Mainland Scandinavian do not, the question is why the distribution across languages is as we find it. Why, for instance, do we not find precisely the reverse situation? In a theory stating that spec-IP can be an A'-position in Yiddish and Icelandic and not in Dutch, German and Mainland Scandinavian, the exact same question arises. Hence, the distributional facts mentioned so far are inconclusive as to a choice between the two approaches and neither satisfactorily accounts for the noted contrast among verb second languages. The structural solution that den Besten offered is inconclusive once all the data are taken into consideration. In chapter 3 I will offer an explanation for the fact that some but not all languages move the verb in embedded contexts. This analysis has more in common with the structure in (16) than with the one in (17). Chapter 4 will provide additional evidence for the approach taken.

To conclude, the verb second phenomenon provides evidence for one verb movement operation, hence for one functional projection dominating VP. This projection is commonly labeled CP. We have seen that there is a split among the verb second languages. Languages like Dutch, German and Mainland Scandinavian display verb second in main clauses only, whereas in Icelandic and Yiddish the phenomenon takes place in embedded clauses too.

2.2 V to I movement

In this section, I will discuss the distributional evidence for V to I movement and evaluate to what extent proposals for a more elaborate structure are (i) empirically motivated and (ii) relevant for the issues at hand.

Let us first establish what we mean by V to I movement. It is well known that in some languages the finite verb obligatorily precedes a particular class of elements, including sentence adverbs, negation and floating quantifiers, whereas in other languages, the finite verb must follow elements belonging to this class. This contrast is illustrated in (18):

(18) a.   ... subject   V$_{finite}$ *adv/neg/FQ* ...
      b.   ... subject *adv/neg/FQ* V$_{finite}$ ...

Of course, to give legitimate examples, we must control for the effect of other verb movement operations such as V to C. Under the assumption that verbs in English and French do not move as high as C in declarative clauses, given the lack of verb second, the contrast in (19) can be observed in these two languages (cf. Emonds 1976; Pollock 1989).

(19) a.   Jean <*souvent> embrace <souvent> Marie   (= 18a)
               Jean often kisses often Marie
      b.   John <often> kisses <*often> Mary   (= 18b)

Under the assumption that the adverbs are left-adjoined to VP, the verb has crossed this constituent on its way to I in French but not in English.
      In Mainland Scandinavian (Swedish, Danish and Norwegian), finite clauses embedded under a non-bridge verb never display subject-verb inversion (cf. footnote 6). The finite verb must in these cases follow VP-adverbs, indicating that it has not left its base position:

(20) a.   at Peter <ofte> havde <*ofte> læst den   Danish
               that Peter often had often read it
      b.   att Jan <ofta> kysser <*ofta> Maria   Swedish
               that Jan often kisses often Maria

Hence, clauses selected by a non-bridge verb show us in a direct way that Mainland Scandinavian is like English. Once verb second is controlled for, the finite verb does not leave its base position.
      In Icelandic and Yiddish, subject-verb inversion is possible in embedded clauses too, as we saw in the previous section. This makes it impossible to test in a direct way whether these languages have independent V to I movement. However, Vikner (1990, 1995) observes that subject-verb inversion is blocked in embedded clauses that are introduced by wh-words like *af hverju* 'why'.

(21) a.   *Ég veit ekki af hverju í herberginu hefur kýrin staðið   Icelandic
               I know not why in the room has the cow stood
      b.   *Ikh veys nit ven in tsimer iz di ku geshtanen   Yiddish
               I know not when in the room has the cow stood

Vikner concludes from these data that verb second is blocked in these contexts. Therefore, they serve as a testing ground to see whether verb movement takes place since verb second is now controlled for. Indeed we find that the finite verb precedes VP-adverbs, indicating that it moves to a VP-external position even when the effect of verb second is filtered out:

(22)   a.   Ég veit ekki af hverju kýrin <hefur> oft <*hefur> staðið í herberginu
                I know not why the cow has often has stood in the room
   b.   Ikh veys nit ven di ku <iz> oyfn <*iz> geshtanen in tsimer
                I know not when the cow has often has stood in the room

Hence, the contrast between (21) and (22) can be taken as an illustration of the contrast abstractly displayed in (18). Under the assumption that elements of the adverbial class occupy a fixed position across these languages (say, at the left edge of VP), the finite verb in Icelandic and French crosses the adverb on its way to a functional position, usually called I(NFL) (cf. 23a). In contrast, finite verbs stay in their base position in English and Mainland Scandinavian (cf. 23b).

(23)   a.

        b.
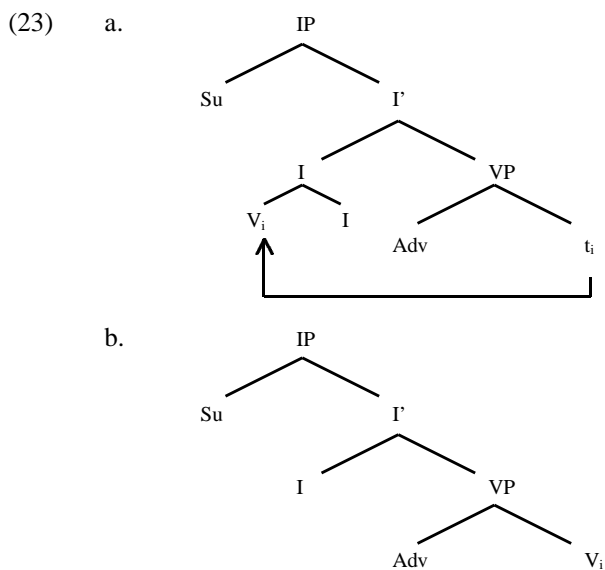
The other logical option, suggested by Williams (1994), would be to say that the verb occupies a fixed position across languages and that the difference in (18) lies in whether adverbs can be right-adjoined to V, as illustrated in (24).

(24)   a.   VP   b.   VP

                    V   ...   Adv   V'

                V   Adv   V   ...
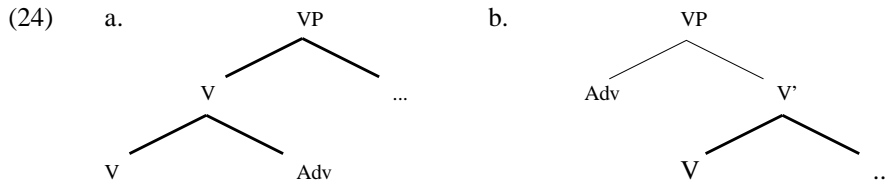
Under this analysis, the contrast does not involve verb movement at all but results from the possibility arising in some languages to build [$_v$ V-Adv] complexes in the lexicon. Williams argues that such a lexical operation is blocked in English, since it has a right-headed morphology, unlike French.

Although it may be appealing to allow lexically adjoined adverbs in some languages (as we will see later on), the analysis still faces at least two serious questions. First of all, what remains unanswered is why the possibility of syntactically generating an adverb to the left of VP is radically excluded in a language like French. That this option must be allowed in principle seems evident from infinitival constructions, where the infinitive can follow the adverb without any problem.

(25)   Jean aime de souvent embrasser Marie
                    Jean loves to often kiss Marie

Note that we cannot simply say that in this case the adverb has been left-adjoined to V. In that case, we would fail to understand why the same option is blocked with finite verbs (cf. 19a).

Second, and more importantly, it has been observed by a great number of scholars (Kosmeijer 1986; Platzack & Holmberg 1989, 1991; Roberts 1993; Rohrbacher 1994) that the placement of the finite verb before or after sentence adverbs does not seem to be an arbitrary difference. Looking at paradigms of verbal subject agreement, one can observe that languages with many distinctions within this paradigm (like Icelandic) place the verb to the left of adverbs. In contrast, languages with a poor agreement paradigm (like Swedish) tend to favour placement after adverbs. A lot of data support this generalization, as we will see in chapter 2. For now, I provide one illustration of it by contrasting Icelandic with Swedish (26):

(26)   a.   *Swedish* (inf. bit-a)   b.   *Icelandic* (inf. segj-a)
                        SG   PL   SG   PL
                1st   bit-er bit-er   1st   seg-i   segjum
                2nd   bit-er bit-er   2nd   seg-ir seg-id
                3rd   bit-er bit-er   3rd   seg-ir segj-a

Even more strikingly, one can establish that if a language loses (some of) its subject agreement through time, the order gradually switches from V_{finite}-*Adv* to *Adv*-V_{finite}. Old Swedish, for instance, has the paradigm displayed in (27). As can be observed in (28), the finite verb precedes the negation marker, the order which is ungrammatical in present day Swedish (data from Rohrbacher 1994; see Roberts 1993 for similar observations regarding the diachrony of English).

(27) *Old Swedish* (inf. älsk-a)

	SG	PL
1st	älsk-a(r)	älsk-um
2nd	älsk-a(r)	älsk-in
3rd	älsk-a(r)	älsk-a

(28) ...æn han sivngær ægh thigianda messu...   Old Swedish
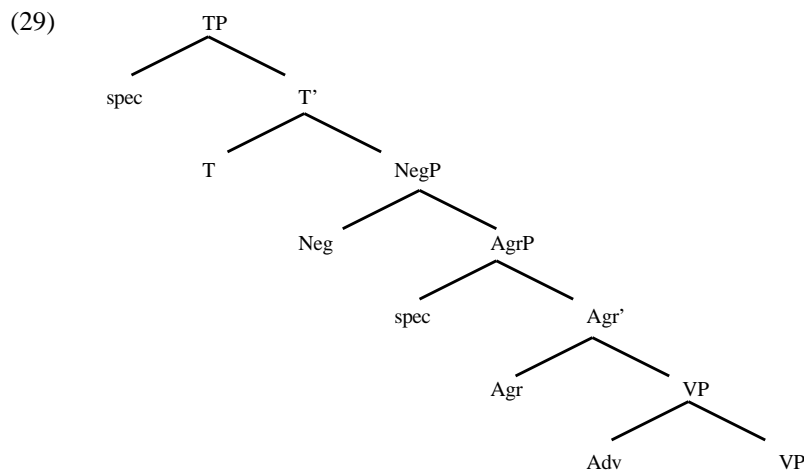   *if he sings not silent mass*

It is unclear why richness of inflection should determine whether or not lexical adjunction of adverbs is possible. If, however, we have a theory that explains why verbs carrying a rich agreement affix must move to a VP-external position, we not only explain the contrasts we have so far observed, but also understand why verb movement is lost as a consequence of deflection. Such a theory will be presented in chapter 3.

        To conclude, we have seen reason to assume that V to I movement is real. Cross-linguistically, we can observe that the finite verb is systematically in one of two positions, following or preceding a homogeneous class of elements: adverbs and floating quantifiers. We therefore have evidence for one VP-external head position, which we will call I(NFL). In sections 2.3 and 2.4 I will evaluate proposals for a more elaborate structure and conclude from this discussion that splitting up IP into several functional projections is not an inevitable move. I will focus on two studies, Pollock 1989 for French and Belletti (1990) for Italian, since these were the first to propose more than one functional head position in the I-domain on the basis of distributional evidence.

2.3   *Short verb movement*

We have seen above how the position of adverbs with respect to the finite verb can be used as a diagnostic of verb movement taking place. On the basis of this logic, Pollock (1989) argues that evidence can be obtained for another functional head position. What he proposes, then, is that IP should be split up in two projections, which he coins TP and AgrP. In fact, he postulates a third functional projection, NegP, but its head

position is taken by a negation marker and hence unavailable as a landing site for verb movement. The resulting structure is depicted in (29):

(29)

```
                        TP
                   /         \
              spec            T'
                          /        \
                     T             NegP
                              /          \
                          Neg            AgrP
                                     /         \
                                  spec         Agr'
                                           /         \
                                        Agr           VP
                                                   /       \
                                                Adv         VP
```

Belletti (1990) undertakes a similar enterprise for Italian with roughly similar conclusions.[7] In this section I will evaluate these proposals and conclude that the distributional evidence for a second landing site is not very strong. In this, I will largely follow Iatridou (1990), who shows, convincingly I think, that the data under discussion do not inevitably lead one to postulate an additional functional projection. Even more, such an analysis encounters some problematic data.
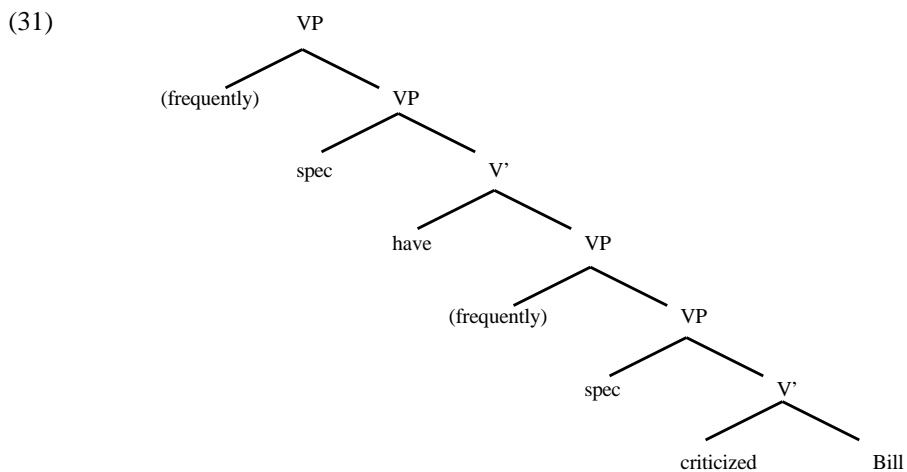
2.3.1 French

The structure in (29) provides two diagnostic elements for the position of the verb: One is negation, situated between TP and AgrP, the other is the adverb that is left-adjoined to VP. It will be clear that the order V_{finite}-*Adv* in itself does not tell us anything about the number of functional head positions. In that case V_{finite} has presumably moved to T, leaving no clue as to the number of head positions it has passed through. Evidence for Agr, Pollock reasons, comes from cases where the verb cannot move over negation, yet precedes adverbs. English infinitival auxiliaries instantiate one such case. Under the

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[7] Belletti deviates from Pollock in positioning AgrP above TP. Since tense morphology is inside agreement morphology in both Italian and French verbs, this proposal makes sense, especially if the functional head positions contain actual affixes. In that case, the verb picks up tense morphology first. Since this section is concerned with the distributional evidence for head positions only, I will not discuss the content of the functional projections at all.

assumption that *frequently* is left-adjoined to VP, the difference between (30a) and (30b) is arguably due to optional infinitival movement to Agr.

(30)   a.   John is believed to frequently have criticized Bill
       b.   John is believed to have frequently criticized Bill

As pointed out by Iatridou (1990), however, it is unclear whether the contrast in (30) is most plausibly related to verb movement. Since the examples contain two verbs, the structure might simply contain two VPs, each with its own adjunction site for adverbs. The contrast in (30) is readily explained under the assumption that *frequently* has adjoined the projection of the auxiliary verb in (30a) but to the projection of the main verb in (30b).

(31)

```
                VP
          _____|_____
   (frequently)        VP
                  _____|_____
                spec          V'
                         _____|_____
                       have          VP
                                _____|_____
                           (frequently)     VP
                                       _____|_____
                                     spec          V'
                                              _____|_____
                                          criticized      Bill
```

That both possibilities can be realized in one sentence is shown by (32):

(32)   John is believed to frequently be rudely criticizing Bill

Iatridou therefore concludes that it first has to be shown that (30) cannot involve different base-generations before a movement account can be convincingly argued for.

        The other illustration of short verb movement that Pollock uses is infinitival movement in French. As can be observed in (33), lexical infinitives obligatorily follow negation. Adopting the structure in (33), one could say that they are blocked from moving to T.

(33)   a.   Ne pas comprendre l'italien...
                     cl. not understand Italian
         b.   *Ne comprendre pas l'italien...
                     cl. understand not Italian

In contrast, the same verbs can either follow or precede adverbs without any difference in grammaticality, as can be observed in (34):

(34)   a.   À peine comprendre l'italien
                     hardly understand Italian
         b.   Comprendre à peine l'italien
                     understand hardly Italian

Hence, Pollock concludes, the contrast in (34) signals optional movement of the infinitive to Agr. Again, Iatridou points out that the movement analysis is not the only thinkable one. DiScullio and Williams (1987) argue that French and Italian have the possibility of adjoining adverbs to V in morphology, like in (35). Travis (1988) analyses these structures as involving some sort of complex verb.[8]

(35)
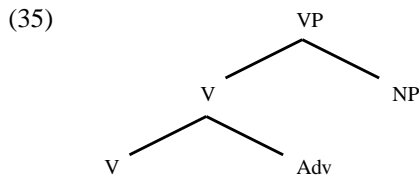
Let us refer to these as head-adjunction analyses. What we end up with, then, is two different accounts for one fact, namely the alternation in (33). Under Pollock's view the parametric difference between languages is whether or not they allow optional movement to Agr. Under the alternative account, the parametric difference is whether languages allow right-adjunction of adverbs to the verb. On the basis of the data presented so far, there is no way of preferring either one of them. It seems to be the case, however, that looking at more data brings the movement account into immediate

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[8] Recall that earlier we concluded that such an analysis is unlikely to account for the basic contrast in finite verb positioning (i.e. Icelandic versus Swedish) since it does not explain (i) why in some languages right-adjoining adverbs to VP should be excluded in finite contexts only and (ii) why we find the correlation with rich agreement and adverb positioning. Therefore, the possibility of adjoining adverbs to V only becomes an interesting alternative to a movement account iff the order *Adv-V* is also attested. As can be observed from (34), this is the case with infinitives.

troubles that the head-adjunction analysis can stay out of. Iatridou raises both points presented below.

First, it is possible in French to position both the auxiliary and the participle in between negation and an adverb.

(36)   Ne pas avoir lu complètement/entièrement ce livre...
        cl. not have read completely/entirely this book

Given the structure in (29), the movement account is forced to assume that both verbal heads have moved into Agr. In that event, Iatridou reasons, one would expect the opposite order, under the assumption that *avoir* moves first and *lu* subsequently adjoins to the left of *avoir*. There are in fact independent reasons for not wanting to allow this possibility. For instance, it is typically not allowed in verb second languages to move a participle along to C, irrespective of its surface order with respect to the auxiliary. Example (37) illustrates this for Dutch:

(37)   *Dit boek [heeft gelezen]/[gelezen heeft] Jan gisteren
        this book has read/read has Jan yesterday

If on the other hand only *avoir* in (36) has moved to Agr, the adverb must be generated somewhere within VP and by allowing that possibility the argument for short verb movement to Agr collapses. Note that the alternative analysis involving morphological adjunction to V encounters no trouble in accounting for (36) since the adverb can simply be right-adjoined to the participial verb, irrespective of one's assumptions about the rest of the structure.

Second, if we insert two adverbs into the structure, we find that the infinitive can either follow (cf. 38a) or precede (cf. 38b) both.

(38) a.   Souvent mal faire ses devoirs, c'est stupide
            frequently badly make your homework that is stupid
      b.   Faire souvent mal ses devoirs, c'est stupide
            make frequently badly your homework that is stupid

This is expected if the infinitive optionally moves to Agr. Under the head-adjunction analysis, (38b) can be handled by allowing multiple adjunction to the verb. So we again have two different hypotheses accounting for the same fact. Note, however, that the infinitive can also appear between the two adverbs, as is shown in (39):

(39)   Souvent faire mal ses devoirs, c'est stupide
        frequently make badly your homework that is stupid

Under the assumption that adverbs are adjoined to VP, the pattern in (39) is predicted not to exist under Pollock's analysis. Note that the morphological adjunction analysis again handles this case straightforwardly, with *souvent* left-adjoined to VP and *mal* right-adjoined to the infinitive. In order to uphold the movement account, one could of course loosen the attachment sites of adverbs, for instance by allowing them to be adjoined to VP and AgrP only. In that case, the infinitive would only have crossed one VP-adjoined adverbial on its way to Agr. Such a solution, however, is very tricky without an explanation as to why adjunction to TP (or NegP) is excluded. Note that it must be. Otherwise adverbs can freely precede negation. More importantly, the explanation for the different patterning of finite verbs and infinitives is lost altogether, since all verbs are predicted to be able to occur after adverbs, contrary to fact. Furthermore, by allowing adjunction to AgrP, a case for the existence of Agr can no longer be made on the basis of contrasts like (34) but then hinges on (39) alone, so that the distributional evidence for it is reduced even further.

Hence, from an empirical perspective the evidence for more than one head-position c-commanding the predicate is debatable. Note furthermore that, from a purely theoretical perspective, Pollock's analysis seems suspicious too. In all cases where the order *verb-adverb* is supposed to show movement to Agr_o, the order *adverb-verb* is grammatical too. Therefore, all movement to Agr_o must be optional. Given recent assumptions about movement and economy, for instance the idea that the features in functional heads triggering overt verb movement are always strong, there should be no alternation in *V-Adv* patterns in the first place. Allowing features to be optionally strong is nothing more than an ad hoc way of accounting for the data observed. Besides, verb movement to a position higher than Agr_o is never optional. The ordering between finite verb and adverb is absolute in French, with the former obligatorily preceding the latter. Likewise, verb second is not optional in contexts where it takes place. Hence, claiming that verb movement to Agr_o is optional is surprising against the background of other, less controversial, verb movement operations.
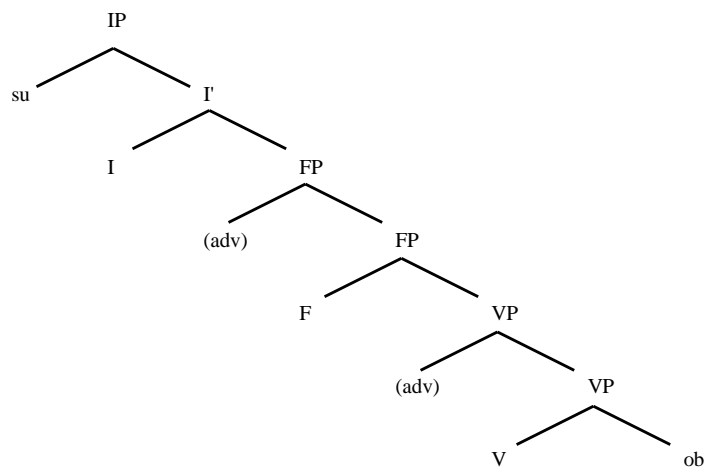
To conclude, Pollock's evidence for short verb movement in either English or French is problematic, both from an empirical and a theoretical point of view. Alternatively, it is far less controversial to claim that (i) adverbs can appear in more than one position and (ii) adverb positioning is subject to cross-linguistic differences. Both assumptions need to be made anyway, it seems. That (i) is true is apparent from a sentence like (40), where the adverb can appear in four positions:

(40)   (Soon) John's luck (?soon) will (soon) be over (soon)

Support for (ii) can be found in the following section. Italian, for instance, seems to be different from English in its positioning of sentential adverbs like *probably*.

Of course, showing that there is not much evidence in support of more than one verb movement operation does not categorically rule out that more than one functional head position triggering movement is present. It may be the case that the verb has past through several head positions on its way to its final landing site. There are simply not enough diagnostic elements in the structure to reveal these intermediate movements. Adverbs could be adjoined to VP and FP, resulting in the same order.

(41)

```
                          IP
                        /    \
                      su      I'
                             /  \
                            I    FP
                                /  \
                            (adv)   FP
                                   /  \
                                  F    VP
                                      /  \
                                  (adv)   VP
                                         /  \
                                        V    ob
```

The point, however, is that we cannot be sure that intermediate heads actually trigger movement themselves or whether verb movement to F is simply parasitic on the movement to I. Given this, it is even harder to determine whether V to F is a parametrized option. This makes hypothetical F a very unreliable candidate on which to base one's theory of verb movement parametrization (cf. section 2.4 for further discussion). For this reason, I will ignore hypothetical F completely and prefer to focus on verb movement parameters for which the evidence is more direct.

2.3.2 Italian

In this section I will discuss Belletti's (1990) study on verb movement in Italian and conclude that, at least from a purely distributional point of view, it does not provide convincing evidence for splitting up IP into two or more functional projections.

Belletti points out that the Italian negation marker acts as a clitic. In finite as well as infinitive clauses, we find it left-adjacent to the verb.

(42)   a.   Maria **non** parlava di lui
                maria not talked of him

b.   Gianni ha deciso di **non** tornare
           Gianni has decided to not come back

Whether *non* is base-generated onto the verb or syntactically moves and adjoins to it, it is useless as a diagnostic for verb movement. Therefore, we have to look closely at adverbs in order to detect verb movement operations. Belletti distinguishes three classes of adverbs:

(43)   a.   Sentence adverbs like *probabilmente* 'probably', *evidentemente* 'evidently', etc.
         b.   Negative adverbs: *più* 'anymore', *mai* 'ever', *ancora* 'yet', etc.[9]
         c.   'Lower' adverbs: *spesso* 'often' and *completamente* 'completely', etc.

Let us discuss each set in turn and establish to what extent they tell us something about verb movement.

      Sentence adverbs usually occur sentence-initially or sentence-finally. In the latter case, a noticeable pause must precede them, indicating that they are dislocated.

(44)   a.   Probabilmente/evidentemente Gianni telefonerà alle 5
              probably Gianni will call at 5
         b.   Gianni telefonerà alle 5, probabilmente/evidentemente

Obviously, these patterns tell us nothing about verb movement. Sentence adverbs can also follow auxiliaries, as shown in (45):

(45)   Maria ha evidentemente rivelato il segreto
           Maria has evidently told the secret

We already concluded from the discussion of Pollock's analysis that these cases do not necessarily involve movement of the finite verb over the adverb: Since there are two verbal heads, there might be two VPs. For (45) one could hypothesize that *evidemente* is adjoined to the projection of the main verb, so that no movement has to be assumed. All in all, sentence adverbs are unrevealing in the search for verb movement.

      Alternatively, sentence adverbs can also show up between the subject and the auxiliary:

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[9] Negative adverbs are so called because they co-occur with the negation marker *non* and hence seem similar to French *plus* and *rien*. These adverbs seem to have positive ('reinforcing') counterparts (*pur* 'indeed', *ben* 'already') which do not require the presence of negation. They have more or less the same distribution as negative adverbs.

(46)   Maria evidentemente ha rivelato il segreto
                        Maria evidently has told the secret

Belletti argues that the subject has been topicalized or left-dislocated in these examples. If it is topicalized, it receives stress. Now, indefinite quanifiers like *nessuno* 'nobody' cannot be left-dislocated in Italian. Hence, it is predicted that the order *Subject$_{indef.}$- Adv –auxiliary* is only possible with contrastive stress on the subject, as is indeed the case:

(47)   NESSUNO/*Nessuno probabilmente ha sbagliato
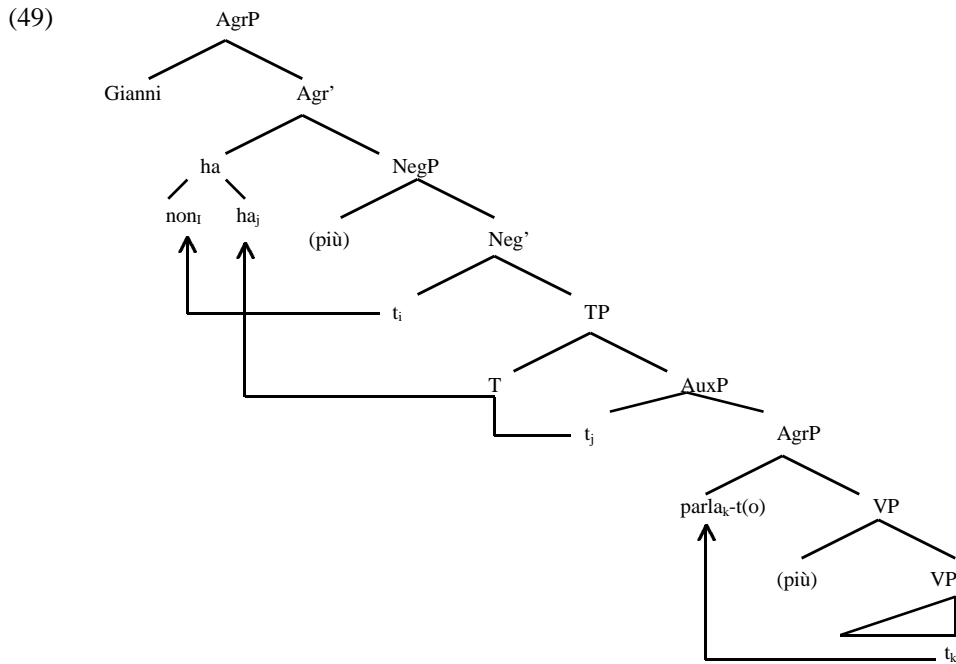   *Nobody probably has mistaken*

Therefore the order in (46) does not arise as a consequence of verb movement crossing *evidamente* failing to apply overtly.

Negative adverbs are more interesting, as will become clear. I will start out by presenting Belletti's most complex structure first (which includes at least five functional projections) and establish what minimally has to be said in order to account for the word order patterns found in Italian. From there, I turn to the simpler cases and show that all patterns can be made to follow by assuming one verb movement only.

In complex tenses, negative adverbs show up in two positions: between the auxiliary and the participial verb (cf. 48a) or after the participial verb (cf. 48a).

(48)   a.   Gianni non ha più parlato
                Gianni not has anymore talked
        b.   Gianni non ha parlato più

According to Belletti, negative adverbs can be generated in the specifier position of NegP, situated between AgrP and TP or adjoined to the VP. The structure she proposes is the one in (49). What happens is that the auxiliary moves through T to Agr and the participial moves from its base position to lower Agr (which might include Aspect). When the negative adverb is generated in spec-NegP, the order in (48a) is obtained, whereas (48b) surfaces when it is adjoined to VP.

(49)

```
                          AgrP
                  ┌────────┴────────┐
               Gianni            Agr'
                           ┌───────┴───────┐
                          ha            NegP
                       ┌──┴──┐      ┌─────┴─────┐
                     non_I  ha_j  (più)       Neg'
                                          ┌────┴────┐
                                         t_i       TP
                                              ┌─────┴─────┐
                                              T         AuxP
                                            ┌─┴─┐   ┌────┴────┐
                                                 t_j        AgrP
                                                       ┌─────┴─────┐
                                                  parla_k-t(o)    VP
                                                              ┌────┴────┐
                                                            (più)      VP
                                                                      ◿
                                                                     t_k
```

Recall from the discussion of French that we accepted the head-adjunction analysis as a possible alternative to movement in those cases where both *verb-adverb* and *adverb-verb* orders are attested. This is again what we find here. Like Belletti, we can assume that adverbs like *più* appear in two positions but without reference to any functional projection. By assuming that *più* can be adjoined to the verb in the morphological component, (48b) is accounted for. The order in (48a) arises when *più* is left–adjoined to the projection of the main verb. In short, the patterns in (48) do not necessarily provide any distributional evidence for verb movement.

In order to see whether negative adverbs can be used as a diagnostic for verb movement, we should look at simplex tenses instead. Here we find that finite verbs cannot follow negative adverbs, as can be observed in (50).

(50)   a.   Gianni non parla più
                Gianni not speaks anymore
        b.   *Gianni non più parla

If VP-adjunction is generally an option for negative adverbs, given (48a), the examples in (50) show us that the verb must have moved to a VP-external position. Hence, the data in (50) again provide evidence for one head position c-commanding the predicate: They do not provide distributional evidence for the existence of a second head position, however, as in Belletti's analysis.

Let us now turn to the third class of adverbs. 'Lower' adverbs are so called because they cannot be generated as high as sentential adverbs, i.e. clause-initially. Their distribution runs more or less parallel to that of negative adverbs, although idiosyncratic behaviour seems more common within this class. The adverb *completamente* 'completely' can precede or follow a participial verb (cf. 51). The same is true for floating quantifiers (cf. 52).[10]

(51)   a.   (In quelle circostanze) Gianni ha completamente sbagliato
              in those circumstances Gianni has completely mistaken
        b.   Quel dottore ha risolto completamente I tuoi problemi
              that doctor has solved completely your problems (minimal pair!)

(52)   Gli invitati hanno (?tutti) salutato (tutti) Maria
              the guests have all greeted all Maria

---

[10] For some unclear reason, *spesso* 'often' cannot occur between the auxiliary and the participial verb, like *completamente* in (49a), as shown in (i).

(i)   *(In quelle circostanze) Gianni ha spesso sbagliato
           in those circumstances Gianni has often mistaken

On the other hand, the distribution of *spesso* is larger than that of *completamente* in that it can precede finite verbs and even appear clause-initially:

(ii)   Gianni spesso/*completamente sbaglia
           Gianni often makes mistakes

(iii)   Spesso/*completamente Gianni sbaglia

Belletti argues that in (ii) and (iii) *spesso* has been topicalized , followed by left-dislocation of the subject in (i). This analysis then correctly predicts that topicalization of another constituent is effectively blocked:

(iv)   *MARIA (spesso) Gianni (spesso) incontra in vacanza
           Maria often Gianni often meets on vacation

Given (i), however, Belletti is forced to assume that for some reason *spesso* cannot, like *completamente*, be adjoined to TP or AgrP. The non-movement analysis must state that *spesso* cannot adjoin to VP. In both analysis, the different behaviour of the two adverbs does not receive a straightforward analysis.

Note that, again, finite verbs must obligatorily precede these elements, which is expected when they always move to a VP-external position:

(53)   a.   Gli invitati (*tutti) salutarono (tutti) Maria
                  the guests all greeted all Maria
        b.   *Gianni completamente sbaglia
                  Gianni completely makes mistakes

Therefore, lower adverbs, just like negative adverbs, provide evidence for one verb movement operation. So far, Italian runs completely parallel to French, the only difference being that the positions in which adverbs are generated seem to be somewhat different. There is, however, one important difference. Infinitives, like finite verbs, obligatorily precede those elements that participial heads can follow (namely negative and lower adverbs, as well as floating quantifiers).

(54)   a.   Gianni ha deciso di non (*più) tornare (più)
                  Gianni has decided to not anymore come-back anymore
        b.   Quel medico sostiene di (*completamente) risolvere (completamente)
                  i problemi dei suoi pazienti
                  that doctor claims to completely solve completely the problems of his
                  patients
        c.   Quel medici pensano di (*tutti) risolvere (tutti) il difficile problema di
                  quel paziente
                  those doctors think to all solve all the hard problem of that patient

In other words, given the impossibility of the *adverb-infinitive* order, we are forced to conclude that in Italian, unlike in French, infinitives obligatorily move, just like tensed verbs. Since the distribution of finite verbs and infinitives looks identical, there is no reason from a distributional point for view to postulate an additional head position. In other words, it depends on your theory whether the landing site for finite verbs and infinitives should be conceived of as one and the same. It seems impossible to distinguish them empirically. I will have little to say about infinitival movement and focus instead on the verb movement taking place in declarative clauses.

　　　　Zooming in on adverb placement in Italian, we conclude that again distributional evidence for one functional projection in declaratives can be obtained. Hence, the same conclusions we reached earlier for French can be extended to this language.
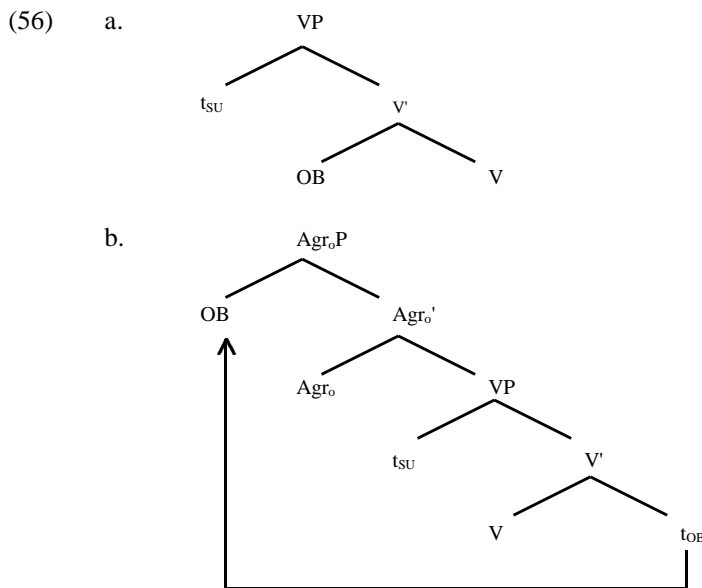
2.4 Non-distributional evidence

On the basis of observable verb movement operation evidence can be obtained for two functional projections, IP and CP. Of course, verb movement is not the only motivation that can be used for postulating functional structure. It is very common that functional projections must be assumed because some theoretical assumption leaves no other choice. I will give two examples of such theory-internal motivation that I think are representative and influential, namely the spec-head configuration and Kayne's (1994) antisymmetry hypothesis.

It has been observed that a pervasive subset of syntactic relations is encoded in the form of a spec-head configuration. This has led to the assumption that this structural template is a prominent, if not the only, mechanism of the computational system to encode dependencies. In Chomsky (1995), a spec-head configuration is the quintessential domain for feature checking. It is even suggested that anaphoric binding, a relation between two maximal categories, can be viewed as another instantiation of a spec-head relationship (cf. Reuland 1998 for instance). Taken to its extreme, every syntactic dependency requires the presence of a functional projection. Under this view, Pollock's (1989) split-IP hypothesis is granted strong conceptual support, despite the lack of strong empirical motivation. Although not identical but at least in the same spirit is Rizzi's (1995) proposal to split up CP into several functional projections, which he labels ForceP, TopP, FocP and FinP. On the basis of this structure, Rizzi is able to account for a cluster of data from Italian, French and English involving WH-movement, focus fronting, topicalization. Considerable attention is paid to (im)possible word orders that arise when these operations apply simultaneously. Although Rizzi is keen to point out the empirical advantages, the core reason for postulating FPs rather than attempting an analysis involving one or more adjunction operations is conceptual. He assumes that the movement operations referred to have to satisfy some criterion. The fronted XP must end up in the specifier position of a head carrying similar features. This conceptual assumption implies that all XP-fronting operations provide evidence for a specific functional projection, even if there is no accompanying verb movement.

Kayne (1994) proposes that word order is determined by what he calls the Linear Correspondence Axiom (LCA). The basic idea is that two elements, α and β, can be ordered as α preceding β if and only if α asymmetrically c-commands β. The most important consequence of this proposal is that, universally, a specifier is generated to the left of a head, whereas a complement is always generated on the right of a head, as in (53):

(55)

```
            XP
          /    \
       spec     X'
              /    \
             X    complement
```
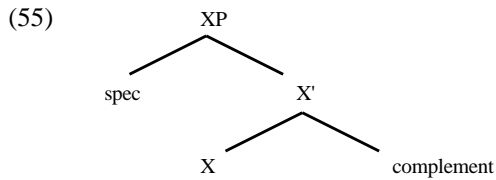
Any deviation from this general pattern will lead to an ordering conflict at PF. The hypothesis that the language system only generates head-initial projections has consequences for the analysis of for instance verb-final clauses. Dutch embedded clauses, in which the verb follows the object, can no longer be analyzed as containing a head-final VP, as in (54a), but must involve leftward movement of the object to some specifier position. Zwart (1993, 1996) analyzes the landing site as spec-Agr_o (cf. 56b).

(56)   a.

```
                VP
              /    \
          t_SU      V'
                  /    \
                OB      V
```

         b.

```
            Agr_oP
          /       \
        OB        Agr_o'
                 /      \
             Agr_o       VP
                       /    \
                    t_SU     V'
                           /    \
                          V     t_OB
```
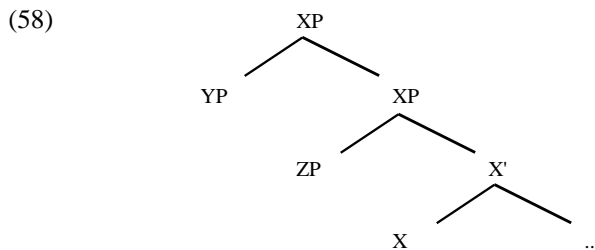
If we are forced to analyze OV orders as involving leftward movement of the object, the order itself provides evidence for the presence of a functional projection. There are reasons to assume that the verb does not move to Agr_o in overt syntax. Dutch allows objects to scramble across adverbs.

(57)   a.   dat Jan altijd jouw naam noemt
   *that Jan always your name mentions*

b.   dat Jan jouw naam altijd noemt
        that Jan your name always mentions

Zwart (1993,1996) proposes that the object obligatory moves to spec-Agr_oP. What differs is the attachment site of the adverbial. Since structure in (56b) consists of two projections, adverbs can be adjoined to Agr_oP, leading to the unscrambled order, or to VP, leading to the scrambled order. Note that the verb follows the adverb in both cases, so that it cannot have left VP. Since the presence of Agr_o is neither morphologically motivated nor ever overtly filled here, this head position is postulated in order to circumvent having to generate an OV base order, which makes its motivation conceptual.

An even more far-reaching consequence of the LCA is the fact that adjunction to a maximal projection, as in (58), is ruled out.

(58)

```
                    XP
                   /  \
                 YP    XP
                      /  \
                    ZP    X'
                         /  \
                        X    ...
```

The point is that YP and ZP are in a mutual c-command relation and therefore cannot be ordered with respect to one another. A prototypical example of the structure in (58) would be that of an adverb left-adjoined to VP. The alternative analysis compatible with the LCA is one in which the adverb occupies the specifier projection of another functional projection, as in (59):[11]
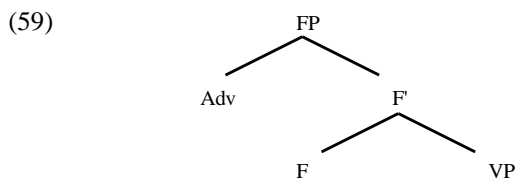
(59)

```
                FP
               /  \
             Adv    F'
                   /  \
                  F    VP
```

Under the LCA, constituents that look like they are adjoined to a maximal projection in fact provide evidence for the presence of a functional category. For adverbs, this line of reasoning has been worked out in detail by Cinque (1997), who indeed proposes a significant number of functional projections designed for adverb placement.

Since the motivation for additional head positions is largely conceptual in the above-mentioned proposals, presenting empirical counterexamples is unlikely to have an impressive effect. They could be considered nothing more than interesting problems which the conceptual change in the theory has to face. Two remarks are in order.

First of all, the advantages of both a uniform spec-head template (either formulated in terms of checking or criteria) and the LCA are a simplification of the base. In checking theory, for instance, syntactic dependencies only come in one shape, that of a spec-head configuration. This means that c-command, m-command and government can be dispensed with. Under the LCA, all projections are head-initial and no parametrization has to be postulated in this area. It is not true, however, that there is no cost attached to these simplifications. Note that both checking theory as defined above and Kayne's LCA lead to a proliferation of functional structure. It is far from clear what mechanism constrains the expansion of the functional domain, if any.[12] As a result, it becomes harder to empirically falsify theoretical claims. Neeleman & Weerman (1999) for example observe that in many languages thematic relations hold exclusively between traces, since all arguments, as well as the verb, have left VP, thereby making it hard to test claims about theta theory. In short, it is far from clear that the effect of these theoretical proposals is an *overall* simplification of the grammar: There is a trade-off. Since alternative proposals are readily available, it is an empirical issue whether extra FPs are required to account for the facts.

Second, even if these FPs are necessary, it is not obvious that they are relevant for the main goal of this thesis, which is to offer explanations for parametric differences in verb placement. If we want to understand the nature of overt verb movement, we must look at instances where we find clear parametrization (recall the remarks concerning V to $\underline{v}$ movement). When the motivation for functional projections is largely conceptual, the relation with verb movement parametrization is not always straightforward. The distributional evidence for Agr_o in French, for instance, was not very strong (cf. section 2.2). We just saw that this head is not overtly filled in Dutch either. This makes Agr_o an unsuitable candidate for the questions put central in this thesis. Likewise, of the projections involved in Rizzi's split-CP hypothesis, only WH-

---

[12] Admittedly, proliferation of structure has been drastically reduced in the most recent version of checking theory (Chomsky 1998). One of the reasons is that the notion defining checking configurations, AGREE, in fact denies the overall importance of the spec-head template.

fronting triggers overt verb movement. Rizzi stipulates that the finite verb carries a WH-feature and must move to the head FocP to satisfy the WH-criterion. For the other projections, TopP and FocP, the head inherently carries a topic- or focus feature, so that verb movement seems entirely unnecessary. This entails that at least part of the C-system as proposed by Rizzi cannot be seen as extended projections of the verbal domain, to borrow Grimshaw's (1991) terminology. Hence, it is expected that the head positions are inaccessible for the finite verb. If so, we can safely ignore them for the moment since the enterprise is to develop a theory of verb movement parametrization not to develop a theory of functional structure in general, a far more ambitious task.

Given these considerations, I believe it is methodologically justified to largely ignore functional projections that have been motivated on conceptual grounds and try to account for verb movement phenomena that are less controversial and for which the evidence is more direct. Even if we accept the existence of more functional structure, it is an unreliable basis on which to formulate a theory of verb movement parametrization.

3. *Previous theoretical accounts*

Having established the basic empirical data, I will now discuss how the relation between functional structure and verb movement has previously been conceived of from a theoretical perspective. The task is to find out to what extent approaches have explained verb movement parametrization. In this section I will discuss two dominant views on the nature of functional projections. One hypothesis has it that functional heads contain morphological affixes. This view, which I will refer to as the Morphological Head Hypothesis (MHH), will be discussed in section 3.1. Under another view, functional projections are headed by empty categories containing abstract features, the Abstract Head Hypothesis (AHH). Its best known implementation, checking theory, will be reviewed in section 3.2. The conclusion will be that both views fail to provide satisfactory answers to the questions we put central in section 1. A prominent factor that seems to resist a unification of V to I and V to C is that the former is directly related to morphology (in the sense that rich agreement triggers movement) whereas this is not apparent for the latter. This dichotomy between the two verb movement operations is not predicted by either the MHH or the AHH and hence not straightforwardly accounted for.
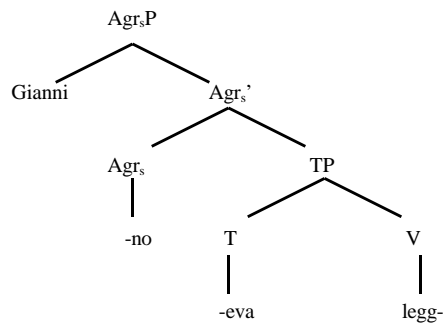
3.1 *The Morphological Head Hypothesis*

One of the earliest, and by no means archaic (cf. Bobaljik 1995), ideas about the role of functional projections is that they contain morphological information that must be

related to the verb in some way at surface structure (see for instance Chomsky 1957; Emonds 1976). If functional heads contain actual morphological affixes that have to be spelled out on the verb, it will be clear that functional structure plays a vivid role in overt syntax. Under the assumption that a suffix is generated in a position distinct from the verb, it follows that some rule must ensure that the two are united. Second, since the affix must be present in overt syntax (otherwise we would not see it) such a rule must apply before spell-out. The rule that springs to mind, of course, is verb movement.

We have already seen a clear case where the verb is caused to move in order to pick up affixes that are generated in a higher position. Belletti (1990) argues for Italian that Agr_sP dominates TP, as illustrated in (60).

(60)

```
                    Agr_sP
                   /      \
              Gianni       Agr_s'
                          /      \
                      Agr_s        TP
                        |         /  \
                       -no       T    V
                                 |    |
                               -eva  legg-
```

Under the hypothesis that affixes cannot float around in syntactic structure, most obviously for phonological reasons, (60) is ruled out by for instance Lasnik's (1981) Stray Affix Filter if nothing happens. Successive-cyclic movement of the verb to T and Agr_s will bind the suffixes and consequently bring about the correct order of affixes, as can be observed from (61).

(61)   Legg-eva-no
                 read-imperfect-3rd plural

In short, the hypothesis that affixes reside in functional slots but have to be bound before spell-out *explains* why verb movement takes place. Moreover, from the order of affixes on the verb we can derive the order of functional projections in syntax, a hypothesis most explicitly expressed by Baker's (1985) Mirror Principle.

(62)   *The Mirror Principle*
Morphological derivations must directly reflect syntactic derivations (and vice versa).

(Baker 1985:275)

Note that the Mirror Principle is not intended as a syntactic explanation of the order of affixes we find on the inflected verb. It merely hypothesizes that there is a correlation between syntax and morphology in this respect. An independent explanation is needed to derive the syntactic ranking that is postulated. All things being equal, then, it is not clear that the order of affixes has to be derived through syntax. If stating the correct order is what is at stake, lexical rules can do the same. We could for instance state that a verb selects a tense affix, which in turn selects an agreement affix. Under this approach the question becomes not why the order of functional projections is as it is but why the subcategorization frames are as they are.

Under the lexical account of affixation, it trivially follows that we see the affixes on the verb overtly: That is how the inflected verb is inserted in syntax after application of lexical rules. The syntactic account at least raises the question of why affixes would have to be generated in a VP-external position in the first place. Without a clear answer to this, one might justifiably ask whether the empirical evidence really leads us to assume that. Strong support for the VP-external generation of inflectional verbal morphology would be if its presence always triggers verb movement. In that case, the lexical account would have to formulate a trigger for verb movement, something that automatically follows from the syntactic account of inflection. I believe that such strong support is lacking. Although Italian can be seen as directly supporting the syntactic approach, the hypothesis is too strong in the following two respects:

(63)   a.   Realization of a verbal position external to VP does not always coincide with the presence of overt morphology.

        b.   The presence of overt morphology on the verb does not always trigger verb movement.

Let us first turn to (63a). As an illustration, it can be pointed out that in languages that have both V to I and V to C movement (for instance Icelandic), the verb looks the same whether it is in I or C. Under the standard assumption that tense and agreement affixes reside in I (or in T and Agr_sP respectively), it remains unclear what triggers V to C movement. There is no apparent affix to be picked up (cf. also Koopman 1984:149 and Bobaljik 1995:299 for this point). The same argument can be made for 'short verb movement' to Agr_o, as postulated by Pollock (1989). Although infinitives are taken to optionally move to this head, and all finite verbs pass through it, French lacks object agreement on the verb, at least in declarative clauses. Even if short verb movement is

real, the morphological support for labeling the head position Agr$_o$ is poor. This, then, again begs the question as to what would trigger the movement.

In fact, the weakness of a link between movement and morphological material is even apparent from IP/TP in English. Although there is a good deal of support for the presence of a functional head position c-commanding the predicate, it is not obvious that it should contain morphological content. The observation is that there is a class of elements (consisting of modals, auxiliaries *have* and *be*, a form of *do* and an infinitival particle *to*) that show some common behaviour. They can all precede negation (cf. 64), and support VP-ellipsis (cf. 65). Besides, these elements are mutually exclusive (cf.66):

(64)   a.   John will not go to work today
         b.   John does not go to work today
         c.   John decided to not go to work

(65)   a.   Mary has gone to work but I don't think John will
         b.   Mary likes work but I don't think that John does
         c.   Mary decided to go to work, but John decided not to

(66)   a.   *Mary decided to will work today
         b.   *Mary will have not gone to work

Since these elements divide across the [±Tense] distinction, one could postulate a functional head T above negation which can host all of these elements, but only one at the time.[13] Showing that these elements can all appear in a particular slot, however, does not reveal that there is an actual Tense morpheme that needs to be picked up. In any case, the Tense affix should be something abstract, perhaps phonologically corresponding to –$\emptyset$, since one cannot isolate clear [±Past] affixes on the basis of the diverse verbal elements that can occupy T (*am*, *have*, *will*, *was*, *might*, etc.). The same point must be made for realization of agreement, whether realized in T or somewhere else. If some projection were to host an actual morpheme –*s*, one would expect it to show up on modals, contrary to fact (witness **may-s*). Again, agreement does not

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[13] Note that the evidence for TP in English does not rely on movement per se, since the elements residing in it could be base-generated in this position. Of course, this still counts as distributional evidence. Note, however, that the reasons for postulating TP seem rather unique to English. In a language like Dutch, for instance, the infinitival marker *te* cannot be separated from the verb (or verbal cluster). Verbs like *zullen* 'wil' and *moeten* 'must' have infinitival forms that can freely co-occur and be combined with *te*. Moreover, it does not have VP-ellipsis in the same way. This conjures up the question whether, despite the lack of evidence, a TP projection must be assumed for Dutch. Reuland 1990 as well as van Gelderen 1993 bring up this similar point. If languages can lack TP altogether it again casts doubt on the hypothesis that tense affixes, or affixes in general, are generated in a VP-external position.

correspond with a unique affix and must be something more abstract. In order to uphold the view that functional heads contain actual morphological affixes, one is forced to assume quite a number of distinct null affixes in order to deal with examples of (63a). This begs the question whether functional heads should be morphologically motivated.

Let us now turn to (63b), cases where morphology does not trigger movement. Straightforward examples are Germanic languages with overt agreement morphology that nevertheless leave the verb in situ in non-V2 contexts. A clear example is Hallingdalen Norwegian (cf. Holmberg & Platzack 1991). The agreement paradigm looks as in (67):

(67)   *Halligdalen Norwegian*
	SG	PL
1st	kasta	kastæ
2nd	kasta	kastæ
3rd	kastar	kastæ

Nevertheless, the finite verb remains in situ, as can be concluded from looking at embedded clauses, where verb second fails to apply:

(68)   Noko gamlæ mænna som **ikki** *haddæ* vore mæ ve kyrkja
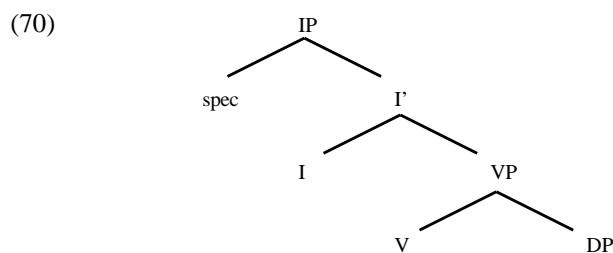   *some old men who not had been along at church*

Apparently, non-movement does not neatly correlate with absence of verbal morphology. Another example showing the same is English clauses without *not*, where again the verb remains in situ in spite of its carrying tense or agreement inflection:

(69)   a.   John probably/often stay**ed** at home
        b.   John probably know**s** too much

If morphology is generated in a VP-external position, it remains unclear how it can be spelled out on the verb if the latter remains in its base position.

There are two ways of upholding the affixal view on functional projections and deal with problem (63b). The first is to assume a rule of affix lowering. In those languages where presence of verbal morphology does not lead to movement of the verb to the affix, the affix lowers onto the verb. This option is not taken very seriously anymore, given the pervasive property of language that movement only seems to take place to a c-commanding position. Second, one might argue that movement is not the only way in which the affix and verb can be brought together. Since PF is the level at which Lasnik's (1981) Stray Affix Filter most naturally holds, PF adjacency might suffice to ensure that the verb and its affix are spelled out as one unit. Bobaljik (1995)

and Bobaljik & Thrainsson (1998) exploit this idea in an original and interesting way. I refer to these proposals as the 'PF-adjacency approaches'. What they propose is that a language with agreement and no verb movement has a structure as in (70). Since no element intervenes between I and V, they will be adjacent at PF and can hence be spelled out appropriately:[14]

(70)

```
              IP
            /    \
         spec     I'
                /    \
               I      VP
                    /    \
                   V      DP
```

The proposal is that a language with overt verb movement should be characterized as one in which an affix is not adjacent to the verb at PF.[15] This typically is the case when another projection intervenes. A language like Icelandic, then, must have a split-IP, at least consisting of Agr_sP and TP. In (71), Agr_s is not syntactically adjacent to the verb in its base position, since T intervenes. As a consequence, the verb has to move, at least to T, in order to get adjacent to Agr_s.

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[14] Two additional assumptions are needed, however. First, since a one to one mapping from syntax to phonology would produce the order *I-V*, some phonological readjustment rule must be postulated in order to derive the correct order, *V-I*. Second, adverbs must be PF-invisible for some reason. They apparently do not disrupt PF-adjacency, given examples like (69).

[15] In fact, it is not compulsory for a 'PF adjacency approach' to look upon functional projections as containing real affixes. An alternative view, which Bobaljik & Thrainsson (1998) explicitly mention, is to say that adjacency is required for feature checking to take place. In (70) the verb can check its features with I in situ, whereas the Agr_s-features in (71) are not local enough with respect to the verb. Under the checking approach, verb movement is still triggered in (71) only.

(71)

PF: V + T (* + Agr)
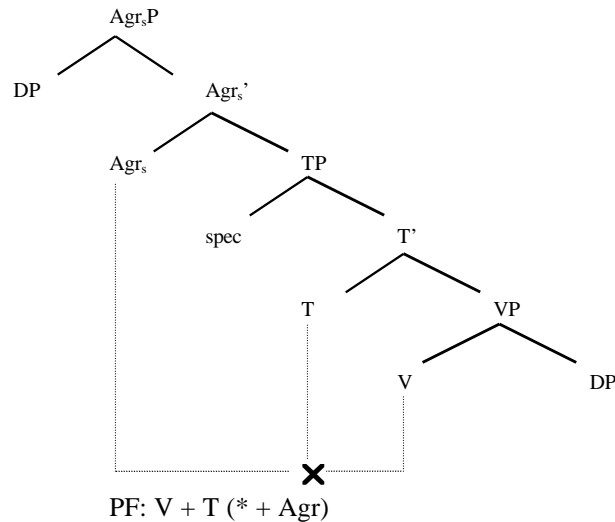
Under this theory, then, one verb movement signals the presence of (at least) two, rather than one, functional projection dominating VP.[16] Support for this approach over one that takes verb movement as indicative of only one functional projection should then come from showing that there are indeed two. Note that, under the assumption that a subject obligatorily moves to spec-Agr$_s$P in a structure like (71), spec-TP will at most contain a subject trace. Hence, no immediate distributional evidence can be obtained from either head or XP-movement that a language like Icelandic has at least two projections between CP and VP.

As most direct evidence for their claim, Bobaljik & Thrainsson argue that the difference between (70) and (71) accounts for the (im)possibility of having expletive constructions with transitive predicates, a contrast exemplified by Icelandic (cf. 72a) and Danish (cf. 72b) below:

(72)   a.   Það hafa margir jólasveinar borðað búðing   Icelandic
               there have many Santa Clauses eaten pudding
       b.   *Der har nogen spist et æble   Danish
               there has someone eaten an apple

---

[16] Bobaljik & Thrainsson assume that Icelandic also has Agr$_o$P between TP and VP, which under their view accounts for the fact that it has object shift. Excluding this projection here does not affect the discussion. See chapter 4, footnote 26, however, for some remarks.

The contrast in (72) follows under the assumption that Icelandic has two specifier positions available, spec-Agr$_s$P for the expletive and spec-TP for the subject (cf. 71), whereas these constituents strive for the same position, namely spec-IP, in Danish (cf. 70). Thus, the different structures do not only account for the verb movement difference between Icelandic and Swedish, but also for the contrast in (72). Since Icelandic has a more richly structured I-domain, including two functional specifier positions, generation of a transitive expletive construction (henceforth TEC) becomes possible.

In short, Bobaljik's and Bobaljik & Thráinsson's analyses provide a way of upholding the claim that functional heads are filled by affixes even though some languages have inflected verbs in the absence of verb movement. The PF-adjacency account hence overcomes the problem stated in (63b). Three remarks are in order, however.

First of all, the other problem of a generalized morphological approach to functional structure, mentioned in (63a), still stands. Like in earlier analyses, overt verb movement to C is not triggered by the need to pick up some overt affix. This again highlights the fact that morphology cannot underlie overt verb movement in general but at most a subset of verb movement operations. Let me make explicit that it is not the intention of either analysis to overcome this problem in the first place. It only shows that they also need to resort to abstract morphology to account for verb second effects. This entails that the difference between verb second and no verb second remains obscure, as Bobaljik (1995:283, fn. 26) explicitly mentions.

Second, in both analyses overt V to I movement indicates the presence of at least two functional projections, including two specifier positions, although the movement itself only reveals one functional head position. The (im)possibility of TECs functions as independent evidence for this claim. However, there is reason to doubt the validity of the correlation between overt V to I and the presence of TECs. Vikner (1990, 1995) observes that these constructions are allowed in a language if it has both V to I and V to C movement: Two overt verb movement operations are required. The contrast in (72) then still follows, since Danish has verb second but lacks V to I, unlike Icelandic. If Vikner is right, however, and verb second is a relevant factor, it is not two specifier positions in the I-domain that are relevant (namely spec-Agr$_s$ and spec-TP) but rather spec-IP and spec-CP. This view will in fact be defended in chapter 4, which aims at deriving Vikner's generalization. It will be clear that under this analysis the independent evidence for the claim that overt V to I reveals the presence of two functional projections within this domain disappears.

Third, differences in verb placement remain ultimately underived. Even if the hypothesis is correct that inflectional morphology is syntactically generated in a VP-external position and thus can trigger verb movement, the question remains why this should be so. Of course, it could simply be the way language works. Suppose it is. The

PF-adjacency approach then relates the distinction in verb placement to an underlying structural difference, namely the size of the I-domain. By this, however, the question about the nature of the verb movement parameter is simply shifted back: Icelandic has V to I since it has a more developed I-domain than Danish. The question remains what causes the difference in structural size.

A potential factor might be the number of affixes realized on the verb. Bobaljik & Jonas (1996) and Bobaljik (1995) observe that in a language with a simplex IP the agreement affix disappears in the past tense, where no *-s* is spelled out in third person singular contexts (see also Vikner 1997). In a language with a split-IP domain like Icelandic, on the other hand, both tense and agreement affixes show up.

(73)   a.   *Icelandic*   b.   *English*
            inf. kasta   inf. talk

	Present	Past		Present	Past
SG			SG		
1st	kasta	kasta-ði	1st	talk	talk-ed
2nd	kasta-r	kasta-ði -r	2nd	talk	talk-ed
3rd	kasta-r	kasta-ði	3rd	talk-s	talk-ed
PL			PL		
1st	kast-um	köstu-ðu-m	1st	talk	talk-ed
2nd	kast-ið	köstu-ðu-ð	2nd	talk	talk-ed
3rd	kasta	köstu-ðu	3rd	talk	talk-ed

The contrast correlates nicely with the structural difference observed. English has one functional slot and is able to fit in one but not two affixes. Consequently, realization of past tense blocks realization of agreement and we observe only one affix in the past tense. Since Icelandic has two inflectional head positions, both affixes can be inserted without any problem and past tense does not block realization of agreement.

Although the correlation between morphology and syntax is a very interesting one and potentially significant, I reject the claim that morphology actually *determines* the functional make-up of a clause for the following reason.[17] If morphology is the crucial factor determining the number of functional projections in the I-domain, it turns out to be a rather unreliable cue. A language like Yiddish, for instance, does not have a

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[17] In chapter 1, Bobaljik (1995) tries to derive the correlation between morphology and syntactic movement by indeed proposing that morphology determines the syntax. Assuming a universal structure, he argues that in languages with complementary tense and agreement morphology, the syntax must make sure that the functional T and Agr nodes become one (through movement) before morphological affixes are inserted (post-syntactically). In chapter 5 he rejects this idea but for a different and more conceptual reason than the one mentioned in the main text. The chapter 1 proposal entails that morphology actually determines that syntactic T-to-Agr must take place and that syntax must therefore be able to 'peek into' morphology. Such a look-ahead strategy is generally considered an undesirable property of a model of grammar.

simple past tense but uses a periphrastic (auxiliary) construction instead. Therefore, the morphology of this language does not motivate a split-IP. Nevertheless it should have one, given that transitive expletive constructions are possible:

(74)   Es hot imitser gegesn an epl   Yiddish
                 there has someone eaten an apple

Bobaljik (1995) notes this and suggests that a language (by default) has a split-IP domain, unless tense morphology blocks agreement morphology. This, however, raises a problem for Afrikaans. Like Yiddish, this language expresses past tense forms periphrastically. Nevertheless, it does not allow transitive expletive constructions:

(75)   *Daar het baie mense baie bier gedrink   Afrikaans
                 there have many people much beer drunk

Even more strongly, in Mainland Scandinavian, morphology should block a split-IP, as transitive expletive constructions are ungrammatical (cf. 72b). However, languages like Danish and Swedish do not show any person/number distinctions in the present tense. Assuming that they therefore lack subject agreement altogether, there is no morphology that past tense will block. Hence, morphology in Mainland Scandinavian cannot be factor determining the size of the functional domain under the reversed generalization.
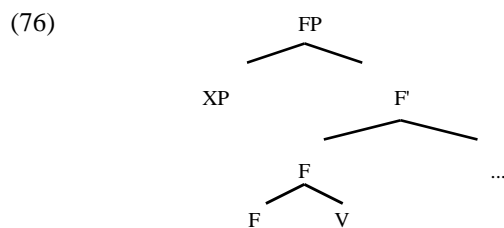
        I therefore conclude that the paradigm structures in (73) are at most compatible with the syntactic structures postulated for English and Icelandic respectively but do not support a stronger hypothesis according to which morphology actually determines the distinction between split- or unsplit-IP. This means that the cause for the choice languages have between generating a split- or an unsplit-IP remains underived.

        To sum up this section, we have seen that a one to one correspondence between functional heads and morphological affixes breaks down on many occasions. The predictions made by the MHH are both too broad and too narrow. We saw that inflection can show up on the verb even if it has not moved. Although Bobaljik and Bobaljik & Thráinsson formulate an answer to this question, the analysis they propose does not make the distinction in verb placement less arbitrary: They only shift the locus of parametrization to a difference in structural size and it remains unclear which factor determines the choice between a simple or split-IP. Second, abstract morphology is postulated for triggering verb movement to C. Since there is nothing in the system that that determines when verb movement is triggered by overt morphology and when by abstract morphology, the MHH can only deal with the dichotomy between V to I and V to C in an ad hoc way.

3.2 The Abstract Head Hypothesis

In this section, I will relate the presence of functional structure to overt movement from the viewpoint of checking theory and conclude that this relation is only sketchily defined. The consequence is that it is unclear to what extent checking theory serves as an explanation for verb movement parametrization across languages.
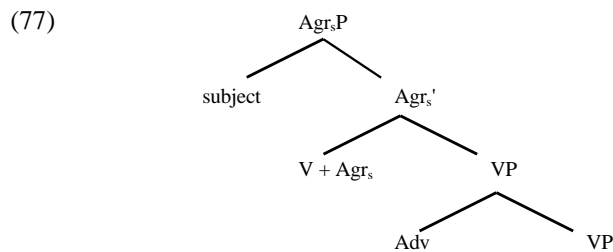
In a way, checking theory can be seen as an attempt to overcome the shortcomings of the morphological approach discussed in the previous section. Functional head positions like Agr or T do not host morphological material since the verb enters the syntactic structure fully inflected. Instead, all functional heads contain abstract features and there is no longer a distinction between the I- and C-domain in this respect.[18] The features present in functional heads come in two kinds, verbal and nominal, and these have to be 'checked off' against lexical elements at some point in the derivation. Every functional projection has a head position, to which the verb can adjoin, and a specifier position, which can host a maximal projection. The idea is that specifier-head agreement establishes, through F, a match between the verb adjoined to the functional head and the maximal projection in the specifier position:

(76)

```
                    FP
                  /    \
               XP        F'
                       /    \
                     F        ...
                   /   \
                  F     V
```

Additional properties of functional heads cause word order differences between languages. A verb for instance is forced to move overtly to a functional head position if this position contains a strong verbal feature. If F has a strong nominal feature, some XP must be overtly realized in spec-FP, either by merging or moving it into this position. Checking theory does not dictate that head positions must be filled overtly. If therefore the verbal feature of F is weak, the verb is not forced to move overtly. This does not entail that no dependency relation is established at all. It means that this movement takes place covertly, after the syntactic structure has been spelled out. Likewise, no XP is forced to move overtly to spec-FP if F has a weak nominal feature.

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[18] The conceptual advantage is very limited though. Now, the question is why abstract features in the I-domain are associated with overt morphology in such a way that the correlation can be derived, in contrast to those in the C-domain.

Let us see how this works with a concrete example, the V to I parameter. If one controls for verb second, Icelandic can be shown to have another overt verb movement, V to I, in contrast to Danish. In terms of checking theory, the difference in verb placement would arise as follows. Both languages are alike in that Agr_s, the head we will use for illustrative purposes, has a strong nominal feature. Hence, the subject is overtly realized in spec-Agr_s.[19] In Icelandic, however, Agr_s also has a strong verbal feature. Hence, the verb must move overtly to this head, thereby crossing adverbs that are presumably adjoined to VP:

(77)

```
                        Agr_sP
                       /      \
                 subject       Agr_s'
                              /      \
                       V + Agr_s      VP
                                     /   \
                                   Adv    VP
```

In Danish, on the other hand, Agr_s has a weak verbal feature. Hence, the verb will stay in its base position in overt syntax and will only move after the structure has already been spelled out. For this reason, we see it in a position following the adverb. This approach to verb movement parametrization has been worked out in detail by Zwart (1993, 1996), among others.

Although the strong/weak dichotomy provides the tools for describing word order variation, it does not in itself explain it. As it stands, the distinction between strong and weak features is completely arbitrary and not related to overt morphology. Although observations concerning for instance V to I movement may have initially led to this hope, the hypothesis is immediately falsified by V to C movement. Hence, in the absence of clear definitions of strong and weak, no testable predictions about overt verb movement can be formulated. It is therefore fair to say that in its formulation described above checking theory does not provide any real insight into verb movement parametrization.

In Chomsky (1998) checking theory is redefined in such a way that verb movement no longer plays any role in it. This reduces our understanding of language variation in this area even further. Chomsky postulates the notion AGREE, which refers to the 'matching' relation between the merged element, α, and some β that resides in

---

[19] This leaves open the possibilities that the subject is merged in this position or that it has moved here from a lower position in the structure, for instance spec-VP. The choice is not relevant for the discussion.

the piece of structure that α is merged with. In order to establish a match, α and β must satisfy some locality condition, which reduces to "closest c-command": A merged element cannot enter an AGREE relation with some β it c-commands, if there is another matching element in α's sister which c-commands β. When merged with a predicate, a subject can enter into an AGREE relation with the verb, since this head is the closest head in the complement of the subject that it can agree with. Consequently, no specifier-head configuration needs to be established for that and verb movement is redundant. When merged in the structure, T can AGREE with its sister and everything that this sister dominates. Hence, T can check all the features it wants to check with V, even if the latter remains in situ. Hence, it remains unclear why the verb would ever move.
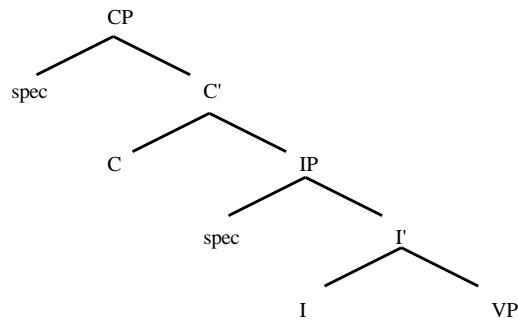
Chomsky suggests (p. 32, footnote 69) that this phenomenon might be located in the phonological domain: Movement of the verb is not syntactically triggered. At least at this point, it is not obvious how to formulate phonological triggers that provide insight into the verb movement parametrization that we observe. How, for example, do we state the observed correlation with rich agreement? Why was verb second lost in English and not in Swedish? Moreover, verb movement parameters correlate with other syntactic phenomena. Recall that transitive expletive constructions only seem to occur in languages that have both V to I as well as verb second (see also chapter 4). As will become clear later, the loss of verb second in English coincides with the rise of do-support in negative contexts and VP-ellipsis. If verb movement parameters are truly phonological in nature, such effects on syntax are rather unexpected.

To conclude, the hypothesis that functional structure consists of projections from empty functional heads does not obviously provide insight into the nature of verb movement parametrization. The most influential theoretical proposal, checking theory, makes use of a strong/weak dichotomy to account for word order differences: Strong features in a functional head trigger overt movement, weak features trigger covert movement. As it stands, it is unclear how this theory would formulate testable predictions about verb placement instead of locating strong features on an ad hoc basis. Since 'strong' does not obviously correlate with 'overt morphology', the fact that rich agreement seems to trigger overt verb movement is merely coincidental. Therefore, the AHH has little to say about the dichotomy between V to I and V to C, like the MHH.

4. Discussion

I will now present the alternative proposal on verb movement and functional structure again but this time the light of the data from section 2 and the theoretical accounts sketched in section 3. We have seen that distributional data motivate an underlying tree structure in which VP is dominated by two functional projections, IP and CP:

(78)

```
                              CP
                         /        \
                      spec         C'
                               /        \
                             C           IP
                                     /        \
                                  spec         I'
                                           /        \
                                         I           VP
```

I is the landing site for the verb that we see in V to I constructions and C is overtly
filled in verb second constructions. As for the nature of C and I, we have seen that
there are reasons to suppose that morphology is in some way relevant for functional
structure and there are reasons to suppose that it is not: V to I seems strongly related to
the richness of agreement, whereas V to C does not correlate with any observable
morphological effect: Verb second languages do not stand out morphologically in any
way. In a language with asymmetric verb second, for instance, the moved verb in main
clauses looks the same as the one in situ in embedded clauses. We saw that this posed a
problem for both the MHH and the AHH. If functional projections are headed by
affixes, as under the MHH, a correlation between V to I and richness of inflection at
least suggests that verb movement and morphology are related in some way (although,
as we have seen, an account is not straightforward). However, morphology must be
interpreted rather abstractly in order to account for V to C. Alternatively, the
hypothesis that functional heads are abstract categories in general no longer predicts
that verb movement correlates with some morphological effect. Although this appears
to be correct for V to C, the correlation between V to I and richness of inflection now
becomes coincidental. In short, under both the MHH and the AHH there is some
dichotomy between C and I, or between the relations that these functional heads
entertain with the verb. Therefore, neither approach achieves a true unification of V to
C and V to I: It is not so clear what V to C and V to I have in common, apart from the
fact that they are both verb movements. An ideal theory of verb movement should
therefore have the qualities stated in (79):

(79)   a.   It should explain the verb movement parametrization we observe.
         b.   It should unify V to C and V to I.

Let us now turn to the alternative theory adopted in this thesis. Recall that I propose
that verb movement takes place in order to project some feature of the verb. This

already suggests that V to C must be morphology-related to the same extent as V to I is. I therefore reject the dichotomy between I and C and argue that it is illusory. Apparently, the verb can move twice in some languages (cf. Icelandic and Yiddish) so there must minimally be two features that the verb can project after movement. On top of that we must find a motivation for the need of these operations. In short, the theory should answer the questions in (80):

(80)   a.   Which features must the verb project after movement in the case
                of V to I and V to C?
        b.   Why must the verb project these features?

In the alternative conception of functional structure, overt verb movement is not an operation that adjoins the verb to an empty head but an operation that the verb undertakes in order to project some feature. The absence of prefabricated empty slots makes it possible to formulate triggers that are 'positional' in nature. The central hypothesis that I would like to put forward is that this is what V to I and V to C have in common. The verb must project some feature F because F must occupy a particular structural position with respect to other elements in the structure. To be concrete, I propose the following two triggers for V to I and V to C respectively:

(81)   a.   V to I movement is an operation that the verb undertakes in order
                to put rich agreement features in the predicational domain of VP.
        b.   V to C movement is an operation that the verb undertakes in order
                to put tense features in a position where they take scope over the
                subject and the predicate.

Note that both triggers refer to the notion 'predicate'. It is therefore essential to explicitly state what definition I have in mind. For this reason I have decided to put my assumptions concerning predication and theta role assignment coherently together in the form of an appendix at the end of this chapter. One should be able to understand subsequent chapters without reading this appendix and use it as a back up in case the main text proves too dense.

      The rationale behind (81a) is as follows. I will argue in chapter 2 that V to I is required if the verb is richly inflected for subject agreement. What triggers movement is the fact that rich Agr actually functions as the grammatical subject of a clause and must therefore be brought into a position where it can be properly interpreted as such. For this reason, AgrP is projected: Under the assumption that this position is external to VP, as assumed in predication theory (Williams 1980 and further work), we see the verb crossing VP-adjoined adverbs. The assumption underlying (81b) is that, semantically, the predicative verb and its tense features do not form a unit: Tense is a

property of a proposition or event and is not part of the denotation of the verb itself. They are interpreted distinctly. The hypothesis I put forward in chapter 3 is that the semantic discontinuity of the verb and tense is syntactically encoded and that V to C is one instantiation of this: The verb moves in order to project a TP. As I will show, differences in verb placement will reduce to independently motivated properties of a language as well on the way in which V to I and V to C interact.

Note that the view on functional structure adopted in this thesis and the specific triggers I will argue for are logically distinct. That is, the view of functional projection may be correct but the proposed triggers wrong, or vice versa. I hope to show, however, that it is the combination of the two that allows a better explanation of cross-linguistic differences in verb placement. Irrespective of the precise triggers for verb movement, however, the alternative view on functional structure has three immediate advantages. First of all, it overcomes the dichotomy between V to C and V to I in that both verb movements create a projection corresponding to a morphological property of the verb, Tense and Agr respectively. Second, feature redundancy is drastically reduced. At least in the default case, Tense and Agr are only present once, namely on the verb. We no longer need empty heads with similar features: Like categorial features, we simply allow Tense and Agr to project after the verb has moved.

Third, the proposal allows a more restricted, and therefore more principled, diagnostic for the presence of empty heads in the realm of verb placement. In a standard perception of functional structure, heads can remain empty in overt syntax, for instance because the V-feature of it is weak, so that movement is postponed until LF. This means that verb placement will only reveal a fraction of the head positions that might be available. Since overt verb movement is not necessary to license these heads, it is in fact unclear what restricts their occurrence, if anything. If functional projections exist by virtue of the verb having overtly moved, the question becomes whether we have to postulate empty heads at all if we want to account for the full array of verb placement facts. I think that we do but in a very restricted sense. Let us, as a first step towards a more restrictive approach, adopt the principle in (82):

(82)   Empty heads must be licensed.

As it stands, this principle is imprecise. The generative literature reveals that there are at least two categorically distinct ways in which empty heads can be licensed. One is syntactic: An empty head can be generated if it occupies a particular position or if some operation on it is performed, for instance being identified or governed by a lexical head (cf. Travis 1991). In this light, many licensing and identification requirements have been developed, of which the Empty Category Principle (Chomsky 1981) is perhaps the best known example. It is not unreasonable, therefore, to look upon verb movement as

either a licensing or identification operation on an empty head. A second possibility is that empty heads are paradigmatically licensed: Given a particular paradigm of overtly distinct forms, a null form can be adopted if it fills a particular slot in the paradigm. This approach has been successfully exploited in the area of morphological theory. From the perspective of the view on functional structure proposed here, the status of *syntactic* licensing becomes rather obscure. Verb movement is no longer a movement operation to an empty head and absence of verb movement no longer indicates the presence of a head that remains absent in overt syntax. Therefore, verb movement cannot have anything to do with syntactic licensing of empty heads. On the basis of this reasoning, I conclude that if empty heads are postulated in the realm of verbal syntax, they must be paradigmatically licensed. Since the existence of a particular paradigm is a prerequisite for the postulation of such an element, the search space is severely restricted, both for the child and for the linguist.

I believe that English provides a prime example of what I have in mind. It is a well known fact that this language has the *do*-support paradigm. Recall from the discussion of the Morphological Head Approach that in this language negation has a blocking effect. That is, the presence of negation forces realization of a verbal head in a higher position. Standard analyses account for this by hypothesizing that *not* blocks some relation between the verb in its base position and another head, hence the contrast between (83b) and (83c):

(83) a. John completely forgot his appointment
      b. *John not forgot his appointment
      c. John did not forget his appointment

If a relationship, whatever its nature, can apparently be established in (83a), it must be between the verb and some element that is not phonologically spelled out. In other words, the English *do*-support paradigm actually reveals the presence of this head position. In chapter 3, I will in fact use the availability of this element in English to explain the limited scope of verb movement in declarative clauses. Now, if empty heads must be licensed, it must be paradigmatically rather than syntactically. This is, I believe, where things fall in place. It is a well known fact about English that it has a paradigm of elements that can appear in a VP-external position, namely the modals. Hence, English is in fact unique within Germanic in two respects: (i) It is the only language revealing the presence of an empty element by the facts in (83) and (ii) it has a modal paradigm. We can therefore hypothesize that the two are directly related: It is the modal paradigm itself that licenses the empty head. In other words, the invisible element in (83a) is a phonologically and semantically empty modal. In this way, the postulation of an empty element will help to account for cross-linguistic facts about verb placement but in a way that finds independent support.

Some caution is warranted at this point. If the number of verb movements correlates with the number of functional projections present, the conclusion must be that languages differ in the amount of functional structure that they generate, at least in overt syntax. Nevertheless, it is a widespread belief, perhaps best known as the universal base hypothesis, that all languages are fundamentally similar at some level of representation. This hypothesis implies that word order differences are merely a surface phenomenon and that apparent cross-linguistic differences are ultimately reduced or eliminated, for instance by covert checking operations (Chomsky 1995). If so, clausal structure must be much more uniform than my alternative proposal suggests. It is very hard to directly evaluate the theory presented in this thesis in the light of the universal base hypothesis and checking theory. The latter are conceptual ideas and as such not immediately falsifiable (recall the discussion in section 2.4). Showing that a piece of structure is not used in a particular language is not the same as showing that it does not exist. The goal of this thesis is not to argue against either the universal base hypothesis or checking theory in any direct way. They are not truly incompatible with the current proposal anyway.[20] The only claim I would like to make is that, even if the universal base hypothesis and checking theory are entirely correct at some fundamental level, they have contributed little to our understanding of word order parametrization. Proponents of these views are therefore invited to look upon this thesis as a proposal on the workings of overt syntax which, in one form or another, is needed anyway.

Let me finish with an overview of this dissertation. In chapter 2, I will motivate claim (81a): V to I is triggered in languages with rich agreement since Agr must be interpreted as the grammatical subject. The task includes providing a concrete definition for 'rich'. This definition will allow a description of the fact that not all languages with rich agreement (and consequent V to I movement) allow the occurrence of argumental null subjects.

Chapter 3 is devoted to the idea that the Tense features of the predicate must be visible in a position c- or m-commanding the subject and the predicate. I will propose ways in which this requirement can be met such that an account is offered for the fact that V to C is a root phenomenon in some languages (such as Mainland Scandinavian and Dutch) but applying in main and embedded clauses alike in languages such as Icelandic and Yiddish. In addition, it will be explained why English is the odd one out within the Germanic language group in not displaying V to C in

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[20] If both the approach taken in this thesis and the universal base hypothesis are correct, it entails that empty heads must come in two kinds. One type is subject to paradigmatic licensing (cf. the condition on empty heads in (82)), whereas the other type is invisible for these constraints. If so, my claim would be that the first type is relevant for the description and explanation of differences in verb placement and the second type is not. Whether there are constraints on the second type of empty heads is an interesting and obviously very difficult question, but not one that plays a role in this thesis.
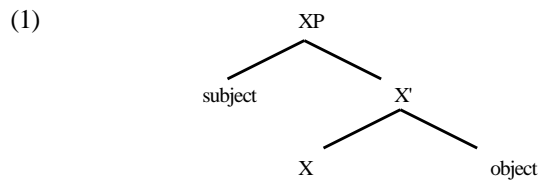
declarative clauses. One consequence of the universal Tense condition is that V to I movement in Romance and V to C movement in verb second languages satisfy the same need: Both take place in order to project Tense features in the right position. This might be unexpected on two counts. First of all, Romance languages also have rich inflection so that projection of AgrP is expected as well. Second, Germanic languages display verb second effects, unlike Romance languages. If TP is projected in both cases, what then causes this distinction? One of the purposes of this chapter is to look into these issues and provide answers.

It follows from the theory that verb movements are indicative of the number of functional projections active in overt syntax. Since both V to C and V to I are parametrized options, languages will differ with respect to the size of the functional domain. Chapter 4 will show that there is an important consequence of this: Only in languages where the verb moves twice can expletives co-occur with a transitive predicate, a correlation observed by Vikner (1990, 1995). Generation of these transitive expletive construction is blocked in languages in which the verb only moves once. Since structural size seems to be directly relevant for this contrast, chapter 4 offers independent confirmation for the theory outlined in chapters 2 and 3.

Appendix: Predication theory

Many theories make a distinction between internal and external relations. Internal relations, such as c-selection, hold between a head and a phrase contained in its maximal projection. External relations, on the other hand, hold between phrases. An example is anaphoric binding: there is no sense in which an anaphor's antecedent is contained in its maximal projection.

Whereas c-selection and binding clearly instantiate internal and external relations, it is less obvious how predication should be characterized. One view is that it is an internal relation: Stowell (1981, etc.) argues that subjects are specifiers of predicative heads.

(1)

```
                        XP
                       /  \
                      /    \
                 subject    X'
                           /  \
                          /    \
                         X      object
```

Since verbs are predicative heads, the entailment is that the subject of a clause is base-generated in spec-VP. From this position the subject can move into a higher specifier position in overt syntax. The claim that the spec-VP is the structural subject position in which the subject receive its theta role is generally known as the VP-internal subject hypothesis (Koopman & Sportiche 1991).

In this thesis I will adopt the alternative view, according to which predication is an external relation. As commonly assumed, a head may assign one or more theta roles to constituents within its maximal projection (cf. 2a). Williams (1980, etc.) argues that, in addition, a maximal projection may assign a theta role to a constituent external to it. It is this external thematic relation that defines predication: The constituent theta marked by XP is XP's subject (cf. 2b).

(2)   a. $[_{XP} X$ .....   DP$]$
                      $<\Theta_{DP}>$

         b. $[_{YP} DP$ .....   XP$]$
                                     $<\Theta_{DP}>$

Certain properties of predication follow from its characterization as an external relation. First, selectional requirements imposed by the head do not affect the subject. So, although a verb may c-select an object of a particular category, the category of the subject cannot be selected for (Marantz 1984). Second, predication, like other external relations, is unique. The

anaphor *each other* in (3a) must have a unique antecedent (Koster 1987). It can be related to either *the women* or *the men*, but not to both at the same time. Similarly, the secondary predicate *drunk* in (3b) must have a unique subject, either *the women* and *the men*, but not both.

(3)   a.   The women introduced the men to each other
           b.   The women met the men drunk

Third, just like an anaphor must find its antecedent in a c-commanding position, a predicate must be c-commanded by its subject (Williams 1980). The examples in (4) are ungrammatical for the same reason.

(4)   a.   *[John$_i$'s brother] showed Bill to himself$_i$
           b.   *[John$_i$'s brother] met Mary nude$_i$

Predication is not only an external relation, but also a relation involving theta role assignment. This has consequences for the domain in which it can take place. Following common practice, I assume that theta role assignment is phrase-bound. This implies that a head can only assign theta roles to constituents contained within it maximal projection, as noted. Similarly, a maximal projection must m-command the constituent it takes for subject. Hence, a predicative relation can be established between α and β iff (i) α c-commands β (ii) β m-command α and (iii) β assigns a theta role to α.

      Predication theory plays a crucial role in this thesis, as it is involved in the explanation of both V to I movement and the distribution of expletives. Let us therefore consider where we may find the subject of VP. In principle, two positions are available. The subject may appear in the specifier position of the first functional projection dominating VP (cf. 5a), or it may be base-generated as an adjunct to VP (cf. 5b).

(5)   a.   [$_{FP}$ DP F [$_{VP}$ ... V ...]]
           b.   [$_{VP}$ DP [$_{VP}$ ... V ...]

The structure in (5a) does not require much discussion. The subject c-commands VP and it appears within VP's m-command domain. Hence, the structural conditions on predication are met. The structure in (5b) also meets these conditions, but only if a particular view of structural command is adopted. Chomsky (1986b:8-9) argues that command should be defined in terms of categories rather than segments. Thus the following definitions of c-command and m-command obtain:

(6)   a.   A category α c-commands a category ß if and only if (i) α does not
                  dominate β, and (ii) every category that dominates α dominates β.

         b.   A category α m-commands a category ß if and only if (i) α does not
                  dominate β, and (ii) every maximal category that dominates α
                  dominates β.

Crucially, the DP in (5b) is not dominated by the category VP, although it is dominated by
one of its segments. This implies that according to the definitions in (6) DP c-commands VP
and is contained within VP's m-command domain. (5b) consequently qualifies as a
configuration that allows predication, a conclusion which echoes claims made by Manzini
(1983) and Koopman and Sportiche (1991).

         Although predication theory allows both (5a) and (5b) it also excludes certain
structures. First, on the definition of m-command adopted in (6), subjects cannot be
generated in a functional projection that does not immediately dominate VP. Although the
DP c-commands VP in (7), it does not appear within VP's predicational domain. Hence the
structure is ruled out.

(7)   *[$_{FP-2}$ DP F-2 [$_{FP-1}$ F-1 [$_{VP}$ ... V ...]]]

Second, it may be possible to realize the subject in more than one position, but it is not
possible to generate more than one subject. As said, the unicity of external relations extends
to predication, and hence if there is one predicate (in this case VP), only one subject position
can be realized. A structure like (8), in which both DPs are subjects, is ruled out.

(8)   *[$_{FP}$ DP F [$_{VP}$ DP [$_{VP}$ ... V ...]]]

In sum, VP takes a single subject within its m-command domain.

         In a minimalist theory of syntax, theta theory must be located at the LF interface: It
is a theory about the mapping of syntactic positions to semantic functions. Thus far, these
semantic functions have been represented as theta roles, but I will assume that they are most
properly expressed by logical formulas. In particular, I will adopt the view according to
which an n-place predicate P is represented as in (9), where every combination of a lambda
operator and the variable it binds corresponds to a thematic function. Saturation of a theta
role can be seen as the application of the formula in (9) to an argument.[21]

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[21] The fact that thematic functions involve lambda operators does not imply that every lambda operator can be used to
motivate an A-position. It is assumed here that variables motivating thematic functions have specific restrictions such as
THEME or GOAL. In the lexical representation of the verb like *paint* the internal theta-role is represented as λx [THEME (x)].

(9) $\quad\quad\quad\quad \lambda x_1 ... \lambda x_n [P (x_1 ... x_n)]$

In most cases, it is harmless to represent '$\lambda x ... x$' as a theta role. The formula in (10), for example, is the semantic representation of a verb taking two objects, but no problems are caused by saying that this verb assigns two internal theta roles.

(10) $\quad\quad\quad\quad \lambda y \lambda z [V (y z)]$

As we proceed, however, representing the semantic properties of predicates by theta roles will turn out to obscure a generalization concerning base-generated and derived subjects, namely that both are related to VP by predication.

      If predication is an external relation and VP assigns an external theta role to a subject, this role should be represented as in (11).

(11) $\quad\quad\quad\quad \lambda x [_{VP} ... (x) ...]$

Although discharged by maximal projections, external thematic functions should be encoded in the lexical entry of the head, if only to explain why not all heads project them. The question is how this can be achieved, especially in view of the fact that external theta roles cannot be assigned by the verb. Suppose that the external thematic function of a verb is lexically represented as a variable, rather than as a variable bound by a lambda operator. Thus, the variable x in (94) lexically represents V's external thematic function. Since V's lexical entry does not provide a lambda operator for it, x cannot be used to license an internal argument.

(12) $\quad\quad\quad\quad \lambda y \lambda z [V (x y z)]$

Of course, if x is to represent an external thematic function, a lambda operator for it must be introduced at some point. I propose that VP (and perhaps other predicative categories) inherently introduces a lambda operator at the level of semantic interpretation (Partee 1973 and Williams 1977). After discharge of its internal thematic functions, the verb in (12) will therefore project a category of the required type (cf. 11). In other words, the difference between an internal and external theta role concerns the level at which the relevant lambda operator is introduced, namely at the level of V and VP respectively.

      The theory of predication as developed thus far suggests a particular formulation of the EPP, the requirement that every clause have a subject. If VP inherently introduces a lambda operator, this category must always function as a predicate, and consequently there must always be subject that satisfies its thematic function. This implies that the EPP and the rule that introduces a lambda operator at the VP level can be analyzed as one and the same:

(13)   *Extended Projection Principle*
                        Map the syntactic category VP onto λx [|VP|]

It is commonly assumed that the EPP is responsible for NP raising in passive and
unaccusative contexts. At first sight, this seems at odds with the view of subjects adopted
here. If passive and unaccusative verbs assign their theta roles internally (to their
complements), how can a derived subject be related to VP by predication? And if a derived
subject is not related to VP by predication, how can the principle in (13) trigger NP raising?

        These problems disappear once it is recognized that theta roles are epiphenomenal
in nature. If theta roles were primitive grammatical notions, the assignment of a theta role to
object position would imply that the thematic function it represents will never be available
elsewhere in the structure. However, assuming that theta roles are most properly expressed as
logical formulas that involve the combinations of a lambda operator and an associated
variable makes it possible to say that, at least from the perspective of predication theory, a VP
with an unsaturated thematic function is equivalent to a VP containing the trace of NP
movement. Both contain a 'gap' that makes it possible for VP to function as a predicate.

        More specifically, suppose that traces of NP movement, like other traces, are
interpreted as variables. This means that the syntactic structure in (14a) will give rise to a
semantic representation in which the verb's internal thematic function is satisfied by a
variable. The resulting (partial) formula is given in (14b), which reduces to (14c) after
lambda conversion. In the structure at hand the lambda operator introduced by VP binds the
variable introduced by the trace. I thus follow Kitagawa (1989) and Chierchia (1995a) in
assuming that the syntactic structure in (14a) is ultimately mapped onto the semantic
representation in (14d).

(14)   a.   [$_{VP}$ V t]
         b.   λy [V (y)] x
         c.   V (x)
         d.   λx [$_{VP}$ V (x)]

As it turns out, then, the semantic representations of a VP containing the trace of NP
movement and a VP with an unassigned external theta role (cf. 11) are identical. This
suggests that derived subjects, like base-generated subjects, are thematically related to VP.
The only difference between the two lies in the origin of the thematic function they satisfy
(Williams 1994 and Neeleman & Weerman 1999). The impression that derived subjects
occupy a non-thematic position only arises if a predicate's argument-taking properties are
represented as theta roles.

        If the semantics of NP raising is as suggested, the operation can indeed be triggered

by the version of the EPP assumed here. A VP projected from an unaccusative verb can only be interpreted as a predicate if the object is promoted to subject, and a structure like (14a) is created. If no such movement takes place, there is no variable to be bound by VP's lambda operator and hence the resulting structure is uninterpretable. A rationale behind the extended projection principle as formulated here, suggested to me by Eric Reuland, is to assume that VP is the canonical realization of a predicate and consequently of type <e,t>. If the theta role of the unaccusative verb is saturated VP-internally, the structure is interpretable as a proposition but a type mismatch would result. Hence, no truth value can be assigned to it. To overcome this problem, the structure must be 'broken open'. Thus, NP raising is an operation through which passive and unaccusative VPs can meet the extended projection principle.[22] Of course, the question remains whether an LF condition like that in (13) can trigger *overt* movement. Why NP raising is overt under certain conditions is an issue that will be taken up in chapter 4.

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[22] Given this analysis, the theta criterion should be formulated in terms of restrictions like THEME or GOAL. As argued in footnote 21, such restrictions determine the interpretation of thematic variables. Suppose that no argument (chain) may be associated with two such restrictions. Then, the contrast between regular NP raising and raising to a theta position follows. Even if in examples like [*John arrived t*] the raised DP and its trace form a chain (something that will ultimately be denied), this chain is associated with a single thematic restriction. In examples like [*John killed t*], however, either the chain {*John*, *t*} is associated with two thematic restrictions (if NP raising involves chain formation), or *John* is (if it does not).

Chapter 2

V to I movement

1. Introduction

It is striking that languages with a rich agreement paradigm move the inflected verb to a VP-external position in overt syntax. Since there is no clear exception to this generalization among the Indo-European languages, I take it as something in need of an explanation. The purpose of this chapter is to do just that. It is argued that this verb movement, generally known as V to I, takes place in languages where agreement affixes have argumental status. What triggers the movement operation is the need for the agreement affix to be interpreted: It must occupy a position where it can be associated with the external theta role. Assuming that this role is assigned by VP, as argued by Williams (1980 and subsequent work) and assuming that the verb enters the derivation fully inflected, the agreement affix will fail to be interpreted if the verb stays in situ.

Although the above-mentioned generalization is robust, there are a few examples of languages showing V to I although they have poor inflection: There is no two-way implication. Although the existence of these languages does nothing to make the one-way implication and the theory accounting for it less powerful, they raise the additional question of why we only find counterexamples in one direction. Before I turn to this issue in section 3, I will first outline how V to I movement can be related to predication theory (section 2). After that, I will provide a concrete definition of what counts as a rich agreement paradigm (section 3). Section 3.2 will then discuss to what extent the proposal makes the correct empirical predictions for the VO languages, a class where the presence or absence of V to I movement is relatively easy to establish. Although it is hard to find direct evidence for the presence or absence of this verb movement in OV languages, closer scrutiny reveals that the proposed analysis can be

extended to account for Dutch and German in a meaningful way. It will appear that these languages pattern in line with the generalization mentioned above, as shown in section 4.

2. A trigger for V to I movement

In some languages, the finite verb precedes VP-adverbs, negation and floating quantifiers, whereas this is not the case in others (cf. Emonds 1976; Pollock 1989). This contrast is illustrated in (1).

(1) a. Subject V_{finite} ADV/NEG/FQ
     b. Subject ADV/NEG/FQ V_{finite}

The contrast has been taken to reflect (absence of) overt verb movement. Under the assumption that the relevant adverbs mark the left edge of VP, the verb must have moved to a position external to VP in (1a), as indicated in (2):

(2)
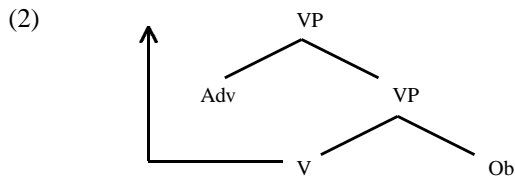
As said, whether a language has the operation in (2) or not, leading to the contrast between (1a) and (1b), appears to be far from arbitrary.[1] There has been an impressive line of research indicating a correlation between overt verb movement and inflection: Languages that have a rich subject agreement paradigm have the order in (1a), whereas languages without rich agreement tend to leave the verb in situ (Kosmeijer 1986; Pollock 1989; Platzack & Holmberg 1989; Holmberg & Platzack 1991, 1995; Roberts 1993; Rohrbacher 1994, Koeneman 1997, among others).[2] The existence of a correlation between rich agreement and verb movement is corroborated by synchronic as well as diachronic observations. Let us discuss each in turn.

First, it can be observed that the contrast in (1) is manifested in closely related dialects that differ in the richness of agreement. Standard Swedish, for instance, has a

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[1] Of course, I abstract away from verb second here: By looking at contexts where verb second does not take place, some languages still move the verb whereas in other languages the verb remains in situ.

[2] I do not know to what extent the correlation has been established for languages other than the European. See DeGraff (1997), however, for a similar claim about Creole language.

poor agreement paradigm: There is only one affix in the present tense paradigm (cf. 3a), suggesting that we are dealing with a tense affix rather than an agreement affix. This is in contrast to a dialect of Swedish spoken in Älvdalen, which has the paradigm in (3b):[3]

(3)   a.   *Standard Swedish*   b.   *Älvdalen Swedish*
               inf. bita   inf. kasta
               SG   PL   SG   PL
        1st   biter   biter   1st   kastar kastum
        2nd   biter   biter   2nd   kastar kaster
        3rd   biter   biter   3rd   kastar kasta

It can be observed that in standard Swedish finite verbs follow VP-adverbs (cf. 4a), in contrast to Älvdalen Swedish (cf. 4b). In order to rule out a possible effect of verb second, we must look at embedded clauses where this phenomenon does not take place.[4] In the examples that are supposed to indicate the presence or absence of V to I movement, I will put the finite verb in italics and boldface the adverb.

(4)   a.   att Johan **inte** *köpte* boken   Standard Swedish
               that Johan not bought book-the
        b.   ...ba fo dye at uir *uildum* **int** fy om   Älvdalen Swedish
               just because that we would not follow him

The other Mainland Scandinavian languages, Modern Danish and Norwegian, are like Swedish in that they lack any distinctions in the present Tense paradigm:

(5)   a.   *Danish*   b.   *Norwegian*
               inf. kaste   inf. elska
               SG   PL   SG   PL
        1st   kaster kaster   1st   elsker elsker
        2nd   kaster kaster   2nd   elsker elsker
        3rd   kaster kaster   3rd   elsker elsker

---

[3] The data that follow are mostly from Platzack & Holmberg (1989, 1995), Rohrbacher (1994) and Vikner (1995).

[4] More correctly, we must look at clauses embedded under predicates like 'regret', 'to be a surprise', 'disagree', etc. Recall that these so-called non-bridge verb disallow verb second in their complement, in contrast to bridge verbs like 'know', 'believe' or 'say', which optionally allow it. In this respect Swedish differs from languages like Yiddish and Icelandic, where embedded verb second is much less restricted. See for more discussion de Haan & Weerman 1986, Iatridou & Kroch 1992, Vikner 1990, 1995 and others.

As expected, both languages leave the verb in situ in non-V2 contexts:

(6)   a.   at Peter **ofte** *havde* læst den   Danish
                that Peter often had read it
    b.   Vi tenkte **ikke** *at* han aldri ville ha penger   Norwegian
                we thought not that he never would have money

Unfortunately, it is not the mere absence of any distinctions that is responsible for the fact that the finite verb remains in situ in these languages. Looking at the paradigm of Hallingdalen Norwegian, we find two distinct forms, one for the singular and one for the plural.

(7)   *Halligdalen Norwegian*
        inf. kastæ

	SG	PL
1st	kasta	kastæ
2nd	kasta	kastæ
3rd	kasta	kastæ

Nevertheless, the finite verb remains in situ, as can be concluded from the example given in (8):

(8)   Noko gamlæ mænna som **ikki** *haddæ* vore mæ ve kyrkja
        some old men who not had been along at church

Hence, despite the presence of some paradigm-internal contrast Hallingdalen Norwegian must still be classified as poor, on a par with Standard Norwegian, Swedish and Danish.

    A second observation corroborating the correlation is that languages with a rich agreement paradigm switch the order from (1a) to (1b) when agreement inflection erodes over time. Old Swedish, for instance, had the paradigm in (9a) until the beginning of the 16th century. After that, deflection led to the paradigm in (9b).

(9)   a.   *Old Swedish*   b.   *Early Modern Swedish*
           inf. älska   inf. kasta

	SG	PL		SG	PL
1st	älskar	älskum	1st	kasta(r)	kaste
2nd	älskar	älskin	2nd	kasta(r)	kaste/a
3rd	älskar	älska	3rd	kasta(r)	kaste

That the loss of distinct agreement affixes caused a change in the verb movement parameter is corroborated by Platzack's (1988) claim that the first unambiguous examples of V in situ show up at the beginning of the 16th century. Before that, the finite verb preceded VP-adverbs (cf. 10).

(10)   æn han *sivngær* **ægh** thigianda messu   Old Swedish, 1290
   *if he sings not silent mass*

Given that the correlation is well motivated, the question is why it should exist. Pre-theoretically, the opposite would have been just as likely: Why do we not find that richly inflected languages leave the verb in situ? However, there is a way in which we can make sense of the observed correlation. Rich agreement typically expresses more person and number features. Affixes that are part of a paradigm that contains many distinct forms have referential force which affixes of a paradigm with less distinct forms lack. It is this intuition that explicitly underlies Rohrbacher's (1994) theory of V to I movement, as we will see. That the referential status of affixes can play an active syntactic role is obvious from the phenomenon of pro drop: When in a language agreement is very rich, a lexical subject can be left unrealized (Taraldsen 1978, Rizzi 1982). What I propose is that a rich subject agreement paradigm can be characterized as consisting of argumental forms: The affixes that are part of such a paradigm are syntactic arguments. Let us gloss over the details for now and assume that paradigms come in two kinds, as indicated in (11):

(11)

Agreement type?	Argumental agreement	Non-argumental agreement
V to I movement?	Yes	no

Argumental affixes must be interpreted, meaning that they must be associated with a theta role. Since the paradigms we are considering here are subject agreement paradigms, the theta role with which the affixes have to be associated is the external one. This hypothesis explains why verb movement is triggered, as I will now argue.

According to predication theory, as developed in Williams (1980, etc.), there is a distinction between internal and external theta roles. Internal theta roles are assigned under m-command by V to DPs within V's maximal projection. The external theta role, on the other hand, is a property of VP rather than V: VP is inherently predicative, so that it needs to assign a theta role. Hence, there must be a VP-external DP present that can receive this role. Informally, we could say that in the structure of a transitive verb the Agent role percolates up to the level of VP and is assigned by VP to a DP within VP's m-command domain.

(12)
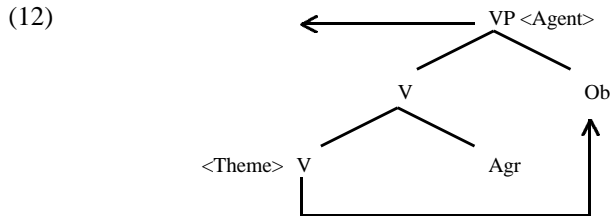
As outlined in detail in the appendix to chapter 1, I will assume that theta roles are properly expressed by logical formulas consisting of a lambda operator and a variable. The difference between internal and external theta roles can then be characterized as follows. Internal theta roles correspond to a lambda operator and a variable in the verb's entry:

(13) $\lambda y\, \lambda z\, [V\, (y\, z)]$

Assignment of internal theta roles, then, entails application of these functions to DPs within VP. If the external theta role is assigned by VP and not by V, this role must correspond to a variable in the verb's lexical entry only, as in (14):

(14) $\lambda y\, \lambda z\, [V\, (x\, y\, z)]$

Of course, a lambda operator must be introduced if *x* is to represent a thematic function. I will assume that this lambda operator is introduced at the level of VP, the category which is by hypothesis inherently predicative (cf. Partee 1973 and Williams 1977):

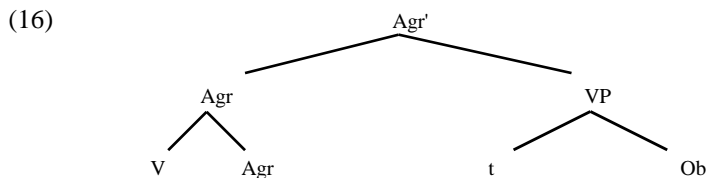(15) $\lambda x\, [_{VP}\, V\, (x)]$

The formula can now be applied to a VP-external DP, the element we call subject.

If VP must always assign an external theta role, the entailment is that with unaccusative predicates the internal theta role must be promoted to the level of VP in some sense, an idea that can be found in Kitagawa (1989), Chierchia (1995a), Williams (1994) and Neeleman and Weerman (1999). I will not go into the technicalities here but refer the reader to the appendix for discussion.[5]

Let us now return to the issue of verb movement. The hypothesis of this thesis is that in the general case the verb moves in order to project one of its features. In

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[5] In predication theory, both DPs generated in VP's predicational domain and DP-objects moved to that position (in passive and unaccusative constructions) saturate VP's thematic function. Subjects, then, are thematically defined and not structurally: They are saturators of VP's theta-role. This entails that an expletive cannot be defined as a genuine subject. Rather, it is a place-holder of the LF subject (see chapter 4).

morphology, the affixes are attached to the verbal stem. Although morphological headedness is determined in this component, syntactic headedness is not. That is, every affix has the potential of heading a syntactic projection. Once the verb is inserted into the structure, V will project first because it must discharge its theta roles. What happens next depends on the status of agreement in a language. In languages with a rich agreement paradigm, the agreement affix Agr must be associated with the external theta-role, assigned by VP. It will be clear that in its base position, attached to the verbal stem, association with this theta-role is impossible: Agr is dominated by the category assigning the external theta role. The alternative theory on verb movement presented in chapter 1 now offers a straightforward solution. The verb moves and merges with VP again. After this merger operation, Agr projects, resulting in the structure in (16):

(16)

```
                        Agr'
             ┌───────────┴───────────┐
           Agr                       VP
         ┌──┴──┐                   ┌──┴──┐
         V     Agr                 t     Ob
```

In this configuration, Agr is in the correct configuration to saturate VP's external theta role. It is contained within VP's predicational domain: The first maximal category dominating VP will be AgrP and this category also dominates Agr.[6] Note that the reverse order of projection, first Agr and then V, is naturally excluded, since in that event Agr would be dominated by the category from which is must receive its theta role.

Given this analysis, V to I, or even V to Agr, has become a misnomer. There is no prefabricated position that the verb moves to. Rather, the verb moves in order to project Agr. Therefore, the crucial distinction between the two language types is that languages with rich agreement need to project AgrP in overt syntax, whereas other languages do not. In the remainder of this thesis, I will usually refer to this movement operation as V to I. It should be kept in mind that it refers to the projection of AgrP, though.

If V to I is triggered by the argumental status of inflection in a language, one might expect that it can be postponed until LF, the level at which theta theory is most naturally located. Nevertheless, in the languages discussed so far, argumental inflection leads to overt verb movement. I will assume that this is due to limitations on covert movement operations. It follows from a ban on the introduction of new projections after overt syntax, an idea

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[6] Recall my assumption that VP is inherently predicative, that is it always assigns an external theta role. In unaccusative predicates, then, the internal theta role is externalized. The consequence is that V to I movement is triggered in (in)transitive and unaccusative contexts alike, since in both cases Agr will be interpreted as the subject.

reminiscent of Chomsky's (1995) claim that merger at LF is severely restricted. As a result, lexical insertion at LF is banned. V to I movement is analyzed here as a structure-creating operation: The verb moves after which it projects Agr. Since it is not an instance of head-adjunction, it cannot but take place in overt syntax. In this way, a limitation on covert operations causes an LF condition to have overt effects.

If Agr counts as the grammatical subject in languages with rich inflection, what, then, is the status of the DP residing in spec-AgrP, the element which is usually analyzed as a subject? I propose that it is precisely what its position suggests: It is a specifier, not only in the X-bar theoretical sense of the word, but also, one might say, with respect to its interpretation. It narrows down the interpretation of the actual grammatical subject, *Agr*, through specifier-head agreement. Note that this relation, indicated by italics in (17), is one between a maximal projection and a head. Therefore no dependency relation can be established by means of a syntactic chain (given the condition of chain uniformity (Chomsky 1995)). This leaves specifier-head agreement as the only option provided by the grammar.

(17) $[_{AgrP} DP [_{Agr} V \ Agr] [_{VP} ... t_V ...]]$

The assumption that in (17) the EPP is satisfied by the inflectional affix on the verb entails that, in principle, the DP specifier can be absent from the structure (see also Alexiadou and Anagnostopoulou 1998). This explains the phenomenon of pro drop (see, for instance, Taraldsen 1978 and Rizzi 1982). In a language like Italian, the specifier in (18) may be absent:

(18)
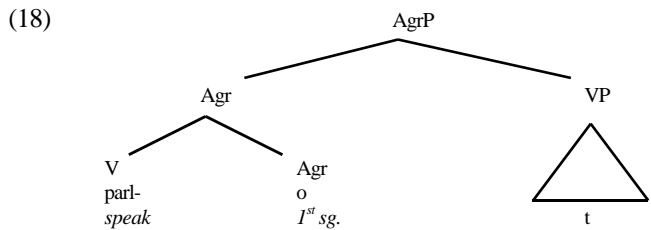
Not all languages with V to I allow omission of this DP, however. Apparently, in some languages agreement encodes enough phi features to be interpretable but not enough for it to stand on its own. Missing features must be supplied by a specifier. In other languages, Agr encodes enough information to require the obligatory presence of a DP. In short, the following classification of agreement inflection obtains:

(19)

Type of Agreement	Argumental Agreement		Non-Argumental Agreement
	Pronominal	Anaphoric	
AgrP?	yes	yes	no
Pro drop?	yes	no	no

What falls under the cover term "rich agreement" are two different paradigm types. If a language has a pronominal agreement type, to use Rizzi's (1982) terminology, pro drop becomes possible. Italian, for instance, has six distinct affixes and these can appear as subjects on their own. Agreement in Icelandic should be characterized as anaphoric. Although agreement affixes act as subjects for the grammatical system, a DP-specifier must be realized. For the European languages at least, it seems to be generally correct that rich agreement leads to V to I and that in a subset of these languages pro drop exists. Crucially, languages with Italian-style pro drop but without V to I are ruled out.[7] Obviously, in order to make precise predictions about V to I movement, more content has to be given to the notion rich agreement, here referred to as argumental agreement. This will be the topic of the next section.

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[7] The analysis is intended to capture the Indo-European situation and does not straightforwardly account for the situation in Chinese and Japanese. It is well known that subjects can remain absent in these language, although they lack Agr altogether. In this light, Jaeggli & Safir (1989) propose that null subjects are allowed in languages that have a morphologically uniform paradigm: Either all verbal forms are overtly inflected for Agr or none of them is. In the in-between case, null subjects are prohibited. An additional identification requirement is then needed to capture the difference between expletive and argumental subject drop (German vs. Italian). An interesting way of understanding this generalization is offered by Speas (1994), who relates these facts to a licensing condition on AgrP. In languages that have agreement, AgrP must be generated. In that case, either the head or specifier must be filled. The first option characterizes Italian, the latter a language like English. If the category Agr is absent altogether, then so is AgrP. Therefore, no DP with the purpose of filling a specifier need be present in Chinese or Japanese. A general problem for the generalization is the existence of the Mainland Scandinavian languages. These uniformly lack Agr and are wrongly predicted to behave like Japanese and Chinese. Jaeggli & Safir are therefore forced to adapt their generalization (their footnote 17, p. 40): Null subjects are allowed in languages with a uniform paradigm but not all languages with such a paradigm allow null subjects. I think this seriously reduces the predictive power of the original generalization. Another solution is offered by Speas. She observes that Swedish still has agreement in other components of the grammar, unlike Japanese, and therefore suggests that it is still an 'agreement type' language. This suffices for generation of AgrP in Swedish, which consequently does not allow null subjects. The difference between Speas' proposal and mine is that I do not assume that Swedish generates AgrP. I believe that Speas' intuition, if correct, can be expressed without postulating an AgrP for Swedish. One could claim that, since this language has abstract agreement, there simply must be some element that the verb can agree with. Since Japanese lacks agreement, such an element can remain absent. In Italian and Icelandic, Agr is itself the subject and the presence of DP is determined by the requirement that Agr be fully specified at LF. I conclude that the existence of Japanese and Chinese does not necessarily clash with the assumptions made in the main text. Moreover, it is not obvious at this point that Jaeggli and Safir's generalization is truly meaningful. It may turn out that Indo-European pro drop might simply be unrelated to the phenomenon taking place in Chinese and Japanese.

3. Defining 'rich agreement'

As it is formulated here, the V to I parameter, or the 'AgrP parameter', is set on the basis of person and number distinctions. Hence, if the task is to formulate precise definitions, we should look at the agreement paradigms of languages with V to I and establish in what respect these paradigms are qualitatively different from paradigms of languages without V to I. I will only consider present Tense paradigms. Intuitively, it is the default paradigm to which the child has easiest access. Second, although the past Tense paradigm of a language can show less person and number distinctions than the present Tense paradigm, the opposite is not found in the languages under discussion.

Empirically the most successful generalization based on present Tense agreement paradigms is the one proposed by Rohrbacher (1994), given in (20):

(20)   *The paradigm verb raising correlate II*
         A language has V to I raising if and only if in at least one number of at least one tense of the regular verbs, the person features 1st and 2nd are both distinctively marked.

First and second person are distinctively marked in the singular or plural if they are different from (i) one another (ii) the third person of the same number and (iii) the infinitive. Although it sounds rather complex, (20) at least makes an impressive number of correct predictions. In fact, the empirical domain it covers is optimal: Both loosening or tightening the definition will leave a few more paradigms unaccounted for. Observe that it makes the correct predictions for the data we have seen so far. In both Old and Ålvdalen Swedish, first and second person are distinctively marked in the plural. Hence, verb movement is correctly predicted to take place in these languages. This is in contrast to (Early) Modern Swedish and Hallingdalen Norwegian, where these distinctive markings are not realized.

Rohrbacher argues that V to I parametrization can be derived from (20) in the following way. He argues that in languages that meet (20) agreement is referential. The consequence of this is that agreement affixes are listed in the lexicon. This is in contrast to poor agreement, which, according to Rohrbacher, is nothing more than a PF spell-out of abstract features of V. A lexically listed agreement affix can be taken from the lexicon and inserted in INFL. Lasnik's stray affix filter will then trigger verb movement to INFL.

The attractive property of Rohrbacher's proposal is that it attempts at an explanation of why rich agreement triggers verb movement: It goes beyond a technical description of the observed correlation. Nevertheless I have a few remarks. First, Neeleman (1996) notes that the theory involves a complication of morphological theory. Some theorists, like Lieber (1981) take morphology to be affix-based: Words are built

up from affixes. Others like Beard (1991) argue for a process-based approach: Affixes are spell-outs of morphological properties. Anderson (1982) argues that both exist and that they underlie the distinction between derivational and inflectional morphology: The former is affix-based, the latter process-based. If Rohrbacher's theory is correct, then both affix-based and process-based morphology exist, but, unlike Anderson, he assumes that both play a role in inflectional morphology. Even if the goal of a unified morphology proves impossible, Rohrbacher's theory further removes us from this ideal, since it assumes a further split. I do not believe that such a distinction has to be made in order to account for V to I parametrization.

Second, it remains rather unclear what 'referential' means. It is not straightforward why distinctive marking in either the singular or the plural would suffice to characterize all elements in the paradigm as referential. In order to this point, compare the paradigm of Ålvdalen Swedish (cf. 3b) with that of Hallingdalen Norwegian (cf. 7), repeated here as (21a,b):

(21)   a.   *Ålvdalen Swedish* b.   *b.*   *Halligdalen Norwegian*
                 inf. kasta   inf. kastæ
                 SG   PL   SG   PL
         1st kastar   kastum   1st kasta   kastæ
         2nd kastar   kaster   2nd kasta   kastæ
         3rd kastar   kasta   3rd kasta   kastæ

Although Agr in (21a) is qualified as referential, in contrast to (21b), both paradigms share one property. Hallingdalen Norwegian and Ålvdalen Swedish both have one affix expressing singularity. Strictly speaking, then, *-ar* and *-a* both refer to a singular entity without distinguishing between persons: In isolation, then, they have exactly the same referential quality. Nevertheless, *-ar* should trigger verb movement when attached to the verb, in contrast to *-a*. Of course, the implicit assumption here is that the status of Agr as either referential or phonological is determined on the basis of a paradigm as a whole. If so, 'referential' does not seem to be the appropriate term. For this reason, I adopt the more neutral term 'argumental'. Nevertheless, one would like to see precisely why the paradigm as a whole is relevant, i.e. why the distinctions in the plural part of the paradigm in (21a) should suffice to give *-ar* a different characteriztion from *-a*. In the next section I will argue that the process of paradigm construction by the child itself determines the status of Agr as either argumental or not. In this, I will treat agreement paradigms on a par with pronominal paradigms: Both consist of argumental forms. The definition of 'rich' that will fall out from this process is one that comes close to (20) in terms of empirical coverage.

3.1 Inflectional features and underspecification

Pinker (1984) argues that inflectional features must be acquired on the basis of morphological contrasts. On the basis of a set of features that are perhaps universally given, the child will pick out those that correspond to meaningful contrasts in the input. Two distinct forms trigger the postulation of a binary feature that allows a description of their distinction: The same feature is not postulated if no contrast triggers it. Hence, the more distinct forms a child encounters, the more features are needed for the description of a particular paradigm. This assumption has two important consequences. First, dependent on the number of overt contrasts the size of agreement paradigms will differ cross-linguistically: Italian will have a more richly structured paradigm representation than, say, Swedish. Second, there is an immediate restriction on the occurrence of non-overt affixes. It can no longer be assumed that Swedish has a distinct null affix in every slot that is occupied by an overt affix in Italian: Restrictive behaviour of the child building a paradigm representation will forbid that. I will interpret the term null affix as the form that not overtly marks the stem and that is 'meaningful' in the sense that it corresponds to a natural class. Take for instance the Dutch paradigm:

(22)   *Dutch*
             inf. lopen
             SG   PL
1st loop   lopen
2nd loopt   lopen
3rd loopt   lopen

One can assume that Dutch has a null affix because the contexts in which the verbal stem is inserted corresponds to a natural class, namely first person singular contexts.

   Given these assumptions, a very natural format for the description of a paradigm is that of a binary-branching feature hierarchy, where every terminal node corresponds with a distinct form and every distinct form corresponds to exactly one terminal node. Since the feature 'person' is not binary, it is replaced here by [αsp(eaker)] and [αad(dressee)]. The representation of a paradigm with six distinct forms, such as Italian (cf. 23a), looks as in (23b):[8]

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[8] The feature hierarchies assumed here were partly inspired by Johan Kerstens' (1993) work, which I have adapted so as to fit the present proposal.

(23)   a.   *Italian*
                inf. parlare
                SG   PL
        1ˢᵗ   parlo   parliamo
        2ⁿᵈ   parli   parlate
        3ʳᵈ   parla   parlano

        b.   [αsp(eaker),αad(dressee),αs(in)g(ular)]

              [αsp,αad,+sg]   [αsp,αad,-sg]

[+sp,αad,+sg]   [-sp,αad,+sg]   [+sp,αad,-sg]   [-sp,αad,-sg]

              [-sp,+ad,+sg]   [-sp -ad,+sg]   [-sp,+ad,-sg]   [-sp,-ad,-sg]

      -o   -a   -i   -iamo   -ate   -ano
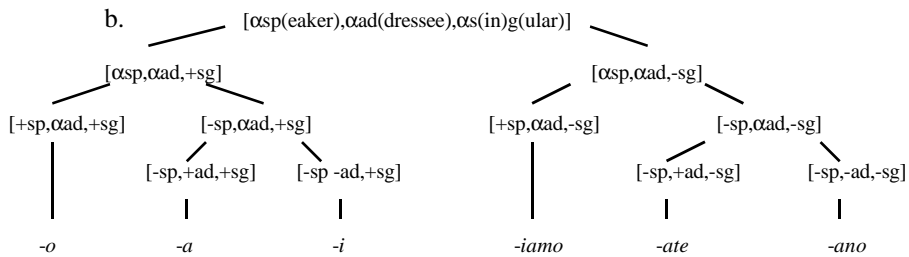
First person singular and plural (*-o* and *-iamo* respectively) lack a value for [αaddressee]. This is in fact the correct result. As far as I know, it is true for all languages under consideration that the first person plural is ambiguous as to whether it includes the addressee as part of the referent. This ambiguity is captured here by a valueless feature [αaddressee]. Other language may morphologically encode the inclusive-exclusive distinction morphologically (for instance Arabic), which means that they have an additional branching in the paradigm representation. The first person singular is also [αaddressee] and can therefore in principle have two readings. However, since it is [+singular], a reading in which the addressee is included is filtered out (cf. Noyer 1992).
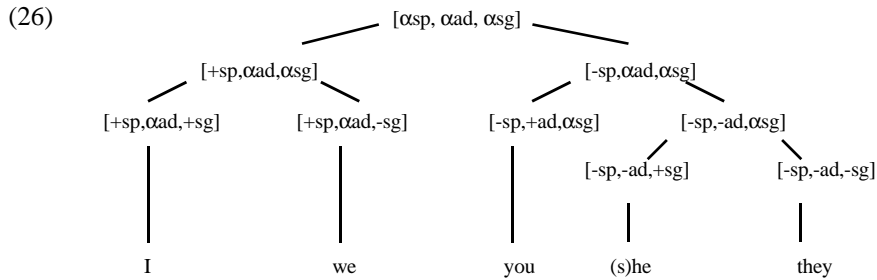
    Earlier I suggested that Italian agreement affixes are interpreted as arguments, subjects to be precise. Therefore, the theory predicts that these affixes trigger movement of the verb, the category to which they are attached. This prediction is correct: Recall from the introduction that finite verbs were unable to follow floating quantifiers and adverbs like *completamente*, in contrast to participles (Belletti 1990). The data are repeated here:

(24)   a.   (In quelle circostanze) Gianni ha completamente sbagliato
                 in those circumstances Gianni has completely mistaken
         b.   Quel dottore ha risolto completamente I tuoi problemi
                 that doctor has solved completely your problems
         c.   Gli invitati hanno (?tutti) salutato (tutti) Maria
                 the guests have all greeted all Maria

(25) a. Gli invitati (*tutti) salutarono (tutti) Maria
          the guests all greeted all Maria
      b. *Gianni completamente sbaglia
          Gianni completely makes mistakes

The contrast between (24) and (25) is expected if finite verbs must obligatorily move to a VP-external position, thereby crossing VP-adjoined elements.

It is not the case, however, that V to I movement is only triggered in languages with a paradigm consisting of six distinct forms, as we have seen. Apparently, if fewer affixes together form a paradigm, they can still be argumental. This in itself is hardly surprising considering that the same is true for pronominal paradigms. To give an example, the paradigm of English pronouns contains one syncretic form, namely *you*, which refers to second person in both the singular and the plural. Despite the fact that it does not express number, it is argumental: It can carry a theta role. Although paradigms with less than six forms can apparently still be characterized as argumental, there must clearly be a lower bound: Languages can have *some* agreement but no V to I movement (recall the paradigms of Early Modern Swedish or Hallingdalen Norwegian). So, what is the crucial difference between poor and rich? I suggest that what matters is that the top node of the paradigm representation, which is what characterizes agreement or pronouns in a particular language, must be a bundle of three features. Take a look at the representation for the English pronoun system:[9]

(26)

$$[\alpha sp, \alpha ad, \alpha sg]$$

$$[+sp, \alpha ad, \alpha sg] \qquad [-sp, \alpha ad, \alpha sg]$$

$$[+sp, \alpha ad, +sg] \quad [+sp, \alpha ad, -sg] \qquad [-sp, +ad, \alpha sg] \quad [-sp, -ad, \alpha sg]$$

$$[-sp, -ad, +sg] \qquad [-sp, -ad, -sg]$$

| I | we | you | (s)he | they |

Although *you* does not express number, it is a member of a paradigm that *does* include this feature. Since the top node by definition dominates its members, the number

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[9] Note that the feature hierarchy for the English pronoun system is $\alpha sp > \alpha sg > \alpha ad$ (the first branching concerns the distinction plus or minus [speaker] and so on), whereas it is $\alpha sg > \alpha sp > \alpha ad$ in the Italian representation. Although (23) can be rewritten using the same hierarchy as the one for English pronouns, we must assume that there is no particular feature hierarchy wired in. This will become apparent later, once other types of syncretism are taken into account. I therefore conclude that the child is only led by the need to build the most economical representation. Although the feature hierarchy is unspecified in advance, I take it that it has to be uniform throughout the representation.

feature is a part of every form in the paradigm. Let us formalize this by adopting the following definition:

(27)   *Argumental paradigm*
         If all forms together make a hierarchical representation of which the top
         node is characterized as (minimally) including the features [αspeaker],
         [αaddressee] and [αsingular], all forms of this paradigm are argumental.

The definition in (27) can be met even if the paradigm contains forms that lack a feature value. Forms only fails to be argumental, if they are a member of a paradigm that lacks one of the three features mentioned in (27) altogether. Hence, one could say that the pronoun *you* is *under*specified for the feature [αsingular] but not *un*specified for it. Number is part of the definition of 'pronoun' in English: It is postulated on the basis of for instance the contrast between *I* and *we* and hence part of the top node. Therefore, the feature is underlyingly a part of *you* too.
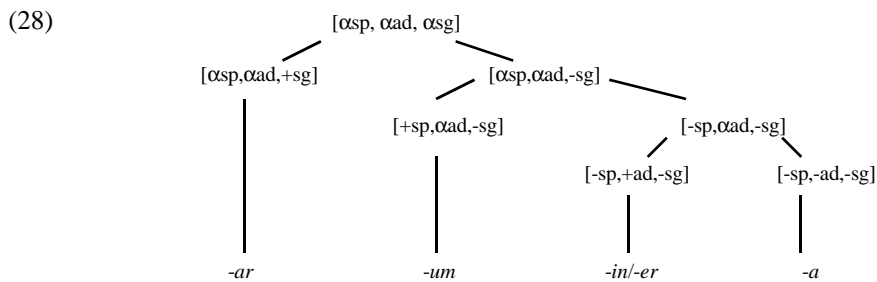
         In short, if three features are required for the description of a paradigm the forms that make up this paradigm count as argumental and must be interpreted. When these forms are subject agreement affixes attached to the verb, verb movement is triggered. Under the reasonable assumption that any morphological contrast can only lead to the postulation of one feature and not more, at least three relevant contrasts must be present. Since the number of features postulated hinges on the number of morphological contrasts, we naturally obtain a correlation between richness of inflection and verb movement, the desired result.

         We now have to show that the definition in (27) indeed not only characterizes the English pronominal paradigm but also the agreement paradigms of languages with V to I movement. It will be straightforward that a language with six distinct agreement affixes, like Italian, is predicted to have V to I movement, since all affixes are fully specified for the three relevant features. Therefore, the data in (24-25) are captured. Likewise, Modern Swedish and Danish are correctly predicted not to have verb movement in non-V2 contexts: Since there is only one form in the present Tense paradigm, there are no paradigm-internal contrasts at all. Hence, none of the three relevant features will be postulated and all affixes fail to meet the definition in (27).

         Paradigms with less forms than Italian but more than Swedish and Danish require some more discussion, since some but not all of these intermediate cases have an inflection-related verb movement. As I will show in the next section, the definition of argumental paradigm in (27) is able to draw the line correctly and capture a similar empirical domain as Rohrbacher's generalization.

3.2 Empirical confirmation: The VO languages

Let us first discuss the paradigms we have seen so far. Both Old Swedish and Ålvdalen Swedish have three distinctions in the plural, and all three differ from the one form used in the singular. Hence, both languages have the paradigm structure given in (28).

(28)

$$[\alpha sp, \alpha ad, \alpha sg]$$

```
                    [αsp, αad, αsg]
                   /              \
        [αsp,αad,+sg]          [αsp,αad,-sg]
              |                /            \
              |         [+sp,αad,-sg]    [-sp,αad,-sg]
              |              |           /           \
              |              |      [-sp,+ad,-sg]  [-sp,-ad,-sg]
              |              |           |             |
            -ar            -um         -in/-er         -a
```

As can be established, agreement in these languages is a bundle of three features. This result is obtained as a consequence of three contrasting forms in the plural (leading to the postulation of [αspeaker] and [αaddressee]) which all contrast with the singular affix (leading to the postulation of [αsingular]). Although the singular form *-ar* lacks two feature values, namely for [αspeaker] and [αaddressee], it does not lack these features altogether. The affix is part of a paradigm representation which, as a whole, generates these features. Agreement in these languages therefore meets the definition in (27): The affixes are argumental. Hence, they need to be associated with the external theta role after they are inserted in the structure and movement is correctly predicted to take place.

We make exactly the same prediction for Middle English. The paradigm is the mirror image of Old and Ålvdalen Swedish in that the singular has three distinct affixes and the plural one (cf. 29). This does not affect the number of features postulated, of course. As expected, Middle English has verb movement, as the example from Roberts (1993) shows: The finite verb in (30) precedes negation.[10]

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[10] The Middle English example is from the late 15th century. By this time, English had already lost verb second, so that any movement we observe cannot be triggered by this constraint. Observe that the finite verb occurs in third position, which by definition is impossible in a verb second language.

(29)   *Middle English*
                 inf. singen
                 SG   PL
     1ˢᵗ   singe   singen
     2ⁿᵈ   singest   singen
     3ʳᵈ   singeð   singen

(30)   By thy thanks I set not a straw

Let us consider Germanic languages with an even richer agreement paradigm. Icelandic has five distinct forms (cf. 31a), which as a feature representation looks as in (31b).

(31)   a.   *Icelandic*
                 inf. segja
                 SG   PL
     1ˢᵗ   segi   segjum
     2ⁿᵈ   segir   segið
     3ʳᵈ   segir   segja

        b.
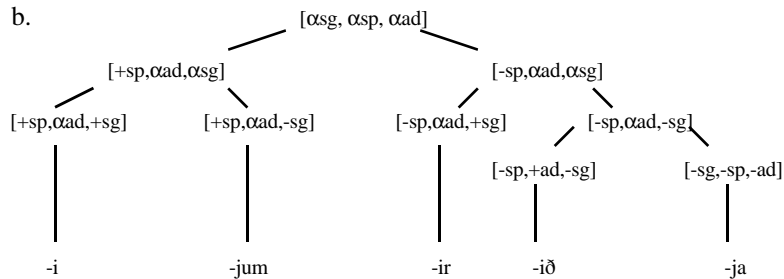
Hence, Icelandic is predicted to generate AgrP and therefore to have V to I movement.

        Strictly speaking, Yiddish has four distinct morphological forms (cf. 32a). However, the ending *-t* is used for third person singular and second person plural. Since these together do not form a natural class, I conclude that they must be two distinguishable forms underlyingly. Hence, Yiddish has five affixes and the representation looks as in (32b).
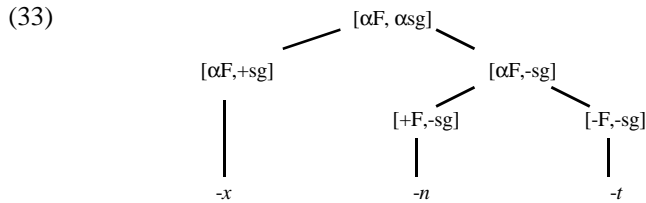
(32)　a.　*Yiddish*
inf. loyfn

	SG	PL
1st	loyf-ø	loyfn
2nd	loyfst	loyft
3rd	loyft	loyfn

b.
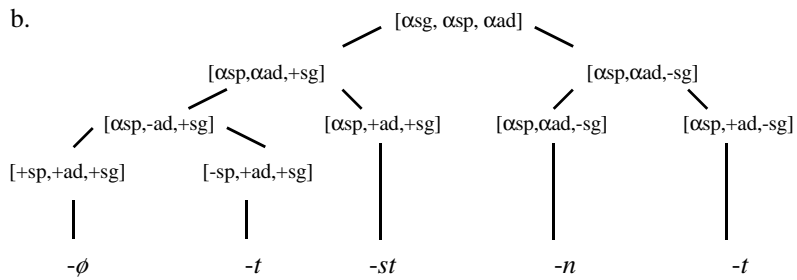
Recall from the previous discussion that the affix *-n* must lack a feature value for [addressee]. The reason for this is that in general the first person plural can have a positive marking for this feature: Its referent optionally includes the persons that are addressed. It should therefore be possible to leave feature values unspecified after branching: *-t* contrasts with *-n* in that it has a value for [addressee], namely a positive one, whereas *-t* lacks a value. What ensures that *-t* and not *-n* is inserted in second person plural contexts is the fact that having a feature value is more specific than being unspecified. Under the assumption that the most specific form must always be inserted, the correct result is obtained.

Note by the way that analyzing *-n* as a syncretic form, incorporating first and third person plural, becomes possible by virtue of the fact that two features needed to describe the contrast with *-t,* [αspeaker] and [αaddressee], have to be postulated anyway in order to describe the singular part of the paradigm: In other words, if the singular had been expressed with one affix, paradigm formation would have been blocked since there is no one feature F that would adequately describe the contrast, as depicted in (33):

(33)   [αF, αsg]

                        [αF,+sg]   [αF,-sg]

                                                [+F,-sg]   [-F,-sg]

                              | | |
                             -x   -n   -t

Since paradigm formation is blocked here, the prediction is that a language with a
representation as in (33) lacks V to I movement. Although I do not know whether this
prediction is correct (there is no straightforward example of (33) that I know of), such a
situation will become relevant in the description of English, as we will see shortly.

    Since the five forms in Icelandic and Yiddish require the postulation of three
features, both languages are predicted to show verb movement, even when we control
for verb second. Recall that in Swedish, we looked at embedded clauses, where verb
second fails to apply. This trick will not do for Icelandic and Yiddish, because in these
languages verb second takes place in main and embedded clauses alike, even when the
clause is embedded under a non-bridge predicate. As discussed by Vikner (1990, 1995),
however, verb second is not completely unrestricted. For some reason, embedded
clauses disallow verb second when introduced by certain WH-phrases, like *af hverju*
'why' in Icelandic and *ven* 'when' in Yiddish:[11]

(34)   a.   *Ég veit ekki af hverju í herberginu hefur kýrin staðið   Icelandic
                I know not why in the room has the cow stood
        b.   *Ikh veys nit ven in tsimer iz di ku geshtanen   Yiddish
                I know not when in the room has the cow stood

This means that in these contexts adverbs can be used as a diagnostic for verb
movement. Indeed we find that the finite verb precedes VP-adverbs, indicating that it
moves to a VP-external position even when verb second is controlled for.[12]

(35)   a.   Ég veit ekki af hverju kýrin hefur oft staðið í herberginu
                I know not why the cow has often stood in the room

---

[11] Not all speakers of Yiddish find the example in (34) ungrammatical. This entails that for this group the presence
or absence of V to I movement is impossible to establish in any direct way. It will be clear later on, however, that
Yiddish behaves like Icelandic in other respects likely to be related to inflection-related verb movement, such as the
possibility of expletive constructions with transitive predicates. Hence, indirect evidence for this movement
operation in Yiddish can be obtained.

[12] After the trigger for V to C has been introduced, this type of evidence for V to I will be seriously challenged. If
the examples in (35) show V to C rather than V to I movement, some other factor must be responsible for the lack
of subject-verb inversion (cf. chapter 3, section 2.1, for further discussion).

b.　　Ikh veys nit ven di ku iz oyfn geshtanen in tsimer
I know not when the cow has often stood in the room

Let us now turn to languages without inflection-related verb movement and determine that the agreement paradigms of these languages indeed fail to meet the definition of argumenthood we propose. In Hallingdalen Norwegian, we saw, finite verbs are only marked for number, so that the representation looks as in (36):

(36)
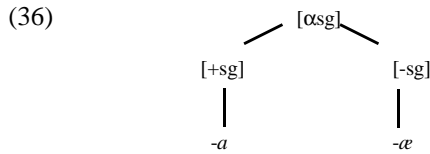
Since no contrasts lead to the postulation of [αspeaker] and [αaddressee], neither affix qualifies as an argument. Hence, no verb movement is expected, which is the correct result (cf. 8, repeated here as 37).

(37)　　　　Noko gamlæ mænna som **ikki** *haddæ* vore mæ ve kyrkja
some old men who not had been along at church

The proposal accounts for the loss of inflection-related movement in the history of English. Recall that Middle English had a rich agreement paradigm triggering verb movement. This movement was gradually lost around 1500, in the Early Modern period. By then, the language no longer had a distinct affix for the first person singular. Due to phonological erosion nothing but the verbal stem was inserted in this contexts, as well as in the plural.[13] Phonological erosion affected the plural affix as well.[14]

(38)　　　　　*Early Modern English*
　　　　　　　inf. cast-ø

	SG	PL
1st	cast-ø	cast-ø
2nd	castest	cast-ø
3rd	casteþ	cast-ø

---

[13] Gray (1985) mentions that the plural has an optional schwa. It is not clear whether such an optional schwa was really phonologically robust. Moreover, as observed by Roberts (1993), St. Thomas More (1478-1535), for instance, does not use it at all. Given these considerations, I assume that Early Modern English only has three robustly distinct forms, two overt and one coinciding with the verbal stem.
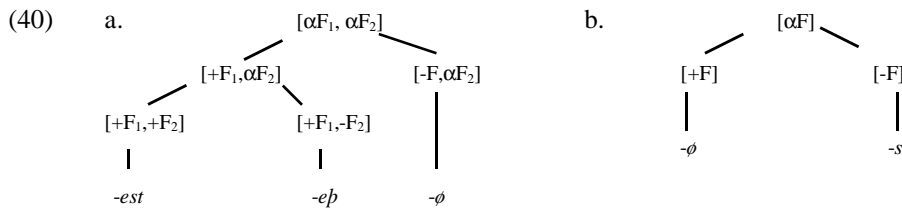
[14] See Roberts (1993) and Rohrbacher (1994) for a more detailed discussion.

Note now that the hypothetical null affix is inserted in the first person singular and in the plural, contexts that do not constitute a natural class. A similar situation obtains for Modern English, where the verbal stem is inserted in any context but the third person singular.

(39)   *Modern English*
                         inf. cast-ø
                         SG   PL
        1st cast-ø   cast-ø
        2nd cast-ø   cast-ø
        3rd cast-s   cast-ø

From the perspective sketched here, these affixes cannot be members of a hierarchical representation. The reason is that the child will stumble upon the situation depicted in (40a) for Early Modern English and in (40b) for Modern English:

(40)   a. $[\alpha F_1, \alpha F_2]$ b. $[\alpha F]$

                    $[+F_1,\alpha F_2]$ $[-F,\alpha F_2]$ $[+F]$ $[-F]$

        $[+F_1,+F_2]$ $[+F_1,-F_2]$ | |
              | | | -ø   -s
            -est   -eþ   -ø

No comprehensive content can be given for $[\alpha F]$ in Modern English: There is no one feature that successfully describes the contrast between -s and the zero affix. The same is true for $[\alpha F_1]$ and $[\alpha F_2]$ in Early Modern English. Suppose that the contrast between -est and -eþ leads to the postulation of $[\alpha addressee]$ as the content for $[\alpha F_2]$. In that case, -est would also be incorrectly inserted in second person plural contexts. Hence, the affix -est must also be specified for number: The two forms must contrast with some other form such that $[\alpha singular]$ is postulated. However, $[\alpha F_1]$ cannot be $[\alpha singular]$, since in that case [+singular] would wrongly exclude first person singular. Since no one feature counts as the appropriate content for either feature, paradigm formation is again blocked.

        Of course, the child will eventually come up with suitable feature matrices for these affixes; they are not unlearnable.[15] Let us assume that, since these affixes cannot

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[15] The fact that the affixes in (40) cannot be completely learned on the basis of paradigm-internal contrasts might in fact have repercussions for the speed of acquisition. It has been reported by for instance Wexler (1994) that the acquisition of the third singular -s by the English child takes quite a while compared to the speed with which the Italian child acquires his/her agreement paradigm. If the contrast proves to be robust, the approach here provides a way of understanding it.

be part of a paradigm representation, they are listed separately. The Modern English lexicon, for instance, contains -*s* and a verbal, affixless stem. In third person contexts, the verbal stem will automatically be combined with -*s*, as together they count as the most specified form that therefore must be inserted in these contexts. The verbal stem is inserted in all other contexts and therefore functions as an 'elsewhere' form. Whatever the exact analysis of these English forms is, the point is that the verb movement parameter has two values, on or off. The value is determined on the basis of the top node of the agreement paradigm: It is only switched on when the feature matrix underlying *all* finite verb forms contains three features. Since in (Early) Modern English a hierarchical representation including all finite forms is impossible, there is no underlying feature matrix for agreement either. As paradigm formation is blocked, the automatic consequence is that the verb movement parameter is not switched on.

Recall from the discussion of Yiddish that the overt affix -*t* is inserted in third person singular and second person plural contexts. Since these do not form a natural class, the child was forced to postulate two distinct affixes -*t*, each with its own feature matrix. It will be clear that the English child must not be allowed to do the same with null affixes. If in Early Modern English two null affixes are adopted each can represent a natural class: One is inserted in first person singular contexts and the other in plural contexts. Consequently, paradigm formation can proceed and inflection-related movement is predicted, since three features will be postulated, the wrong result. Any theory that tries to make sense of the correlation between morphology and verb movement must assume that paradigm formation crucially relies on overt, phonological, evidence. A natural assumption on paradigm formation will give the correct result: There can be no more that one null element in a paradigm representation. If there can be two without any problem, it becomes hard to see what the upper limit is. This assumption about the restriction on adopting null forms makes a further prediction, which I will show is correct. Suppose we have a paradigm that is like Early Modern English in that the plural form coincides with one form used in the singular, but is unlike this language in that it is an overt affix instead of a null form. In that case, the child has overt evidence for it and cannot ignore it. Hence, it can do the same what learners of Yiddish do for -*t*: Since the contexts in which the form is inserted is not a natural class, there must be two overt affixes, each with a distinct feature make-up. There is one example of such a paradigm, namely a Middle English dialect spoken in the south:

(41)   *Middle English (south)*
                        SG   PL
         1st singe   singeþ
         2nd singest   singeþ
         3rd singeþ   singeþ   (Roberts 1993:256)
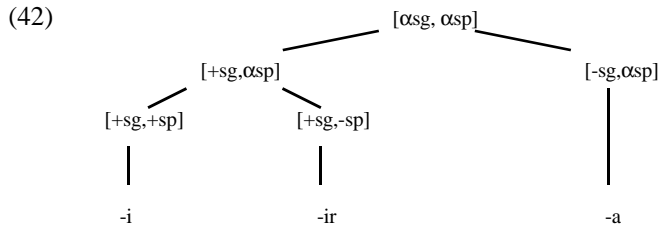
The overt affix *-eþ* is inserted in third person singular contexts and in the plural. Since these contexts do not form a natural class, the child postulates two distinct affixes *-eþ*. The consequence is that three features are postulated and the paradigm counts as argumental. It is not surprising to find, then, that this dialect had V to I movement, just like 'standard' Middle English (cf. Roberts 1993:256).

3.3 Discussion

What we have accounted for is the fact that languages with rich agreement paradigms overtly move the verb to a VP-external position. We have seen how the concrete definition of rich, or 'argumental' agreement makes quite a number of correct predictions, both synchronically and diachronically (cf. Swedish and English). No specific claim has been made about languages with poor Agr. As already noted in the introduction, next to poorly-inflected languages that leave the verb in situ, there exist a few languages that show verb movement despite their poor agreement paradigm. The theory developed here makes no immediate predictions about languages with poor agreement. If the verb stays in situ, this entails that there is no need to move. From the present perspective this can be understood as indicating that Agr does not have to be interpreted. If the verb does move, however, there might be a different reason for this. The only prediction made is that the status of inflection itself cannot be the ultimate cause. There might, however, be other triggers. Alternatively, the cause for V to I movement might lie in the acquisition process. In this section, I will discuss this second option, since it is suggested by data from Faroese.[16]

  Faroese has three distinction in its agreement paradigm. The singular displays two distinct forms, whereas the plural has one affix. The representation looks as in (42):

---

[16] Ackema (1998) analyzes V to I movement by means of an optimality approach. He argues that the correlation between rich agreement and verb movement entails a particular constraint ranking. The fact that some languages move the verb despite having poor agreement then follows from a different ranking. The attractive property of this proposal is that nothing extra has to be said about the languages under discussion in this section: They follow from the system. The objection I have, however, is that the system allows a ranking in which languages with rich inflection leave the verb in situ. These languages, I have assumed throughout, are not clearly attested.

(42)

```
                                    [αsg, αsp]
                        _____/        _____
                       /                                \
                 [+sg,αsp]                            [-sg,αsp]
              ___/      \___
             /              \
      [+sg,+sp]           [+sg,-sp]
          |                   |                             |
          |                   |                             |
         -i                  -ir                           -a
```

Note that [αaddressee] is not part of the agreement representation at all, since the contrast that would trigger its postulation does not exist. Therefore, none of the forms in the paradigm qualifies as argumental, according to the definition in (27). On the basis of the paradigm representation we expect Faroese to lack an inflection-related verb movement. Since Faroese does not display verb second in embedded clauses, these contexts provide the relevant testing case. Indeed we find that many speakers obligatorily put the finite verb after the adverb, indicating that it does not move.

(43)   Taþ var ovæntaþ at dreingirnir als ikki voru ósamdir
             it was unexpected that boys-the at-all not were disagreed

Thus, we seem to make the right prediction for this language. However, Jonas (1995) reports that an equal number of speakers finds such examples grammatical. On the basis of her findings, she suggests that there are in fact two dialects of this language, Faroese I and II. Although both dialects have verb second, only Faroese I has V to I:

(44)   a.   Taþ var ovæntaþ at dreingirnir voru als ikki ósamdir   Faroese I
              it was unexpected that boys-the were at-all not disagreed
        b.   Taþ var ovæntaþ at dreingirnir als ikki voru ósamdir   Faroese II
              it was unexpected that boys-the at-all not were disagreed

Hence, our theory does not straightforwardly capture these speakers of Faroese I: They move the verb in non-V2 contexts although their grammar has the same agreement paradigm as Faroese II.

That the correlation between rich inflection and overt verb movement cannot be reversed is shown by at least two other languages.[17] Middle Scots has a poor agreement paradigm (cf. 45). Kronoby Swedish has a paradigm that is like the one in

---

[17] French is another potential example. Although French looks rich on paper, the singular forms as well as third person plural are all pronounced as a schwa. In spoken French, first person plural is often replaced by *(on) parle*, reducing the number of distinct morphological forms even further. As shown in the following chapter, subject clitics in this language seem to behave as agreement markers (cf. Muller 1984; Roberge 1986; Hulk 1986; Auger 1992; Zribi-Hertz 1993; Rohrbacher 1994). If so, the presence of verb movement is predicted by our theory.

standard Swedish in all relevant respects: It does not show any person/number distinction.

(45)   *Middle Scots*
                    SG   PL
        1st   cast(is)   cast(is)
        2nd   castis   cast(is)
        3rd   castis   cast(is)

As shown below, both languages place the finite verb in front of VP-adverbs (cf. 46a-b).

(46)   a.   He vas bra er an tsöfft int bosen   Kronoby Swedish
                it was good that he bought not book-the
        b.   quhen he trespassit nocht   Middle Scots
                when he trespassed not

The existence of these languages might lead one to conclude that any correlation between rich inflection and verb movement is coincidental and that it is a mistake to incorporate it in a theory of verb movement. The unfortunate consequence is then that we lose the connection between morphology and verb movement and hence a principled explanation for the cross-linguistic and diachronic observations. Two additional reasons for not wanting to draw that conclusion can be given. First of all, I feel that the three counterexamples are tolerable in view of the number of languages behaving as expected (which does not imply that nothing has to be said about them).[18] Second, with respect to the Indo-European languages at least, I know of no clear counterexamples in the opposite direction, i.e. of languages with rich inflection but no verb movement. So, although any theory based on the correlation should ideally have something to say about the counterexamples mentioned, I think that any theory *not* based on it should say something about the lack of languages that leave the verb in situ in the presence of rich agreement.[19] If so, *some* theory relating rich inflection and verb movement is required anyway.

---

[18] Although I have not exhaustively shown it, for the European VO languages alone, correct predictions are made for Old Swedish, Early Modern Swedish, Modern Swedish, Älvdalen Swedish, Old Danish, Modern Danish, Old Norse, Norwegian, Hallingdalen Norwegian, Icelandic, Yiddish, Old English, Middle English (including the southern dialect), Early Modern English, Modern English, Faroese II, and Italian. I will show in the next section that the OV languages Dutch and German can be argued to behave as expected. In chapter 3 I will argue that French is not really a counterexample.

[19] As we will see in the next section, OV languages might in fact have an AgrP and still leave the verb in situ. It is therefore more correct to say that there are no clear examples of languages with a rich agreement paradigm but no AgrP.

An approach to understanding the counterexamples mentioned is actually suggested by the fact that we only find them in one direction. It is not unlikely that the agreement paradigms of the languages mentioned above have eroded, so that inflection-related verb movement was in fact triggered at an earlier point in time. These languages, then, might have retained the movement operation despite the deflection of the agreement paradigm. How could that be possible? Suppose that at some point children note that the agreement paradigm no longer makes verb movement necessary. At the same time, however, they might still be confronted with primary data showing the verb in a place distinct from its base position. Like Rohrbacher (1994), I will assume that the child has two clues in the input relevant for the verb movement parameter; word order and the agreement paradigm. It may simply note the word order before it acquires the agreement paradigm and decide, depending on the number of people still adopting the old grammar, to add a movement rule to their intermediate grammar in order to make it more in line with the adult state. This is not necessarily an extra-grammatical rule. What they might in fact do is take the word order fact as relevant and on the basis of that assume that particular features (the ones relevant for inflection-related movement) are present despite their non-overt realization. They are forced to abstractly postulate features that are motivated by overt contrasts in other languages. Since many learners of a particular language might simultaneously discover that verb movement is no longer necessary, language change will most probably take place, leading to the loss of verb movement. The point, however, is that the loss of this operation can never be guaranteed to take place at precisely the point where the grammar no longer triggers it, since there is one potentially complicating factor, namely the output of the older generation.

This explanation for the presence of V to I in languages with poor agreement has two advantages. First, it explains why we do not find languages with rich inflection but no verb movement. This situation is qualitatively different from the previous one. Although one could imagine that learners conclude that some features must be abstractly present given the input data, it is much harder to imagine what it means to say that learners might at one point conclude that some features are abstractly absent. Since the features are overtly realized, the language learner cannot simply ignore them. Hence, any UG principle referring to these features will automatically be activated and there is only one UG-compatible grammar, namely one with inflection-related verb movement. Therefore, rich agreement will always trigger verb movement.

Second, it gives a handle on the Faroese situation. The two dialects have sometimes been taken as the prime example showing that the correlation with agreement morphology cannot be maintained: Although they have the same paradigm, they differ with respect to verb placement (cf. Bobaljik & Thráinsson 1998). However, Faroese is even more complex. Speakers of this dialect not only allow V_{finite}-Adverb orders despite its poor agreement paradigm, but they actually allow the other order as

well (the one that is obligatory in Faroese II), a fact not yet mentioned but reported by Jonas (1995). Now, inflection-related verb movement is not optional in the other (Germanic) language we have seen. Similar remarks can be made for other verb movement operations, like verb second: In Dutch, Swedish and Icelandic, verb second is obligatory in declarative main clauses whereas it is categorically blocked in French. Therefore, I conclude that something more needs to be said about Faroese in *any* theory of verb movement. It does not just pose a problem for theories based on the correlation with rich agreement.

What the Faroese I data suggest is that these speakers have two competing grammars in the sense of Kroch (1989), one with and one without verb movement: They reflect a stage in language change (cf. Rohrbacher 1994, Vikner 1995). Although the agreement paradigm no longer triggers movement, positive evidence from the older generation forces the child to adopt a movement rule to make its grammar compatible with the input data. At the same time, however, they employ a second grammar without the verb movement, which is of course also UG-compatible. The same situation occurs in Early Modern English. As is well known, V to I and V in situ have coexisted for quite some time and both orders show up within one and the same manuscript (Ellegård 1953, Kroch 1989). This suggests that a language like Middle Scots might have gone through a similar stage. Since detailed diachronic overviews of verb placement are lacking, the proposal is by necessity suggestive rather than conclusive. Kronoby Swedish, then, must not have reached a stage of grammar competition yet and there is no telling, of course, when this will happen.[20]

To sum up, the theory of V to I presented in this chapter is immune to the existence of V to I languages with poor agreement. Further research might reveal other triggers. For the moment, I suggested that learners might postulate V to I, once confronted with positive data, by assuming that verb agreement can abstractly contain those features which in other languages are postulated on the basis of overt markings. This is a consequence of the fact that the learner is forced to make the grammar (s)he is acquiring UG-compatible.

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[20] Although making a diachronic prediction for Kronoby Swedish and Faroese I is rather meaningless at this point, Arnold Evers suggested to me that it might be interesting to see whether these languages pose additional problems for language acquisition. That is, one might expect that adding abstract features to one's grammar in the absence of morphological support entails that verb placement is acquired later. This may be so since the syntactic evidence in these languages is not so robust. Distributional evidence must come from clauses embedded under a non-bridge verb that contain an adverb in the appropriate position. The V to I parameter might also be switched on given the presence of constructions that rely on it. We will see later that languages with verb second and V to I have transitive expletive constructions and that V to I makes object-to-subject raising optional. The lack of these constructions in the input, however, count as negative evidence and will therefore be of no use to the child. I am not aware of any literature on this point.

4. The OV languages

The syntax of OV languages is such that the presence or absence of inflection-related verb movement is hard to establish empirically. Therefore, they do not directly favour the analysis proposed here, although they do not undermine it either. In this section I will focus on German and Dutch and argue that, as expected by our definition of richness, richly-inflected German has an AgrP, in contrast to poorly-inflected Dutch.

In Dutch and German, the verb appears at the end of the clause once verb second is controlled for. This fact can be observed by looking at embedded clauses where, like in Mainland Scandinavian, verb second fails to apply:

(47)   a.   Hans gelooft dat Sabine hem bemint   Dutch
                   Hans believes that Sabine him loves
         b.   Hans glaubt dass Sabine ihn liebt   German
                   Hans believes that Sabine him loves

It has often been assumed that in OV languages the verb moves rightward to some head-final functional category, as indicated in (48):

(48)
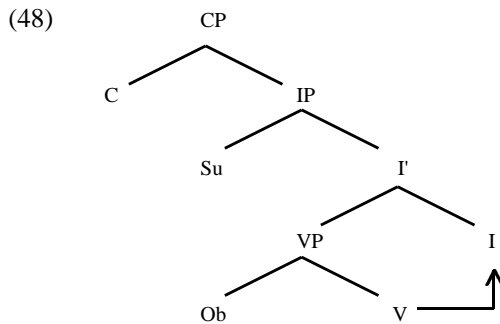
Since such a verb movement is string-vacuous, we cannot see its effect: It does not lead to a change in word order. Therefore, it could take place in both Dutch and German, it could take place in neither, or it could take place in just one of these languages.

The theory of inflection-related movement presented here predicts that Dutch and German should be different. German is richly inflected for agreement. It has the same paradigm as Yiddish, the only difference being that the first person singular is marked by *-e* rather than *-ø*.

(49)   a.   *German*   b.   *Yiddish*
              inf. lieben   inf. loyfn
              SG   PL   SG   PL
       1st   liebe   lieben   1st   loyf-ø loyfn
       2nd   liebst liebt   2nd   loyfst loyft
       3rd   liebt   lieben   3rd   loyft   loyfn

Therefore, like Yiddish, German should project AgrP and verb movement is expected even in non-V2 contexts. Dutch, on the other hand has three distinct forms, like Faroese (cf. 50a).[21] The paradigm representation of Dutch, therefore, looks as in (50b):

(50)   a.   *Dutch*
              inf. lopen
              SG   PL
       1st   loop   lopen
   2nd   loopt   lopen
       3rd   loopt   lopen

        b.

As can be observed, there are not enough contrasts for the postulation of the feature [αaddressee]. Hence, these affixes do not have argumental status and verb movement and consequent projection of Agr is not triggered in Dutch.

        Although these predictions seem to be underdetermined by the data, there is nevertheless some indication that points in the direction of the predicted contrast. In Dutch, PPs can easily appear after the verb(al cluster) in embedded clauses. Many speakers of German, however, do not allow this phenomenon (known as PP-over-V). When occurring post-verbally, PPs have to be heavy or heavily stressed (Anke Lüdeling, Dirk Bury, Frank Heine and Werner Abraham, p.c.), which might indicate that they are really in a dislocated position. In Dutch, there is no comparable heaviness effect.

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[21] Not all speakers of Dutch pronounce the *n* in the plural affix *-en*. This does not affect the paradigm representation.

(51) a. [Dat hij suiker <bij de bakker> suiker gekocht heeft <bij de bakker>] is vreemd
that he sugar at the baker's buys at the baker's is strange

 b. [Dass er <beim Bäcker> Zucker gekauft hat <??beim Bäcker>], ist ungewöhnlich
that he sugar at-the baker's buys at the baker's is strange

The argument will be as follows. I propose that German generates Agr outside of VP as the head of a head-final projection, a possibility that I will restrict to OV languages. PP-over-V will consequently be blocked since it would bring the PP in a position between the verbal stem and Agr. This leads to a crash at PF (cf. 52a). Dutch does not generate AgrP and therefore PP-over-V is allowed (cf. 52b).

(52) a.

 b.
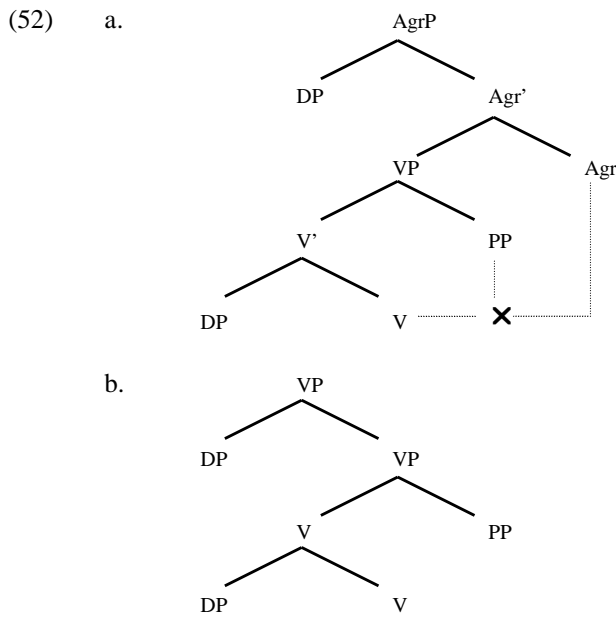
Before we can properly relate the contrast in (51) to the absence or presence of AgrP, we have to spell out some assumptions concerning the structure of the clause-final verbal clusters. Below, I will show that a reanalysis process, as proposed by Huybregts (1984) and Haegeman & van Riemsdijk (1986), seems well equipped to handle the data under consideration.

4.1 Verbal clustering

Koster (1974) observes that if two PPs appear post-verbally their most natural order is the mirror image of the pre-verbal one:

(53)   a.   dat Jan [PP-1 tijdens de lunch] [PP-2 aan zijn vader] dacht
                   that Jan during the lunch about his father thought
         b.   dat Jan dacht [PP-2 aan zijn vader] [PP-1 tijdens de lunch]
         c.   ?? dat Jan [PP-2 aan zijn vader] [PP-1 tijdens de lunch] dacht
         d.   ??dat Jan dacht [PP-1 tijdens de lunch] [PP-2 aan zijn vader]

This suggests that PP-1 must be attached higher than PP-2 and that both can be generated on either side of the verb: The structure in (54) naturally accounts for the data in (53).[22]

(54)
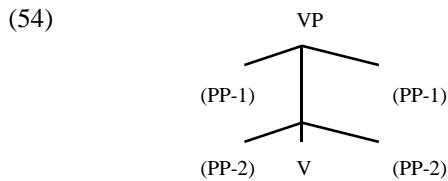
Reuland (1990) and Ackema & Neeleman (1998) provide additional arguments for the claim that PP-1 is higher than PP-2, irrespective of their ordering with respect to the verb. First, Ackema & Neeleman show that VP-topicalization gives bad results when PP-1 is stranded. Stranding of PP-2 is systematically better:

(55)   a.   ?<Aan zijn vader> denken <aan zijn vader> heeft Jan alleen tijdens
                   de pauze gedaan
                   about his father think about his father has Jan only during the lunch
                   done
         b.   *<Tijdens de lunch denken <tijdens de lunch> heeft Jan alleen aan
   zijn vader gedaan

Second, scope relations between the PPs further corroborate the structure in (54). The example in (56a), where *in die dagen* 'in those days' takes scope over *volgens Marleens plan* 'according to Marleen's plan' means that in those days we followed Marleen's ideas about how to spend a holiday. The example in (56a'), where the scope relation is reversed means that, in accordance with Marleen's plan, we went on a holiday at a

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[22] See Barbiers (1995) for a radically different, Kaynian, analysis of PP-over-V and mirror image effects.

particular time. As expected by the structure in (54), example (56b), the mirror image of (56a), has the same interpretation as (56a) whereas (56b') means the same as (56a'). When the two PPs appear on opposite sides of the verb, as in (56c,c'), both readings are available, as expected.

(56)   a.   dat we [$_{PP-1}$ in die dagen] [$_{PP-2}$ volgens Marleens plan] op vakantie gingen
            that we in those days according to Marleen's plan on holiday went
    a'.   dat we [$_{PP-1}$ volgens Marleens plan] [$_{PP-2}$ in die dagen] op vakantie gingen
            that we according to Marleen's plan in those days on holiday went
    b.   dat we op vakantie gingen [$_{PP-2}$ volgens Marleens plan] [$_{PP-1}$ in die dagen]
    b'.   dat we op vakantie gingen [$_{PP-2}$ in die dagen] [$_{PP-1}$ volgens Marleens plan]
    c.   dat we [in die dagen]op vakantie gingen [volgens Marleens plan]
    c'.   dat we [volgens Marleens plan] op vakantie gingen [in die dagen]

Example (56a') is not ambiguous. As noted by Reuland (1990), this constitutes an argument against rightward V to I in Dutch. Under an analysis where the PPs are attached on opposite sides of VP but PP-2 higher, as in (57), we expect the availability of a second reading for the order [PP-1 - PP-2 - V], namely the one where PP-2 scopes over PP-1:

(57)
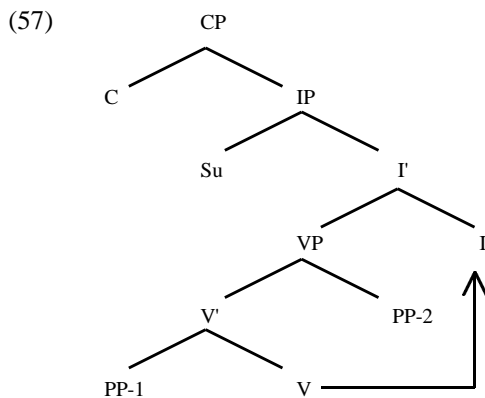
To conclude, we have some empirical motivation for the structure in (54). As Ackema (1995) notes, similar mirror image effects obtain once the verb is replaced by a verbal cluster (for instance *zou hebben gedacht* 'would have thought' in (53)) and concludes

from this that basically the same analysis must apply. This entails, then, that VP is headed by a complex verbal cluster, as indicated in (58).

(58)
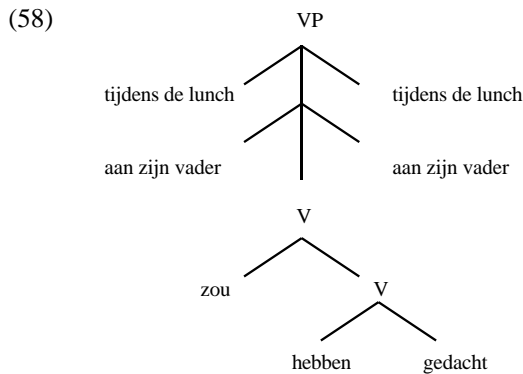
Ackema concludes therefore that in order to derive the mirror effects clusters these verbal clusters are base-generated as such. In this respect, Dutch must be different from for instance English, where intervening adverbs reveal that no clustering occurs:
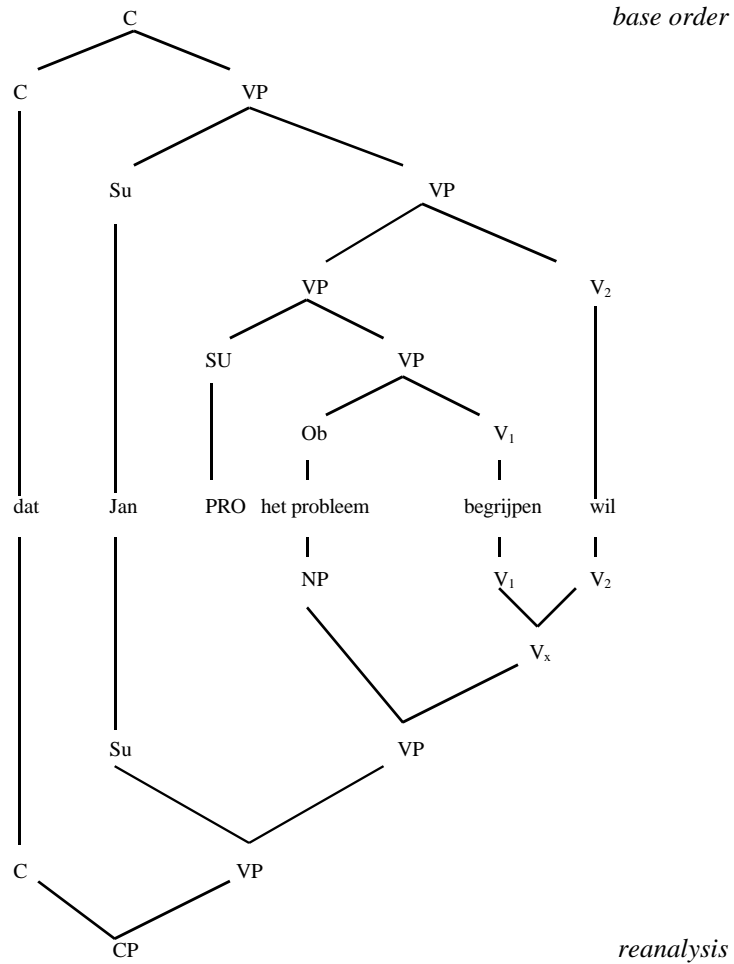
(59)   John will probably have completely forgotten about us

The assumption that complex tenses are base-generated differently across languages is not necessary, I believe. The structure in (58) can be seen as a reanalyzed structure, distinct from the structure that has initially been base-generated. Huybregts (1984) and Haegeman & van Riemsdijk (1986) have argued that reordering of the verbs in a Dutch cluster is best described by PF inversion rules that applies after a reanalysis process. I will not repeat the details of their analysis here, but merely give an example of such a reordering. The order of verbs in (60a), the plausible base order, is a grammatical output although it is judged somewhat marginal by many speakers. The derived order, the one in (60b), is judged grammatical by any speaker of Dutch.
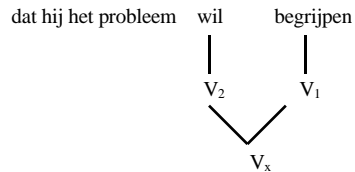
(60)   a.   %dat Jan het probleem begrijpen wil
                 that Jan the problem understand want
                 'that Jan wants to understand the problem'
         b.   dat Jan het probleem wil begrijpen

Under the reanalysis hypothesis, the clause in (60a) would have the structure given in (61).

(61)   C   *base order*

```
              C                      VP

                     Su                      VP

                              VP                      V₂

                         SU        VP

                              Ob        V₁

             dat    Jan   PRO  het probleem    begrijpen    wil

                                   NP              V₁    V₂

                                             Vₓ

                   Su              VP

             C              VP

                      CP                              *reanalysis*
```
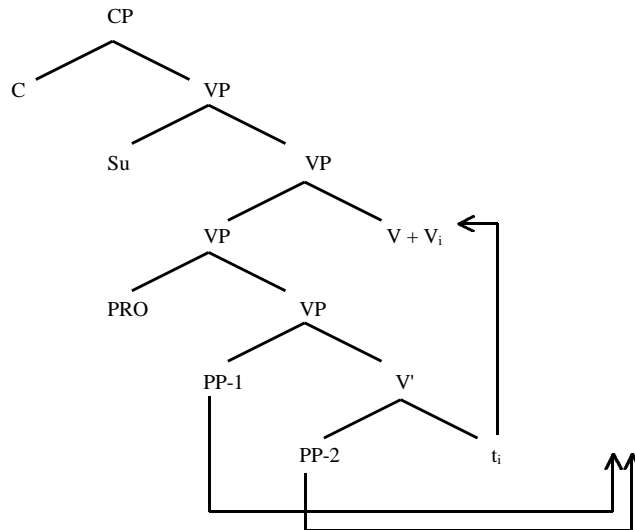
On the basis of the reanalyzed structure, inversion affects node V_x, reverting the order of the verbal heads, which are sisters.

(62)   *Reanalysis*

dat hij het probleem   wil   begrijpen
                         | |
                         | |
                        V_2 V_1
                          \   /
                           \   /
                            V_x

Note that in the reanalyzed structure in (61) the object is a sister to the verbal cluster
and must appear to the left of it. Let us assume, for concreteness' sake, that this is a
consequence of case directionality, which in Dutch is to the left. This idea, familiar
from Travis (1984), is adopted by Neeleman & Weerman (1999) who argue that
constituents are unordered in syntax. At PF, a DP-object must be spelled out on the left,
otherwise it fails to be case-marked. PPs are different in that they do not require case.
The consequence is that they can be spelled out before or after the verbal cluster but
never in between, since that would block cluster formation. This, then, gives rise to the
mirror image effects noted by Koster (cf. 53). Since the PF order is determined on the
basis of the hierarchical order generated by the syntax, we also obtain the scope facts in
(56): The PPs are in the same scope relation pre- and post-verbally.
        Note that under a head-adjunction analysis of verbal clusters (cf. Evers 1975),
the facts concerning PPs do not follow straightforwardly.

(63)   CP
               /   \
              C   VP
                      /   \
                    Su   VP
                          /   \
                        VP $V + V_i$
                       /   \
                     PRO   VP
                           /   \
                        PP-1   V'
                               /   \
                            PP-2 t_i

When the PPs are generated inside the lowest VP and surface after the verbal cluster, they must have moved rightward crossing the verbal cluster. The lowest attachment site is the VP node headed by the highest V. If so, it is unclear what causes the mirror image effect in (52): Why would right-adjunction take into consideration the hierarchical ordering before movement? Moreover, if one PP precedes the verbal cluster whereas the other follows it, we saw that the sentence was ambiguous (cf. 56c'). This is rather unexpected: If one PP has been extraposed to the right, it ends up in a higher position than the PP preceding the verbal cluster. Hence we expect that the postverbal PP scopes over the preverbal one. In order to capture the ambiguity of (56c'), one could take into account the VP-internal trace of the moved PP, which is ambiguously higher or lower than the preverbal PP.

(64)   a.   dat we $<t_i>$[$_{PP-1}$ volgens Marleens plan] $<ti>$op vakantie gingen [$_{PP-2}$ in die dagen]$_i$
            that we in those days according to Marlene's plan on holiday went
   a'.   dat we $<t_i>$[$_{PP-1}$ in die dagen] $<ti>$op vakantie gingen [$_{PP-2}$ volgens Marleens plan]$_i$
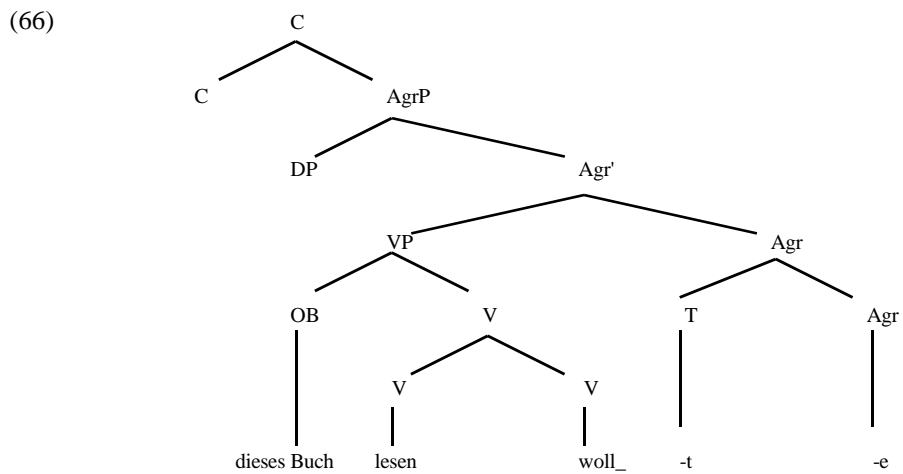
In that case, however, we expect that when two PPs follow the verbal cluster, the resulting sentence is ambiguous, since preverbally their traces are in an ambiguous scope position with respect to one another, as indicated in (65).

(65)   a.   dat we $<t_i>$ t_j $<t_i>$ op vakantie gingen [$_{PP-2}$ volgens Marleens plan]$_i$ [$_{PP-1}$ in die dagen]$_j$
   b.   dat we $<t_i>$ t_j $<t_i>$ op vakantie gingen [$_{PP-2}$ in die dagen]$_i$ [$_{PP-1}$ volgens Marleens plan]$_j$

Nevertheless, we saw that the linearly second PP always takes scope over the first one. In short, it is unclear why the surface position of PPs determines the interpretation when they appear at the same side of the cluster, whereas a PP-trace is relevant in the case one PP is extraposed but not when two are extraposed. Perhaps additional assumptions will explain these facts, but the point is that all these assumptions need not be made once the reanalysis approach to verbal clustering is adopted. I conclude that reanalysis is, better than the head-adjunction analysis, able to capture the PP-data and is therefore empirically motivated.

4.2 A head-final AgrP in German

Let us now turn to German and assume that reanalysis takes place in this language too. What I propose is that in embedded clauses inflection is generated in a position distinct from the verbal stem, namely as a sister to VP:[23]

(66)

```
                              C
                      _____/ _____
                     C              AgrP
                              ____/    \____
                            DP            Agr'
                                     ___/      \___
                                   VP              Agr
                               __/   \__        __/   \__
                             OB        V       T         Agr
                             |      __/ \__     |          |
                             |     V       V    |          |
                             |     |       |    |          |
                      dieses Buch lesen  woll_  -t         -e
```

Why would it be possible in German to generate inflection in a distinct position? And what good does it do? There are two conditions on inflection that are relevant here. First of all, inflection is affixal, meaning that Tense and Agreement must be spelled out on a verbal stem at PF (Lasnik's (1981) stray affix filter). Second, inflection is suffixal in that Tense and Agreement appear after the verbal stem rather than in front of it. Both conditions are straightforwardly met by the structure in (66).[24] Since the stem of the finite verb appears at the right edge of VP, it is adjacent to [$_{Agr}$ [T] Agr] at PF, so that inflection can be spelled out appropriately. Second, these affixes are situated to the right of the verbal stem if one flattens the structure. Hence, they can be spelled out as

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[23] Haider (1997) argues against the presence of functional projections other than CP in German, noting that there is no evidence for verb movement to such a position. Although I basically agree with his evidence, I do not agree with his conclusion that this automatically entails the absence of additional projections since the possibility left open (and pursued here) is that there is a functional projection, overtly realized by Agr, without the verb actually moving to it.

[24] The analysis proposed here was inspired by Bobaljik's 1995 account of verb movement (cf. the discussion in chapter 1, section 4). In the present account, however, the possibility of generating affixes in a position distinct from the verb is restricted to OV languages with rich inflection for reasons that will be clear.

suffixes, as required.[25]

Although it follows from the properties of inflection that the structure in (66) is allowed, this in itself does not explain why this option *must* be realized: Why is moving the verb leftward to project Agr, as in Icelandic and Yiddish, blocked altogether? There is a straightforward answer to this question, namely economy. Note that in (66) Agr is generated in a VP-external position. Therefore, it can be interpreted as VP's subject, as required. At the same time it can still be properly spelled out on the verbal stem at PF. What does not take place is verb movement. This operation has become completely redundant since it fulfils no purpose. In short, OV languages with rich agreement generate inflection to the right of VP, since it is the most economical way of putting Agr in the required structural position: Merge over move (Chomsky 1995). In VO languages, on the other hand, the same strategy is blocked for obvious reasons. If the inflectional material is generated on the right, like in German, internal arguments would generally intervene, so that the adjacency requirement is violated. If inflectional affixes are generated distinct from the verb but to the left, they cannot be spelled out as suffixes since they linearly precede the verbal stem when one flattens the structure.[26] In terms of economy, then, nothing is gained by generating Agr in a

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[25] As is well known, the surface order of two verbal heads in German is different from that in Dutch. Strikingly, in German the finite verb must appears at the end. Hence, the following contrast obtains:

(i)   a.   dat Jan dit boek zeker \<wilde\> lezen \<%wilde\>
                that Jan this book surely will read will
      b.   dass Hans dieses Buch \<*wollte\> lesen \<wollte\>

It is extremely tempting to relate this contrast to the structure proposed. In German the finite verb appears at the end of the cluster so that it is string-adjacent to the inflectional node. From the viewpoint of reanalysis, then, German lacks the PF-inversion rule that Dutch has for an obvious reason. Although such an analysis can perhaps be pursued, it is not straightforward for two reasons. First of all, Afrikaans differs from Dutch in only allowing the German order (Robbers 1997:52). Since Afrikaans lacks agreement, it must lack the Dutch inversion rule for a different reason.

(iii)   dat Jan Marie \<*het\> gesien \<het\>
            that Jan Marie has seen has

More seriously, the contrast between Dutch and German breaks down in more complex examples such as (ii), where the finite verb appears at the front of the cluster:

(ii)   dass Hans dieses Buch hätte lesen wollen
        that Hans this book could-have read want

Since I cannot do justice to the complexity of the issue (cf. also Den Besten 1989; Rutten 1991; Wurmbrand 1999), I will not pursue it further.

[26] Here, the analysis clearly differs from Bobaljik (1995), who assumes that PF-adjustment rules can revert an Agr-V order into a well-formed morphological object with the affix appearing after the verbal stem. Obviously, assuming such rules would destroy the explanation offered for German.

position distinct from the verbal stem.

We are now in the position to derive the contrast between Dutch and German, repeated here as (67):

(67)   a.   [Dat hij suiker <bij de bakker> suiker gekocht heeft <bij de bakker>] is
                vreemd
                that he sugar at the baker's buys at the baker's is strange
        b.   [Dass er <beim Bäcker> Zucker gekauft hat <??beim Bäcker>], ist
                ungewöhnlich
                that he sugar at-the baker's buys at the baker's is strange

This fact can be captured by the present analysis, where the verbs form a cluster through reanalysis. PPs cannot be spelled out to the right of the cluster at PF since they would end up between the finite verb and Agr, as indicated in (67) below.[27] Consequently, adjacency between V and Agr is disrupted and the affix cannot be appropriately spelled out on the verbal stem. Hence, PPs must be spelled out at the left of the verbal cluster.[28]

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[27] In an asymmetric approach that does not allow head-final projections, the contrast in (67) would have to follow from an interplay of leftward movements. Even in an analysis with the premises of Kayne (1994) and Koopman & Szabolcsi (1999), this contrast can be made to follow from the different status of Agr. Let me sketch how that would look. The head-initial projection dominating VP must be headed by the Agr-affix in German, given our formulation of the V to I parameter. The head-final character then follows from movement of the VP into spec-AgrP. If the verb wants to satisfy the stray affix filter, however, V must be adjacent to Agr meaning that all VP-internal XPs appearing to the right of V must move out of VP, either prior to movement of VP to spec-AgrP or as a consequence of this movement:
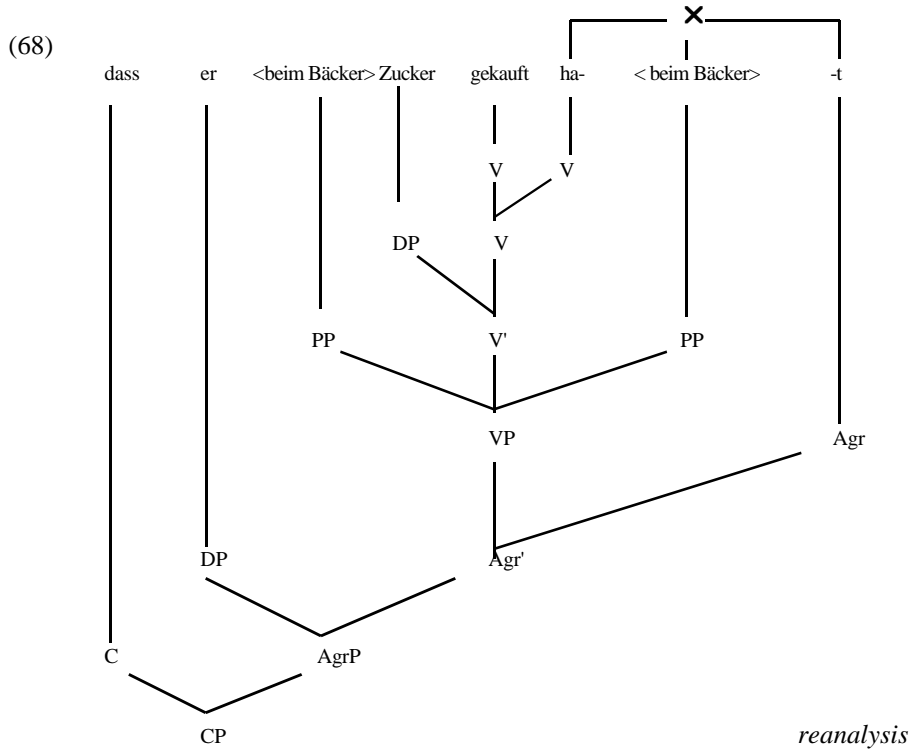
(i) $[\dots XP_i \dots [_{AgrP} [_{VP} V\ t_i]\ Agr\ [\ t_{VP}]]]$

Hence, the lack of PP-over-V follows. Dutch is different in that the first projection dominating VP does not have to be AgrP. Suppose then that PPs can move there.

(ii) $[_{FP} PP_i\ F\ [_{VP}\ t_i\ V\ OB]]$

In that case, any leftward movement of VP will lead to PP-over-V. In order to get a PP to follow the verb in German, leftward VP-movement must cross the position that PP has moved to in (i). Crucially this is a different and higher position than the one PPs can occupy in Dutch. Under the assumption that this higher projection is associated with focus, it follows that PP-over-V in German is only allowed when PPs are heavily stressed, in contrast to Dutch.

[28] Note that in main clauses the verb moves twice in order to project Agr and Tense respectively. Therefore Agr must be generated on the verbal stem in main clauses but is generated in a distinct position in embedded clauses. Nevertheless, PP-extraposition is blocked in main and embedded clauses alike. Apparently, then, PP-placement, like constituent placement in general, is not construction-specific but tied to parameter settings: PP-over-V is blocked in OV languages with rich inflection. Note that the choice of generating Agr separately or not might appear construction-specific as well, but which option is chosen is solely determined by economy, a notion that does not play a role in the placement of PP-constituents.

(68)

dass er <beim Bäcker> Zucker gekauft ha- < beim Bäcker> -t

   V   V

DP   V

PP   V'   PP

VP   Agr

DP   Agr'

C   AgrP

CP   *reanalysis*

Although the data in (66) nicely confirm the claim that German has an AgrP in contrast to Dutch, it does not seem to be true that *all* speakers of German disallow PP-extraposition. In fact, for those speakers that do, mirror image effects can be observed. Gereon Müller (p.c.) informed me that for him (69) is ambiguous, indicating that adjunct 2 can either be higher or lower than adjunct 1. Since adjunct 1 is lower than *er* in spec-AgrP, adjunct 2 cannot be higher than right-adjoined to VP.

(69)   dass er [adjunct 1 dauernd] genervt hat [adjunct 2 in manchnen Situationen]
        that he always got on our nerves in some situations

If spelling out the PP after the verbal cluster is a possibility for these speakers, how come V-Agr adjacency is not disrupted in their grammar? The present analysis, unlike the head-adjunction analysis, provides a way of describing the contrast between speakers that do and speakers that do not allow PP-over-V. For speakers that do, I suggest that the functional node Agr is input to the reanalysis process. That gives rise to

the structure in (70), where the verbal stem and the affix have become sister nodes. As a consequence, PPs can now be spelled out after the verb(al cluster) without disrupting V-Agr adjacency. Since reanalysis does not change the hierarchical relations generated by syntax, mirror image effects with PPs like in Dutch are expected.[29]

(70)

dass   er   <beim Bäcker>   Zucker   gekauft   ha-   t   <beim Bäcker>
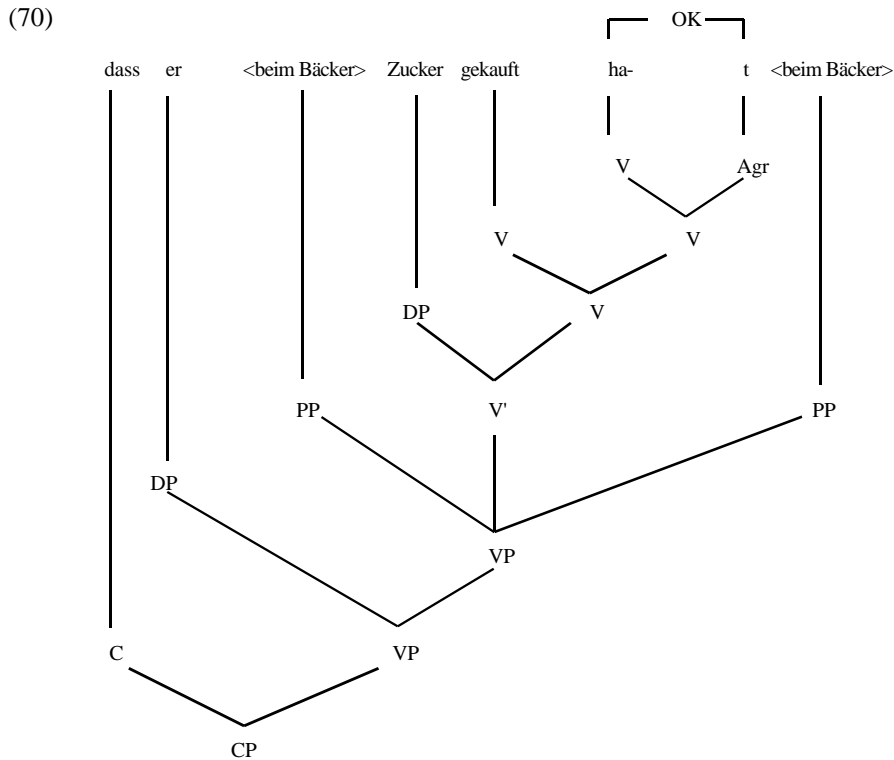
Even if the distribution of PPs in Dutch and German is better described by adopting a reanalysis account of verbal clustering than a verb raising account, what theoretical status does reanalysis have? In a minimalist theory, structures are built in a bottom-up fashion by the operations merge and move after which they are sent to the output levels LF and PF. A legitimate question to ask, therefore, is whether adding reanalysis to the inventory of operations would not unnecessarily complicate the model of grammar.

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[29] In this dialect of German, Agr must of course still receive a theta role from VP. If one assumes that reanalysis should be "expressed by means of an additional pair of brackets" (cf. Haegeman & van Riemsdijk 1986), the initial representation built by the computational system is never destroyed by the reanalysis process before it is sent to LF. If so, Agr can receive VP's external theta role in both dialects.

Although an exhaustive discussion of this issue is beyond the scope of this thesis, I will indicate in which direction conceptual motivation for reanalysis can be sought.

In the government and binding framework, reanalysis has been proposed as an alternative to adjunction (Huybregts 1983; Haegeman & van Riemsdijk 1986; Bok-Bennema & Groos 1988, van Riemsdijk 1988). As van Riemsdijk (1998: 644) remarks, "[...] the idea is NOT to add a new device, reanalysis, to the inventory of operations performable by transformational rule, viz., substitution and adjunction, but rather to replace adjunction by reanalysis". Note that in the discussion about the inventory of operations performed by the computational system, the status of verb movement is fuzzy, as observed by van Riemsdijk (1998). In recent theorizing this operation is mostly seen as an adjunction operation adjoining the verb to an empty head. In GB theory, movement of the verb to an empty head and one to an overt head are distinguished: The former is called substitution and the latter adjunction. It is this adjunction operation that reanalysis is supposed to replace. In the alternative view on verb movement expressed in this thesis, verb movement is neither. If the verb moves in order to project one of its features, the operation is most appropriately called 'project'. Therefore, I conclude that V to I and V to C do not affect the discussion about the status of reanalysis, only verb raising does.

Reanalysis is empirically motivated since it offers a better account for some subtle differences between German and Dutch than head-adjunction does. If reanalysis is introduced in the grammar with the goal of eliminating head-adjunction, the computational system is not needlessly enriched. Ideally, however, we would like to have some idea as to why the grammar would prefer reanalysis over head-adjunction as a way to encode dependency relations, assuming that this is what is at stake here. A priori, both are possible ways of achieving this result. Although I cannot provide an extensive answer to this question, I think that van Riemsdijk (1998) offers an important clue. He notes that in all cases that are amenable to an account in terms of reanalysis, the two (or more) elements involved are string-adjacent. We might speculate, then, that reanalyzing them as one complex head is simply a more economical solution than syntactic movement, hence preferred by the computational system.

To sum up this section, I propose that, despite the lack of clear distributional evidence, German, in contrast to Dutch, has a head-final AgrP projected from an inflectional affix. This affix is generated in a position distinct from the verbal stem, a possibility restricted to OV languages. It would be wrong, however, to conclude that a head-final AgrP is postulated for German just to account for the PP-over-V contrast with Dutch. This hypothesis will eventually account for the following five facts about German:

(i)   The lack of a visible inflection-related verb movement, despite the rich agreement paradigm.
(ii)   The resistance of PP-over-V for a number of German speakers.
(iii)   The lack of verb second in embedded clauses.
(iv)   The existence of transitive expletive constructions in main clauses.
(v)   The lack of transitive expletive constructions in embedded clauses.

Points (i) and (ii) have been discussed in this section: (i) follows from economy and (ii) follows from the fact that V and Agr must be PF-adjacent. In the next chapter, the presence of AgrP as a projection from an affix will be relevant for the explanation of (iii). It is argued that verb second languages with rich agreement (i.e. verb second languages that project AgrP) have verb second in main and embedded clauses alike. In this way, Icelandic and Yiddish contrast with Mainland Scandinavian and Dutch. German, however, seems to be the exception: Although it has rich agreement, it does not display verb second in embedded clauses. I will show that under the analysis proposed here, the explanation of this contrast is straightforward. As to (iii) and (iv), it will be shown in chapter 4 that German has transitive expletive constructions, like Yiddish and Icelandic and unlike Mainland Scandinavian and Dutch. It contrasts with Icelandic and Yiddish, however, in that it only allows them in main clauses. Since the possibility of generating these constructions is argued to depend on the application of verb second as well as on the presence of AgrP, German must have this projection. Since verb second fails to apply in embedded clauses for independent reasons, transitive expletive construction do not occur in these contexts, in contrast to Yiddish and Icelandic.
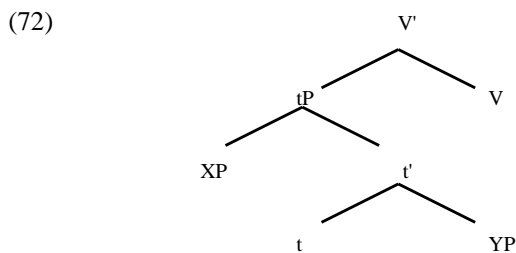
4.3 Asymmetric verb movement

Before closing this chapter, I would like to address one final issue. Note that AgrP in German is a head-final projection, something which is not allowed under Kayne's LCA. Although nothing forces me to adopt Kayne's hypothesis, a question that is left open is why inflection-related movement is leftward in VO languages. Likewise, verb second is by definition a leftward movement in both VO and OV languages. Of course, one could stipulate that functional projections are head-initial by default (which can only be overridden in certain cases), but a more fundamental answer can be given. Ackema & Neeleman (1998) note the paradox that, on the one hand, mirror image data suggest that syntax is symmetric, whereas verb movement data on the other hand seem to indicate that syntax has an asymmetric property.[30] As a way out they suggest that

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[30] Of course, there are mirror image effects beyond PP-extraposition in Dutch, as noted by Ackema & Neeleman. In French, postnominal adjectives appear in the opposite order of the prenominal adjectives in English. In Tagalog, where adjectives can appear on either side of the noun, similar mirror image effects can be witnessed within one

syntax itself is symmetric and that the movement asymmetry is a consequence of universal parsing strategies. Crucial are the following two more or less standard assumptions about the human parser:

(71)   a.   The parser can only postulate a trace after having encountered an antecedent

         b.   The parser cannot destroy already established information in a given parse

The reasoning goes as follows. In a VO language rightward verb movement (either V to I or verb second) would cross the object. In an OV language like Dutch, PPs can follow the verb's base position. A verb movement operation to the right implies moving the verb across this PP. Generalizing over these two cases, we can say that the structure that the parser has to build is the one in (72), where YP coincides with a DP-object or PP, depending on the language in question:

(72)

```
                          V'
                         /  \
                       tP    V
                      /  \
                    XP    t'
                         /  \
                        t    YP
```

Note, however, that the parser must build this structure on the basis of the following linear string:

(73)   XP YP V

Given the assumption that no trace can be postulated until the antecedent is parsed, the trace and its projection can only be construed once V is encountered. This implies that at the point that YP is parsed, the parser has no choice but to analyze this constituent as a left branch. In (72), however, which is the structure that the parser is hypothesizing when it encounters the verb, YP is a right branch. Hence, a structure involving a rightward verb movement across a dependent category (DP-object or PP) can only be built by destroying part of the already established information. Under the assumption

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and the same language. More generally, according to Greenberg (1966) the order of determiners, numeral, and adjectives in languages where these element follow the noun is the mirror image of the order found in languages where they precede the noun.

that a parser is not allowed to do that (cf. 70b), the analysis in (72) is ruled out: Although the grammar might allow such structures, the parser does not.[31]

In short, Ackema & Neeleman provide an answer to the question of why verb movement is generally leftward. At the same time, their analysis does not rule out the specific case of the head-final AgrP in German. The point is that no verb movement takes place and no trace has to be postulated after the head of AgrP has been parsed.

5. Conclusion

In this chapter, it was argued that the correlation between rich inflection and overt verb movement reduces to the theta component. Rich inflection is argumental and must be associated with the external theta role. Verb movement is triggered because the external theta role is a property of VP rather than V. Hence, verb movement is required in order to bring Agr into a position within VP's predicational domain. After movement, Agr is projected and becomes the sister of VP: Assignment of the external theta role can take place straightforwardly. Verb movement is overt since it is a structure-creating operation. Under the independently needed assumption that no projections may be built after the structure has branched off to PF, AgrP must be projected in overt syntax, even though LF is ultimately responsible for the movement. It was shown that there are reasons to believe that the analysis can be successfully extended to the OV languages.[32]

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[31] Although DP objects in Dutch and German are to the left of the verb's base position, object clauses are typically to the right. Under the assumption that these clauses are right-adjoined to some category lower than the position to which the verb moves in verb second constructions, similar problems for the parser will ensue if V to C were to the right in OV languages. Hence, verb second invariably involves a verb movement operation that is leftward.

[32] Recall from chapter 1 that infinitives seem to move in Italian. For Icelandic, it has been convincingly shown that infinitives move in control complements, in contrast to ECM and raising contexts (Hornstein 1989, Johnson & Vikner 1998). Johnson & Vikner claim that this movement takes place in order to protect PRO from being

Despite the large empirical domain captured by the analysis, a few counterexamples exist. It was suggested that the languages showing V to I despite being poorly inflected for agreement, have the operation as a remnant of earlier stages: Although acquirers of these languages may note that the agreement paradigm does not trigger verb movement, they might be forced to adopt such a rule, given the input data on which they base their grammar.

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governed by the complementizer, a proposal that could in principle be incorporated in the present theory. In order to account for cross-linguistic differences, one should carefully consider the distribution of complementizers and infinitive-markers in other languages, so as to explain why no comparable infinitival movement takes place in for instance French (Pollock 1989) or Yiddish (Beatrice Santorini, p.c.). I refer to Johnson & Vikner for some suggestions.

Chapter 3

V to C movement

1. Introduction

This chapter will focus on the other verb movement operation in declarative clauses for which the evidence is direct and which is clearly parametrized, namely V to C movement. In the introduction it was shown that verb second, the quintessential example of V to C movement, is parametrized in two respects.[1] First of all, languages can show this phenomenon or not, as the contrast between Icelandic versus English shows:

(1)   a.   Bókina <keypti> Jón <*keypti> ekki   Icelandic
             books bought John bought not
          b.   This book <*will> John <will> never read   English

Second, languages can show verb second in main clauses only, or the effect shows up in embedded contexts as well. This is where for instance Icelandic and Dutch differ:

(2)   a.   að í herberginu hefur kyrin staðið   Icelandic
             that in the room has the cow stood
          c.   *dat in de kamer stond een koe   Dutch
             that in the room stood a cow

The aim of this chapter is to account for both of these contrasts.

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[1] Since I focus on verb movement in declarative clauses, I will largely ignore questions, although some assumptions will be made as we go along.

Previous approaches have tried to analyze V to C movement as an operation satisfying some constraint that is not unique to verb second languages. Instead of saying that verb second languages do "something extra", they attempt to show that V to C satisfies a constraint that is met differently in other languages. Roberts (1993), for instance, claims that verb second languages case-license the subject under government, whereas for instance English licenses this element through spec-head agreement. Alternatively, it has been claimed that the category C contains some feature that triggers verb movement in verb second languages. The same feature would then reside in a lower position in English, for instance INFL, and movement of the verb to C is not required (see Vikner 1995 for an excellent overview and references).

The attempt to analyze V to C as one of the possibilities that language may employ to satisfy some (universal) constraint is justified, I believe. Nevertheless, this only addresses part of the puzzle. A remaining question is still why the cross-linguistic differences in verb placement are as we find them. That is, there is nothing intrinsic about Icelandic that it should assign case to the subject under government, or that it should have a particular feature in C rather than in a lower head. Hence, even if Icelandic and English obey the same constraint, the contrast in (1) is still accounted for in an ad hoc way.[2] An attractive solution to this problem is if the absence of V to C can be ascribed to language-specific properties; that is, only if in a certain environment these properties are absent, V to C is triggered as a last resort operation. Under this view the task is to design an output condition that (i) can be met by V to C and (ii) allows us to identify language-specific properties blocking V to C in English, Italian and in embedded clauses in a subset of the verb second languages. The interaction then explains the differences in verb placement as we find them. First, I will present a trigger for V to C movement. After that I will indicate why this operation does not take place in the environments mentioned, that is why the constraint is met differently in these contexts.

Given the theory of verb movement adopted in this thesis, we expect V to C to be analyzable as an operation that involves the projection of some property of V. What I propose in this chapter is that the verb moves in order to project Tense features. The output condition triggering this movement is the one stated in (3), which I take to be universal:[3]

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[2] In addition, note that it is precisely the relation between some feature and verb movement that is not so obvious here: Main verbs in English do not move at all. If INFL can remain empty in English, why can't COMP in verb second languages?

[3] The condition in (3) is taken to influence verb placement across languages. Therefore, 'universal' should be taken to mean 'applying to "tensed languages" in the sense of Stassen (1997:350)'. He defines tensed languages as those in which tense is a grammatical category which is "morphologically bound on verbs and minimally involves a distinction between past and non-past time reference". Thanks to Arnold Evers for bringing up this point.

(3)   *The Tense condition*
               The Tense features of the predicate must be visible on a head
               that COMMANDs both the subject and the predicate.

The idea that V to C is somehow Tense-related is far from new. It has often been
claimed that the C-position in verb second languages contains a Tense feature that has
be picked up or spelled out on some lexical element (see for instance Platzack 1983 and
den Besten 1983). That the semantics of Tense is somehow syntactically encoded is for
instance put forward in Pollock (1989). Even the specific idea that verb second is
related to the scope properties of Tense has been proposed earlier (cf. Evers 1982).
What is new here is the way in which the constraint is made to account for the
contrasts mentioned at the beginning of this chapter.

        The intuition behind the idea that Tense should have COMMAND over the
subject and the predicate can be expressed as follows: It is the syntactic correlate of the
fact that Tense is a characteristic of an event or proposition, interpreted distinctly from
the verb itself. It is not a feature of the denotation of V and as such does not form a
semantic unit with it. This assumption is, I believe, relatively uncontroversial. This
leaves open many semantic approaches to Tense and I will not commit myself to any
particular view here.[4] The only specific claim made is that the semantic discontinuity of
V and Tense is syntactically encoded.

        Note that not any Tense feature can satisfy the Tense condition. An infinitive
marker can be assumed to be marked as [-T]. Many languages have complementizers
that select a tensed complement. It is therefore natural to assume that these are marked
[+T], if only to distinguish them from complementizers that select an infinitive clause.
However, this Tense specification is very rudimentary: [+T] by itself cannot anchor an
event in time. For that, a feature like [± Past] is required. I will therefore take it that the
Tense condition can only be satisfied by contentful Tense features expressing for
instance past, present or future. In the languages under discussion, these features are
introduced by the Tense affix on the finite verb. Nevertheless, we will see that
complementizers can at least participate in satisfying condition (3).

        In principle, the Tense condition can be met in two ways. Either Tense is
present on a head that takes the predicate as its complement and the subjects as its
specifier. In that case, Tense can distinctly COMMAND the subject and predicate from
one position by m-command (cf. 29a). Alternatively, Tense can be present on a head

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[4] An obvious approach to take, since it is in line with (3), is to say that Tense is a sentential operator (cf. Prior
1967). In a Tense logic approach, for instance, the representation of (ia) is something like (1b):

(i)   a.   John ate an apple
           b.   Past[eat(John, an apple)]

See Giorgi & Pianesi (1997), however, for a recent critique and general discussion.

that takes as its complement a category that dominates both the subject and the predicate. In (29b), Tense c-commands both of these elements from one position.

(4) a. FP
        / \
      SU   F'
          / \
         F   PRED
        [+T]

b. F'
   / \
  F   XP
 [+T] / \
     SU PRED
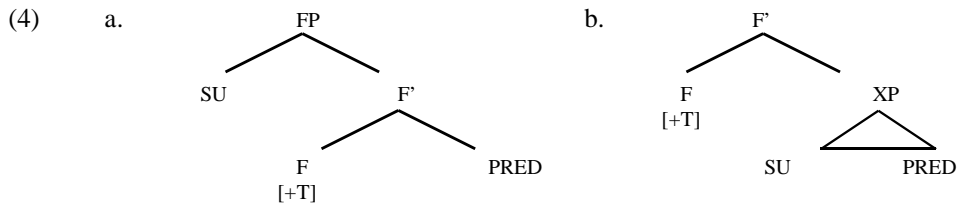
Let us assume that Tense features are introduced by that element of which they are inherently part, namely the Tense affix located on the verbal head. If Tense must COMMAND the subject and the predicate, these features of the verbal predicate must be present on a syntactic head in a position corresponding to (4a) or (4b). This entails that, for interpretation to proceed correctly, the Tense features must minimally be made visible beyond the position in which they are inserted. One mechanism ensuring this is movement. V to C, then, is analyzed as a way to satisfy (3).[5] Under the assumption that the Tense condition becomes relevant after the subject has been merged with the predicate, it follows naturally that the verb consequently moves up to a position higher than the subject and the predicate in order to satisfy (3) under c-command.

If this is the analysis of V to C, why, then, are English and Italian different? The fact that no subject verb inversion takes place in declarative clauses must mean that in these languages the verb does not move to a position higher than the subject and that the Tense condition is satisfied earlier in the derivation than in a verb second language. In addition, the fact that in Dutch (3) is met by V to C in main clauses but that the verb does not move the verb in embedded clauses suggests that V to C is a last resort operation for some reason not needed in embedded clauses. As said, the claim that I will defend is that in all these cases where (3) can be satisfied without V to C, some language-specific property that is independently motivated is responsible for that. These properties are stated in (5).

(5)   V to C is blocked...
       a.   in embedded clauses in Dutch and Mainland Scandinavian since
               (3) can be met through the complementizer, which is only an
               option if Agr does not intervene.

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[5] Note that, just like V to I in the previous chapter, V to C has become a misnomer. There is no C to which the verb moves. Instead there is movement of the verb with the purpose of projecting Tense features. Nevertheless, I will use V to C as a label for verb movement to a position higher than the subject.

      b.   in English due to the presence of an empty Tense-marker selecting VP

      c.   in Italian and French due to the pronominal character of Agr

The rest of this chapter is devoted to working out the claims in (5). The proposal that verb movement can take place due to the need of projecting Tense features can be most clearly illustrated for V to C in the Germanic verb second languages, as shown in section 2. The most prominent question will be why some but not all languages lack verb second effects in embedded domains. As alluded to in (5a), I will make use of a standard assumption since den Besten (1983), namely that the presence of a complementizer blocks verb movement. If so, the fact that verb movement in embedded domains is still triggered in Icelandic and Yiddish must be caused by an independent property of these languages. I will show that the presence of an intervening AgrP is the most straightforward candidate.

In section 3 I will specify the claim in (5b). As already mentioned in the introduction, English provides evidence for the presence of an empty head in the clausal make-up. I will argue that it is this empty head that can satisfy the Tense constraint in this language.

In section 4, finally, I will look at Italian and French with the purpose of establishing why these languages lack verb second effects in declarative clauses. Assuming that the Tense constraint is universal, verb movement in these languages must also take place in order to project Tense features. Nevertheless, these languages have rich agreement, suggesting that AgrP must also be projected. The claim will be, however, that due to the pronominal character of Agr both the constraints on Agr and Tense can be met by a single verb movement that projects Tense features. If so, the difference between verb second and non-verb second does not so much lie in the nature of the verb movement taking place but rather reduces to a difference in XP-fronting, an operation that takes place so dominantly in verb second languages. By contrasting verb second clauses with verb first clauses in Germanic, a trigger will be postulated for XP-fronting that will at the same time explain why subject inversion is a property of verb second languages and not of Italian, or English for that matter. Since I fear that a brief explanation of this trigger will be incomprehensible, I will postpone the discussion until all the data relevant in this chapter have been presented.

2. Verb second languages

As noted, with the exception of English all Germanic languages have verb second. The finite verb always occurs in second position if another element than the subject is topicalized: Subject-verb inversion is obligatory as shown in (6).

(6)   a.   Bókina <keypti> Jón <*keypti> ekki   Icelandic
              books bought John bought not
      b.   Dos bukh <shik> ikh <*shik> avek   Yiddish
              the book send I send away
      c.   Boken <köpte> Ulf inte <*köpte>   Swedish
              books bought Ulf not bought
      d.   Denne film <har> børnene <*har> set   Danish
              this film have the children have seen

V2 is analyzed as the result of two movement operations. The first fronts the verb and the second places some XP in sentence-initial position, presumably in the specifier of the projection headed by the moved verb. We assumed that a finite verb carrying tense and agreement inflection is represented as in (7). It consists of a verbal stem with two affixes, Tense and Agr, attached to the verb in morphology:

(7)   [V[Tense[Agr]]]

It is unclear whether the Mainland Scandinavian languages have an agreement affix at all.

(8)   a.   *Danish*   b.   *Norwegian*
         inf. kaste   inf. elska

	SG	PL		SG	PL
1st	kaster	kaster	1st	elsker	elsker
2nd	kaster	kaster	2nd	elsker	elsker
3rd	kaster	kaster	3rd	elsker	elsker

The only affix present is most straightforwardly analyzed as expressing Tense only. Whatever one's assumption on this, it will have no consequences for the proposal: Agr will never count as rich and V to I movement is not triggered in these languages. I will nevertheless represent Agr as a morphological entity in the discussion of Mainland Scandinavian since the analysis of Swedish and Danish is intended to capture all the Germanic languages with poor agreement (Dutch, Faroese, Hallingdalen Norwegian, etc.), including those that lack agreement altogether.

       Like before, the structure in (7) is formed in the lexicon. Under the assumption

that syntactic headedness is not lexically determined, V, Tense and Agr are all potential syntactic heads. Once the structure in (7) enters syntax, it is V that must project first: It needs to discharge its internal theta roles within its projection. The external theta role is a property of VP, hence assigned by this category. What happens next depends on the status of Agr in the language. Recall from the previous chapter that in Icelandic and Yiddish Agr counts as the grammatical subject, which is specified by a lexical DP. In Swedish and Danish, on the other hand, Agr is non-argumental and the lexical DP counts as the grammatical subject. Let us discuss each case in turn, beginning with Mainland Scandinavian.

Once V has projected into a VP, a lexical DP-subject can be adjoined to this category in Swedish and Danish. Since DP appears in VP's m-command domain, it is in the correct structural position to receive VP's external theta role.

(9)
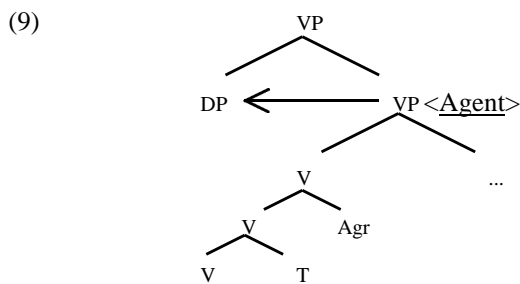
Let us now turn to the requirement that Tense COMMAND the predicate and the subject. It will be clear that in its base position, attached to the verb, Tense cannot take scope over the predicate: It is dominated by the category that it has to c- or m-command. Moreover, Tense cannot m-command the subject either: The first maximal projection dominating Tense is the lower VP and this category does not include DP. The only possibility left, then, is to bring the Tense features into a suitable position through syntactic movement. As a last resort option, the inflected verb moves and merges again with the structure in (9). After this operation, Tense projects.

(10)
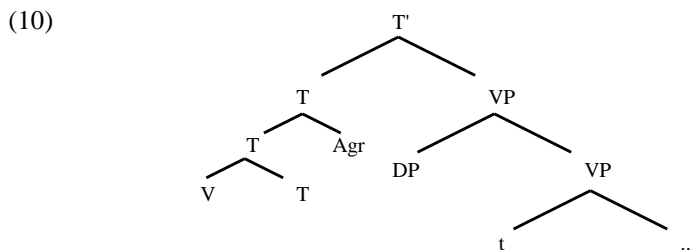
In this configuration, Tense c-commands its sister, VP, which is the category immediately dominating the subject and the predicate. Hence, it COMMANDS both the subject and the predicate straightforwardly and the Tense condition is therefore met.

There is nothing intrinsic about the specifier of Tense that requires it to be realized by a restricted class of constituents. Tense does not have to be specified by anything in particular, nor is it a natural subject position. In this respect, it clearly differs from spec-AgrP for instance. If Tense puts no such restrictions 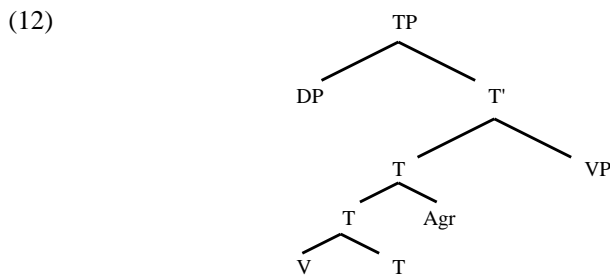on its specifier, any XP can be moved into this position. The result is a verb second effect. Note that it does not follow from the analysis that movement of some XP into spec-TP is such a pervasive property of verb second languages. I will postpone this issue for the moment and come back to it in section 4.2.

Let us now consider Icelandic and Yiddish. First the verb carrying Agr and Tense affixes is inserted in the structure and projects into VP. At this point, a DP subject cannot be merged with the predicate, like in Danish and Swedish. The reason is that Agr has argumental status in Icelandic and Yiddish. I proposed in the previous chapter that it consequently must be associated with VP's external theta role. If a lexical DP is merged with the VP-predicate, the external theta-role is assigned to this constituent, so that it is no longer available for Agr.[6] Consequently, Agr fails to be interpreted and the structure is ill-formed. Hence, the verb must move and merge with its own projection first and create AgrP. Recall that Agr cannot function as a subject all by itself in Icelandic and Yiddish since Agr is too poor for that. It needs further specification from a DP specifier. Once a lexical DP is merged with the structure in (11a), it specifies the head of the projection, Agr, as required (cf. 11b).

(11)   a.   b.

---
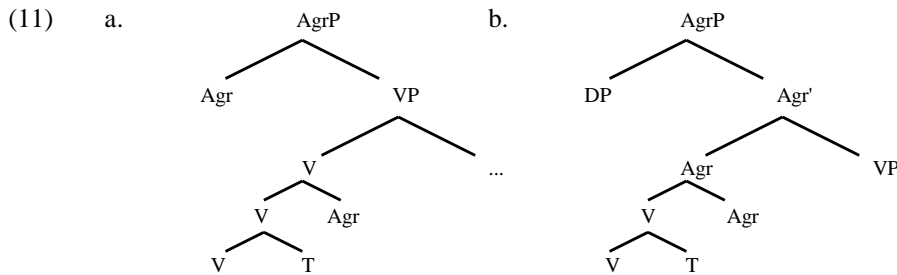
[6] One could perhaps imagine a derivation in which (i) DP is merged with VP (ii) V moves to project Agr and (iii) DP moves into spec-AgrP in order to share its thematic information obtained from VP with Agr via spec-head agreement. Not only is this derivation uneconomical (be it globally), it violates the ban on unmotivated movement which is to be presented in the next chapter. In brief, this constraint forbids movement operations that leave a trace without a unique function. In the hypothetical derivation under discussion, the trace carries thematic information but the external theta role can also be assigned to spec-AgrP, which is also within VP's predicational domain. Consequently, the trace will count as unmotivated. See chapter 4, section 2.1 for further details.

It is essential that Agr projects first. If T had projected first, the structure would look as in (12). Agr is still in VP's predicational domain and it c-commands VP, since it is not dominated by all segments of T. However, Agr cannot be specified by DP. The point is that T is the head of the projection, not Agr. Therefore, Agr cannot obtain missing feature values from DP. DP, in turn, cannot be interpreted as a subject specifier nor as a subject and therefore violates full interpretation.

(12)

```
                    TP
                   /  \
                 DP    T'
                      /  \
                     T    VP
                    / \
                   T   Agr
                  / \
                 V   T
```

In sum, only if Agr projects first can Agr and the DP-specifier be interpreted correctly. In (11b), however, Tense does not COMMAND the subject and the predicate yet. The subject in Icelandic and Yiddish is Agr and (both segments of) this category dominate Tense. Moreover, since Agr dominates Tense, the latter cannot COMMAND out of the head that it is a part of. Hence, Tense fails to COMMAND the predicate as well. Given this state of affairs, the verb is forced to move for a second time in these languages. After the first movement Agr is projected and a DP-specifier inserted. At that point, Agr can be interpreted as the subject and receives VP's theta role. Subsequently, the verb moves again and merges with AgrP, the structure in (11b). After that, Tense projects resulting in (13):

(13)

```
                        T'
                      /    \
                     T      AgrP
                    / \     /  \
                   T   Agr DP   Agr'
                  / \          /   \
                 V   T        t     VP
```
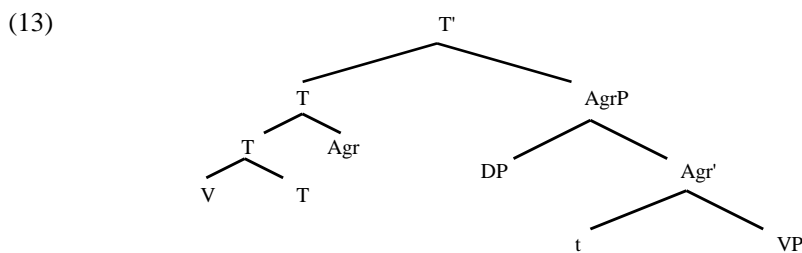
Tense now takes scope over both the subject (which is t_{AGR}) and the predicate (which is VP) since it c-commands AgrP. This category dominates t_{Agr} and VP. Like in Mainland Scandinavian, Tense puts no restrictions on what can occur in its specifier. Hence, any XP can move to this position, giving rise to a verb second effect.

To conclude the discussion so far, well-formedness conditions require that TP dominates AgrP in Icelandic and Yiddish.[7] Usually, the reverse order is assumed (e.g. Belletti 1990; Chomsky 1995). Note, however, that TP here takes over the function that is fulfilled by CP in standard analyses. Instead of for instance saying that in verb second languages C contains Tense features that have to be picked up or checked by the verb, it is the verb that moves in order to project them. Given the 'positional' triggers for rich Agr and Tense, it makes sense to adopt the order proposed here: Since rich Agr enters into a predication relation with VP, it must be close to this category, so that TP is not allowed to intervene. Tense must be relatively high if it is to COMMAND the subject (see footnote 7 for some further discussion).

How does the analysis of verb second extend to embedded domains? If the Tense properties of the predicate must have COMMAND over the subject and the predicate for them to be interpreted as applying to the proposition, there is no reason to suppose that things work differently in embedded domains. Hence, the initial prediction seems to be that all verb second languages must have verb second in embedded domains as well. This prediction clearly overgenerates: Embedded verb second effects are witnessed in Yiddish and Icelandic (cf. 14) but not in Mainland Scandinavian, German and Dutch (cf. 15).[8]

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[7] It is crucial for the analysis that Agr and Tense features are syntactically projected from the verb after movement. If one alternatively assumes that the morphological affixes are syntactically active because they are generated in a distinct position, separately from the verbal stem, verb movement would be triggered by the stray affix filter. In that case, however, we would predict that the verb first picks up Agr and then Tense leading to an order of affixes that is the reverse of what we find, at least in the languages under discussion. If the order in which the affixes appear is not a consequence of successive-cyclic movement of the verb picking up affixes, it must be determined in the lexicon. The question is why the verbal stem should select Tense before Agr. Although I do not have a good answer to this question, there is an important difference between Tense and Agr that might be relevant. Unlike Tense, Agr enters into a dependency relation with another element in the structure (a subject or a subject specifier). If for this reason Agr must be 'extra visible', it makes sense that it is generated at the word boundary. Irrespective of the explanation, note that the ordering facts do not straightforwardly follow from a standard affix-hopping approach either. There is nothing intrinsic about AgrP requiring that it be projected above TP.

[8] Although in both Yiddish and Icelandic verb second effects are attested in all clause types, including adverbial and relative clauses (cf. Magnussón 1990 for Icelandic; Den Besten & Moed-van Walraven 1986 and Diesing 1990 for Yiddish), subject-verb inversion is not completely unrestricted and depends on the element introducing the clause. We saw in the previous chapter that Icelandic speakers do not allow it in embedded clauses introduced by certain WH-words, a fact that is also true for a number of Yiddish speakers, although judgements vary. Another complication, pointed out to me by Anders Holmberg, is that verb third orders are reported in Icelandic relative and temporal clauses (cf. Maling 1980; Sigurðsson 1989).

(i)   Maria las kvæðið þegar hún <loksins> keypti <loksins> bókina
           Mary read poem-the when she finally bought finally book-the

In the analysis presented I will largely abstract away from these complications. Although a suggestion is offered for the restricted occurrence of subject-verb inversion in embedded questions below, I have nothing intelligent to say about the occurrence of verb third orders. They appear in contexts where, Magnusson (1990) observes, subject-verb inversion is near impossible. For this reason, Bobaljik & Thraínsson (1998) analyze (i) as involving verb

(14)   a.   að í herberginu hefur kyrin staðið   Icelandic
                that in the room has the cow stood
        b.   az morgn vet dos yingl zen a kats   Yiddish
                that tomorrow will the boy see a cat

(15)   a.   *Jan beklagar att den här boken hade jag läst   Swedish
                Jan regrets that this here book had I read
        b.   *Jan zal regelen dat in de kamer staat een koe   Dutch
                Jan will arrange that in the room stands a cow
        c.   *Ich glaube nicht dass auf dem weg sitzt eine Katze   German
                I believe not that on the path sits a cat

So although the languages in (14) are initially expected under the present analysis, the ones in (15) now pose a problem: If verb second is triggered by a constraint on the interpretation of Tense, why does the verb not move to project Tense in embedded clauses in all verb second languages? Recall from the introduction that it is a commonly held opinion that it is the presence of the complementizer that blocks verb movement in embedded clauses, as originally proposed by den Besten (1983). This analysis faces the opposite problem: Although it straightforwardly captures Dutch, German and Mainland Scandinavian, the symmetric verb second effects in Yiddish and Icelandic are unaccounted for. Nevertheless, I believe that den Besten's insight is basically correct. From the perspective of the Tense condition, it means that the complementizer is apparently involved in the satisfaction of it in some but not all languages. What I propose is that the distinction between symmetric and asymmetric verb second is the consequence of a locality condition on head-head dependencies. Let me explain.

The triggers for verb movement proposed in this thesis are positional in nature. The verb must move and project certain features because these need to occupy a particular structural position with respect to other entities in the structure. Thus, movement is no longer triggered by the need to establish a dependency relation between two heads, one functional and one lexical. This makes it less obvious that verb movement is necessary at all to establish such dependency relations. In fact, checking theory as defined in Chomsky (1998) no longer assumes that a functional head can only enter into a checking relation with the verb only if it has been attracted to it. Hence, two heads can "see" each other without a movement operation taking place.

Against this background, I will assume that a head can enter into a dependency

---

movement to T with the subject surfacing in spec-AgrP. The adverb can then be adjoined to TP, leading to a verb third order. In their analysis V does not have to move all the way to Agr since in T it is close enough to Agr to allow feature checking (cf. chapter 1 section 3.1 for details). Although this gives a correct description of the example in (i), it leaves unexplained why these verb third orders are so rare and restricted to these specific embedded contexts.

relation with another head without moving to it but that a strict locality condition is at play.[9] I will formulate this condition as follows:

(16)   *Accessibility*
        Accessible to α are
        (i)   β, β being the closest (segment of a) head in α's c-command domain
        (ii)   every complete head γ, where γ is a sister of (a segment of) β.

The intuition behind (16) is as follows. A head α can only enter into a dependency relation with the first complete head in its c-command domain (cf. i), not with segments of a head. If constructing the first complete X^0-category entails that α automatically comes across other complete heads, these heads will be equally accessible to α (cf. ii): α cannot help but see them. Let me illustrate this with a few examples:

(17)   a.

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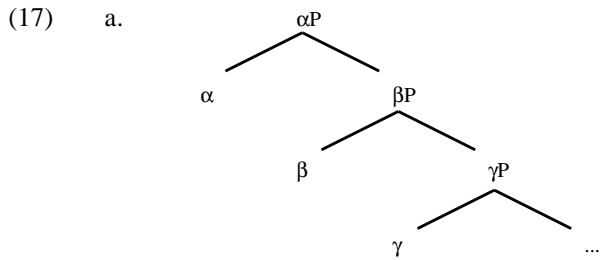
[9] Like Chomsky (1998) I assume that heads can enter into dependency relations with other heads even if no movement takes place. Like Chomsky does for AGREE or MATCHING (pp. 38 and further), I assume that "closest c-command" restricts these depende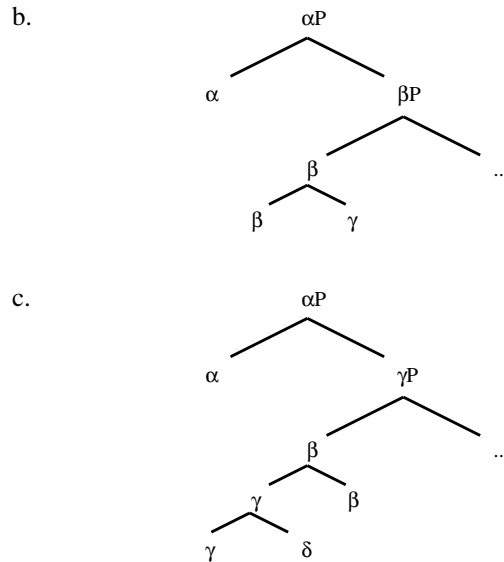ncy relations. The notion *accessibility* used here, cannot be equated with AGREE, however. I deviate from Chomsky in that a head cannot automatically see all sublabels of the closest head. It is crucial to observe that the dependency relation introduced in this section (one between Tense features on V and the complementizer) is distinct from AGREE anyway since, unlike in Chomsky's AGREE, there is no strict feature identity. This was also the case with the relation between a DP-specifier and a rich Agr affix, where one element shares some of its information with another element. Ultimately, of course, one would hope that one theory of locality suffices to account for both subcases, i.e. feature checking and feature sharing. Since it is beyond the scope of this thesis to make a detailed comparison of checking theory and the present proposal, I will follow my own course here and note the crucial differences.

b.

```
                    αP
                   /  \
                  α    βP
                      /  \
                     β    ...
                    / \
                   β   γ
```

c.

```
                    αP
                   /  \
                  α    γP
                      /  \
                     β    ...
                    / \
                   γ   β
                  / \
                 γ   δ
```

The structure in (17a) is rather straightforward. The first head that α encounters when looking in its c-command domain is β. Since α cannot look any further, γ is not accessible to α, only β is. In (17b), the head closest to α is again β, since the closest head node in α's c-command domain is a segment of β. Since α can only enter into a dependency relation with complete heads, it must construct the complete category β. Therefore, the daughters of the top segment β become relevant pieces of structure. In this process, α will hence automatically encounter γ, which is a complete category and a sister of β, hence by (16ii) accessible to α, like β is. In (17c), the first complete head that α constructs is β. In this process, no other complete heads are encountered, only one segment of γ, which is a sister to the lowest segment of β. Therefore, γ and δ are inaccessible to α, only β is. The 'c-command' clause of (16) is independently motivated. Under the standard assumption that the relation between a moved verb and its trace qualifies as a syntactic dependency, the 'c-command clause' captures the Head Movement Constraint (Travis 1984). Clause (ii) in (16) will explain why under certain conditions a verb can remain in situ in spite of the Tense condition.
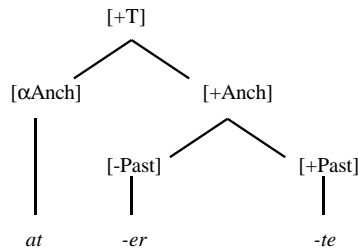
Suppose that we have the following structure, consisting of a subject-predicate combination selected by a complementizer:

(18)

```
                         CP
                       /    \
                      C      VP
                           /    \
                         Su      VP
                               /    \
                              V      Ob
                            /   \
                           V    Agr
                          / \
                         V   T
```
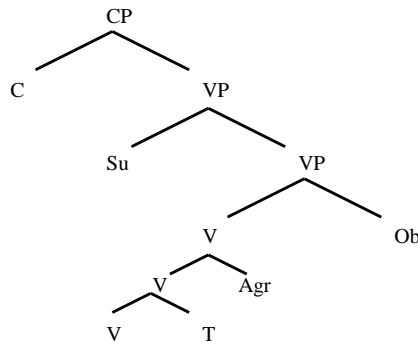
Since the inflected verb has not moved, we must be dealing with a language that does not have a rich agreement paradigm: The structure in (18) depicts an embedded clause in for instance Swedish. The question is how the requirement that Tense take scope over the subject and the predicate is met. Let us assume that C is marked for Tense. However, these features at most express [± Tense]: C is for instance not inherently marked for [± Past]. In the languages under discussion, therefore, C cannot anchor the event denoted by the embedded proposition in time. This is what distinguishes it from a Tense affix on the verb. If we put these in one representation, Tense-marked elements, then, come in two kinds. (19) illustrates the situation for Danish:

(19)

```
                         [+T]
                       /      \
                 [αAnch]      [+Anch]
                    |        /       \
                    |    [-Past]    [+Past]
                    |       |          |
                    at     -er        -te
```

Since it is the feature expressing [± Past] anchoring the event in time that must be interpreted distinctly from the verb, it is this feature that is relevant for the Tense condition and that must take scope over the subject and the predicate. Suppose now that since C is, like the Tense affix, marked for Tense, it can trigger a dependency relation with the Tense affix. Such a dependency relation is allowed in (18): V is the first segment of a head that C encounters in its c-command domain and construction of the complete category V makes T (as well as Agr) accessible to C: Both T and Agr are as complete heads sisters of a segment of V. Under the assumption that all elements in (19) contain the features made available in the paradigm as a whole, the established dependency relation is between [+T, -Anch, αPast], namely the complementizer, and

[+T, +Anch, ±Past], the Tense affix. Although they are both [+T], note that they have opposite values for [αAnch]. I would like to put forward the following hypothesis. It makes sense to look upon [αPast] as a genuine subfeature of [αAnch]. Since [αPast] gives content to [αAnch] rather than vice versa, their hierarchical position in the representation with respect to each other is fixed: [αPast] will always be a branching below [αAnch] instead of vice versa.[10] Suppose now that in the established dependency relation, the Tense affix provides the complementizer with a feature value for [αPast]. Then the consequence of this is that the complementizer's value for [αAnch] has to switch from minus to plus. Hence, C will end up with a feature representation that is identical to that of the Tense affix. In short, the consequence of the established relation with T on V is that C receives a feature value for [αPast]. The result is that the Tense condition is satisfied: C c-commands its sister, which is the category dominating both the subject and the predicate.

(20)

```
                          CP
                      ╱        ╲
          [± Past] C              VP
                             ╱        ╲
                           Su           VP
                                     ╱      ╲
                                   V           Ob
                                ╱    ╲
                              V       Agr
                            ╱   ╲
                          V      T [± Past]
```
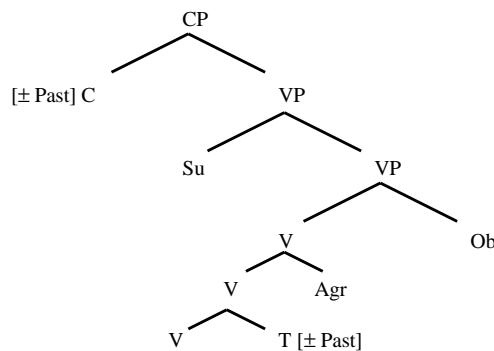
As can be observed, no verb movement has to take place. This is in contrast to matrix clauses: Since no C is present in root environments, the only way in which Tense can have COMMAND over the predicate is by moving the verb and projecting Tense: Verb movement is triggered as a last resort operation. The root/non-root asymmetry in Mainland Scandinavian is thus accounted for.

Let us now see why Icelandic and Yiddish are different. We argued in the previous section that besides verb second these language have a second verb movement operation triggered by the need to bring rich Agr in a VP-external position. What happens in these languages, then, is that the finite verb moves and merges with the predicate, after which Agr projects. Suppose now that we embed the result under a

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[10] A way of formally representing this would be to analyze Tense affixes as [+Anch$_{[±Past]}$]. Note that the fixed hierarchy did not have to be assumed for the representations of phi-features in the previous chapter, hence the situation here is qualitatively distinct.

complementizer, so that we obtain the structure in (21):

(21)

```
                        CP
                       /  \
                      C    AgrP
                          /   \
                        DP      Agr'
                               /    \
                            Agr       VP
                           /   \     /  \
                          V    Agr  t    OB
                         / \
                        V   T
```
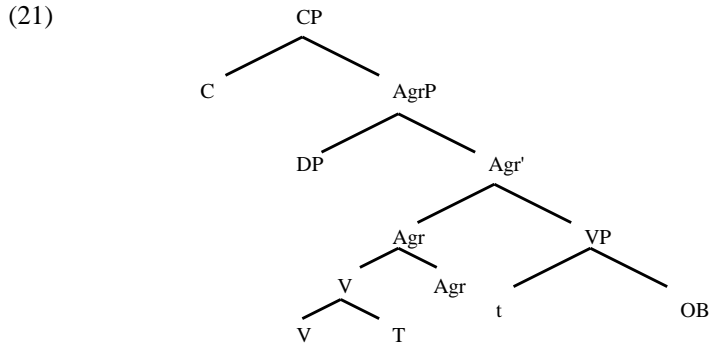
What initially goes wrong in this structure is exactly what goes wrong in main clauses as well. Although Tense is part of the moved verb, it only c-commands V: It has no COMMAND over Agr, the subject, nor over the VP-predicate from this position. At the same time the structure is such that a dependency relation between C and Tense is blocked. Since in Icelandic and Yiddish Agr projects after the first verb movement, Agr is the first head that C encounters in its c-command domain. Once the complete category Agr has been constructed, C has in addition only come across one segment of V. Crucially then, T is not accessible to C, given the locality on head dependencies. Consequently, [± Past] will not become visible on C. Since the Tense condition fails to be met, a second verb movement is required. This movement will project TP, just like in main clauses.

To conclude, the Mainland Scandinavian languages differ from Icelandic and Yiddish in being able to make Tense features visible on C as a consequence of the dependency relation with the Tense affix. Since Yiddish and Icelandic must generate AgrP for independent reasons, this relation cannot be established in Icelandic and Yiddish and a second verb movement is triggered. Hence, there is a correlation between having both TP and AgrP in main clauses and embedded verb second effects.

Although the analysis explains the difference between a symmetric and asymmetric verb second language by taking into account language-specific properties (here, generation of AgrP), we must reconsider some data that have been presented in the previous chapter. Recall that subject-verb inversion was excluded in certain embedded questions in both Icelandic and Yiddish:

(22) a.   *Ég veit ekki af hverju í herberginu hefur kýrin staðið   Icelandic
            I know not why in the room has the cow stood

b.   *Ikh veys nit ven in tsimer iz di ku geshtanen   Yiddish
        I know not when in the room has the cow stood

These environments were consequently used as a testing ground to see whether these languages have independent V to I movement. The fact that finite verbs still need to precede VP-adverbs was taken as evidence that they do:

(23)   a.   Ég veit ekki af hverju kýrin hefur oft staðið í herberginu
                I know not why the cow has often stood in the room
        b.   Ikh veys nit ven di ku iz oyfn geshtanen in tsimer
                I know not when the cow has often stood in the room

However, if Tense must take scope over the subject and the predicate in main and embedded clauses alike, we expect the verb to move in order to project the Tense features in all finite clauses, including the embedded ones in (23). Hence, the theory predicts that both AgrP and TP are generated under the (non-overt) complementizer in (23) and that the DP-subject, or more correctly the subject-specifier, occupies spec-TP and not spec-AgrP (which only contains a DP-trace). If so, we must conclude that these sentences no longer provide distributional evidence for the presence of a head position between V and T, i.e. Agr, in Icelandic and Yiddish. This does not entail, however, that all evidence for V to I (that is, for the presence of AgrP) is now lost. There are still enough grammar-internal cues to show the language learner that V to I takes place. First of all, there is rich inflection. Second, if I am right, embedded verb second itself is related to the presence of AgrP. Third, in the next chapter it will be argued that transitive expletive constructions are only possible if a language has both AgrP and TP. Since Yiddish and Icelandic allow this construction, AgrP must be present.

(24)   a.   [$_{TP}$ Það hafa [$_{AgrP}$ margir jólasveinar [$_{VP}$ borðað búðing]]]   Icelandic
                there have many Santa Clauses eaten pudding
        b.   [$_{TP}$ Es hot [$_{AgrP}$ imitser [$_{VP}$ gegesn an epl]]]   Yiddish
                There has someone eaten an apple

Fourth, it will be argued, also in the next chapter, that one of the consequences of having rich inflection is that object to subject raising becomes optional rather than obligatory. If so, the following data will again reveal that AgrP must be present in Icelandic and Yiddish:

(25)   a.   [_TP_ Það hafa [_AgrP_ <margir menn> [_VP_ komið <margir menn>
            there have many men come many men
            hingað í dag]]]   Icelandic
            here today

        b.   [_TP_ Es vert [_AgrP_ <an epl> [_VP_ gegesn <an epl>]]]   Yiddish
            there was an apple eaten an apple

In short, despite the lack of distributional evidence, the child learning Icelandic or Yiddish will have no problem in establishing the need to generate AgrP.

      If TP must be projected in all tensed clauses, what about the ungrammaticality of the sentences in (22)? Although I do not have a completely satisfying answer to this question, I speculate that the suggestion made by Vance (1989) and De Bakker (1997) is on the right track. They try to account for the rare occurrence of verb second effect in embedded WH-questions in Old French and suggest that it is due to a pragmatic clash. Clause-initial XPs are generally prominent constituents. They often introduce the topic of the clause or indicate what the link is to previous discourse. WH-constituents, however, are prominent in much the same way. Suppose that as a consequence of this shared function there is a strong tendency to let the embedded WH-operator follow by a non-prominent XP. In that case, it is not surprising to find that subject-initial clauses give better results, since subjetcs are default topics. For the same reason, expletive-initial clauses are fine in these contexts as well (cf. Hornstein 1991).

(26)   Ég veit ekki af hverju það hefur komið strákur
             I know not why there has come a boy

Although a bit sketchy as it stands, the advantage of putting it as a strong tendency rather than as an absolute constraint is that it leaves open the possibility that embedded subject-verb inversion is not categorically ruled out in some ideolects. Diesing (1989) notes that (23b) is not judged ungrammatical by all speakers of Yiddish. I am not aware of differing opinions on the grammaticality of (23a), however.

      Let us now turn to the OV languages Dutch and German. In both languages, the verb appears at the end of the embedded clause, as can be observed in (27):

(27)   a.   ...dat Hans brood bij de bakker koopt   Dutch
            that Hans bread at the baker's buys

        b.   ...dass Hans Brot beim Bäcker kauft   German
            that Hans bread at-the baker's buys

It is expected given the theory developed so far that Dutch does not have embedded second. Agreement inflection is poor and no AgrP needs to be projected. Therefore, C

can enter into a dependency relation with the Tense features on the verb, just as in Mainland Scandinavian. German, however, does have rich inflection. Nevertheless, it patterns with Dutch rather than with Icelandic and Yiddish in not displaying verb second in embedded domains. I believe that the different behaviour of German is again due to it being an OV language. In the previous chapter (section 4.2) I argued that in German the inflectional material is inserted into the structure to the right of VP, heading a head-final projection. Since Agr projects it can receive VP's theta role and be specified by a DP occupying spec-AgrP. No verb movement has to take place in order to project AgrP. At the same time, this analysis accounts for the lack of embedded verb second effects as well. Observe the structure given in (28):[11]

(28)
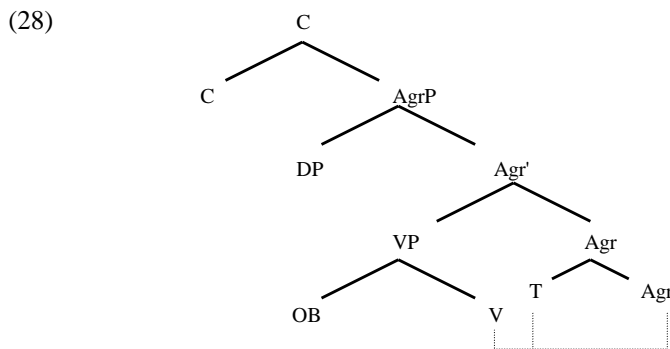
Tense c-commands Agr, just like a subject adjoined to VP c-commands the predicate. Since Tense is not dominated by Agr (only by one segment of it), it is able to c-command out of the head that it is part of and therefore has COMMAND over the VP-predicate as well. So despite the fact that German has rich agreement and hence an independent Agr projection like Icelandic and Yiddish, no verb second has to take place in embedded clauses. The reason is that German generates inflection in a position separate from the verb. Let me stress again that it is the OV character of German that allows this analysis. First of all, note that T and Agr can be appropriately spelled out at PF: They appear adjacent to the verb and in the right order, that is to the right of the stem, as indicated by the dotted lines. In a VO language, on the other hand, the affixes would either appear in the wrong position (preceding rather than following the verb) or would appear in a position where object placement would disrupt adjacency between the verb and the affixes.

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[11] Recall from chapter 2, footnote 27, that the crux of the V to I parameter as presented in the previous chapter could be taken over in a Kaynian framework, namely by postulating a head-initial AgrP and subsequent movement of VP into spec-AgrP. Under such a scenario, the Tense condition as formulated in this chapter could be satisfied as in (28).

To sum up, I analyzed V to C as a movement that the verb undertakes in order to project Tense features. The trigger for this operation is the condition requiring that these features have scope over the subject and the predicate. In embedded clauses, the complementizer can enter into a dependency relation with the Tense features on V in Mainland Scandinavian and Dutch so that verb movement becomes unnecessary. In languages where the verb already moves in order to project Agr, that is in Icelandic and Yiddish, such a dependency relation cannot be established and the verb is forced to move twice. German is exceptional in that it generates AgrP but shows no embedded verb second effects in the presence of a complementizer. The reason for this is that its OV character allows inflection to head its own functional projection. Both the conditions on Agr and T can then be met without any verb movement taking place.

3. The lack of verb second in English

As already said, English is the exception within the Germanic language group in not having generalized verb second in declarative clauses. This, however, is not the only property that makes English stand out. It is also the only language where a particular class of elements, consisting of modals, auxiliaries *have* and *be*, finite forms of *do* and an infinitival particle *to*, show some common behaviour. Most strikingly, they can all precede negation (cf. 29). Furthermore, these elements are mutually exclusive (cf. 30):

(29)   a.   John will not go to work today
        b.   John does not go to work today
        c.   John decided to not go to work

(30)   a.   *Mary decided to will work today
        b.   *Mary has will not gone to work

Generalizing, one can say that there is a particular head position above negation that is realized by the above mentioned class of lexical heads. The crucial observation is that in declarative clauses the main verb appears after VP-adverbs, indicating that it has not moved (cf. 31a). When negation is generated it triggers the presence of a finite head above negation which is distinct from the lexical main verb. Without the presence of such a head, the sentence is out, as can be observed in (31b):

(31)   a.   John never goes to work
        b.   *John not goes to work

The standard account for the paradigm in (29-31) is that negation blocks some (morpho-)syntactic process, so that generation of another finite head becomes necessary. This idea is already present in Chomsky's original affix hopping analysis (Chomsky 1957): Inflectional features above negation cannot be associated with the verb in its base position, since negation intervenes. As these features have to be picked up (or spelled out or checked), a last resort operation must take place. Apparently, movement of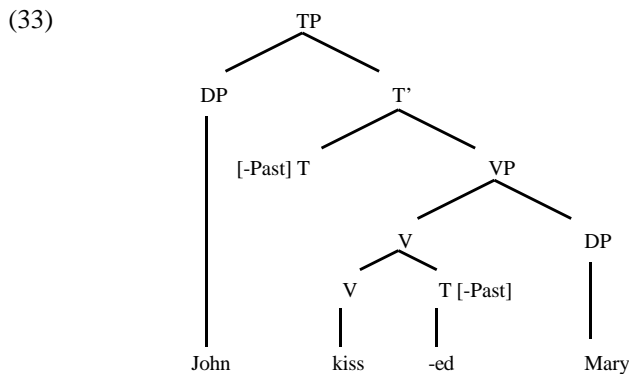 the main verb is not an option in English. The sentence can only be rescued by a head distinct from the lexical verb. Under the assumption that indeed some blocking effect takes place in (31b) but not in (31a), there must be some VP-external element in the structure with which the finite verb can be related in (31a) but not in (31c). In other words, the contrast reveals the presence of an element that is not phonologically realized in (31a): It reveals the presence of an empty head.

The properties of this head position must at least be compatible with the elements that can reside in it., namely auxiliaries, modals and the infinitive marker *to*. Since these lexical heads divide across the [± Tense] dimension, a natural hypothesis to make is that there is a head which abstractly expresses Tense. This captures the data in (29). Since there is only one head position, only one element from this class can precede negation, so that (30) is accounted for. Hence, the structure in (32) is empirically motivated:

(32)

```
                      TP
                     /  \
                   SU    T'
                        /  \
                       T    VP
                           /  \
                          V    OB
                         / \
                        V   Agr
                       / \
                      V   T
```
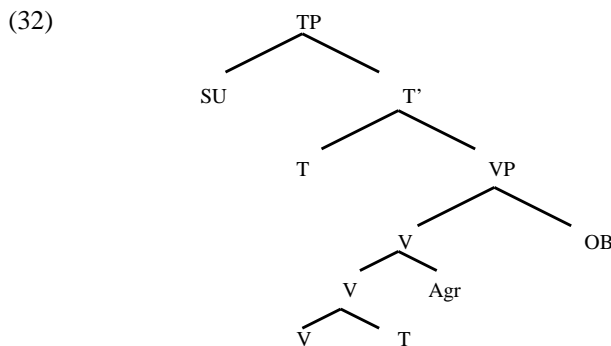
The fact that English lacks verb second is derived from this structure: The Tense condition is met by the assumptions we have made so far. Although empty T is marked for [± Tense], it is not further specified for this property. Like C, it lacks a specification for [± Past] and it therefore cannot anchor the event in time. If we were to assume that it could, we would be forced to postulate several empty elements T, each carrying a different Tense specification (i.e. one expressing present Tense, one past Tense, etc.) which together form a Tense paradigm. Under the reasonable assumption that a paradigm cannot be made up of several distinct null morphemes only, T by necessity

lacks a specification for [±Past]. Recall now from the discussion of Mainland Scandinavian that C could enter into a dependency relation with the Tense affix since this affix is accessible to C: It is encountered by C in the construction of the complete head V. Under the same reasoning, empty T can get a specification for [±Past] from the Tense affix on V. A dependency relation between T and the Tense features on V ensures that this specification becomes visible on the empty head. The representation of *John kissed Mary* therefore looks as in (33):

(33)

```
                        TP
                       /  \
                     DP    T'
                      |   /  \
              [-Past] T  VP
                        /  \
                       V    DP
                      / \    |
                     V   T [-Past]
                     |   |    |
                   John kiss -ed   Mary
```

Since the Tense features of the predicate become visible on T, the Tense condition is satisfied: [-Past] on T has COMMAND over both the subject and the predicate under m-command. It follows, therefore, that no additional projection has to be created through verb movement in English declarative clauses and that subject verb inversion remains absent.

  Note that the difference between English and a regular verb second language is that in the former the Tense constraint is met under m-command whereas verb movement satisfies the constraint under c-command. In a verb second language, the Tense constraint becomes relevant once the subject has been merged into the structure: Satisfaction of it follows subject insertion. In English, on the other hand, empty T is merged into the structure before the subject is inserted: Satisfaction of the Tense constraint *coincides* with insertion of the subject. Why, then, does merger of empty T not follow insertion of the subject in English. I think that the answer lies in the nature of the empty element involved. Notice that English is different from the other Germanic languages in having a number of modal heads which together form a class. What I would like to suggest is that the empty head postulated is actually licensed by these modals: The existence of this modal paradigm generates a semantically and phonologically empty modal. Two facts then follow. First of all, as other Germanic languages do not have this modal paradigm, such a semantically vacuous modal cannot become available as a consequence of paradigmatic licensing. At least within the

Germanic language group, the element is unique to English. Hence, we capture the fact that this language alone lacks generalized V to C movement. Second, as the empty Tense marker belongs to the same paradigm as the modals, it is in complementary distribution with these heads. Under the assumption that the modals select a VP-predicate rather than a proposition, empty T has the same distribution as *will*, *can*, and *must* and is inserted before the subject is. The consequence of this is that the Tense constraint is satisfied earlier in the derivation in English than in a verb second language, namely once the subject has been merged in the structure.

Although the analysis accounts for the fact that no verb second takes place in English declarative clauses, some additional issues must be solved. First, the analysis does not yet explain why Tense must be overtly realized in the presence of negation. In other words, we still have to say something about the blocking effect and the *do*-support paradigm. Second, if the empty head is in the same paradigm with the modal heads, why does it not block Agr and Tense from occurring on the lexical verb, as in (34a',b')?

(34)   a.   John ø kiss*(es) Mary
         a'.   John will/may kiss(*es) Mary
         b.   John ø kiss*(ed) Mary
         b'.   John would kiss(*ed) Mary

Third, if the empty T marker is in the same paradigm as the modals, why is moving it in WH-questions ruled out? That is, if the WH-constituent is not the grammatical subject, an overt finite form is always in second position, never an empty one:

(35)   a.   [Which party head]$_i$ will$_j$/does$_j$ John t$_j$ wear t$_i$?
         b.   *[Which party head]$_i$ ø$_j$ John t$_j$ wear t$_i$?

I believe that the answers follow once the paradigm representation in (36) is adopted. Although the empty head has the same feature make-up as a complementizer in for instance Danish (cf. 19), the crucial difference is that it belongs to the same paradigm as the modals (given their complementary distribution) and therefore like these heads selects a predicate and not a proposition (that is, a subject and a predicate) as a complement. Note that the empty head is not only in complementary distribution with the modals but also with finite forms of the dummy *do*. These, then, must also be part of the same paradigm. They differ from the modals in that they show agreement.

(36)
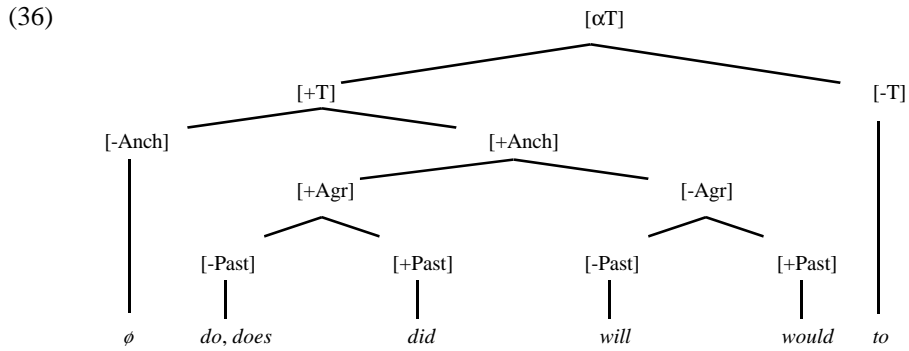
The elements that can mark a clause for Tense again come in two kinds, [-Anch] and [+Anch]. What distinguishes *do* and the modals from the empty T marker is the fact that the latter is unable to anchor the event expressed by the proposition in time. Although it is marked [+T] it lacks a feature value for [αPast], a contrast that is expressed lower in the representation. This solves the first issue, the fact that insertion of the empty head is not an option in negative contexts. Like before, I assume that all features generated by contrasts in the paradigm are visible on the top node. This entails that all members of the representation comprise of this set of features, although feature values may be lacking on some forms. Given the resulting analysis of the empty head as [+T,-Anch,αPast,αAgr] and the notion of a head-head dependency, the analysis of *do*-support becomes straightforward. Under the standard assumption that, at least in English, negation heads its own projection, *not* will be the closest head that empty T sees. The empty T lacks a feature value for [αPast] and will therefore try to enter into a dependency relation with a head that has a feature value for [αPast], namely the Tense affix on the verb. However, empty T cannot enter into a dependency relation with this feature on the finite verb since negation intervenes. The resulting structure is as follows:

(37)   TP
                        /   \
                      SU   T'
                              /   \
                            T   notP
                                      /   \
                                   not   VP
                                            /   \
                                          V   OB
                                       /   \
                                      V   T [-Past]
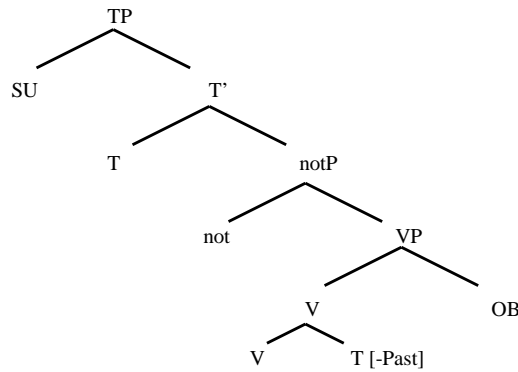
As will be clear, [-Past] does not have COMMAND over the subject or the predicate. For this reason, a head specified for at least [±Past] must be present above negation. Hence, either a modal or, alternatively, a form of *do* must be used in negated contexts. Since these heads are all specified for [±Past], they are able to satisfy the Tense constraint: They occupy the right structural position to have COMMAND over the subject and the (negated) predicate.[12]

        Let us turn to the second issue. As noted, the empty head does not block Agr and Tense from occurring on the lexical verb (cf. 34). This again follows from the way in which this element is specified. Note first of all that the inclusion of *do* in the paradigm has as a consequence that the notion Agr becomes part of the representation: Although the modals are not marked for agreement, *does* certainly is. We can now derive the contrast in (38) by means of the following descriptive statement:

(38)   In every finite clause values for $[\alpha T]$, $[\alpha Anch]$, $[\alpha Agr]$ and
                $[\alpha Past]$ must be visible on the finite head.

In (34b'), the modal is marked as [+T,+Anch,+Past,-Agr], so that (38) is met: Agr and T morphology on the verb are redundant and therefore remain absent. The empty head is marked as $[+T,-Anch,\alpha Past,\alpha Agr]$ and therefore lacks values for two features, these must be provided by the verb. For this reason we see Agr and Tense features appearing on the lexical verb in declarative clauses that lack a modal or form of *do*. The head-head dependency relation between V and the VP-external empty head will then make these features visible on the latter, so that (38) is met. Hence, the fact that the empty head does not block realization of Agr and Tense is basically a consequence of it being

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[12] I will assume that negation is part of the predicate in (35): After all, a negated predicate is also a predicate. Although the presence of negation blocks a dependency relation between T and the Tense affix, it does not block c-command of the predicate by [± Past], since it is itself part of this category.

underspecified. Its existence relies on its membership of a paradigm representation. Therefore it consists of a number of features but crucially lacks a number of feature *values*. Under the assumption that these values must be overtly expressed, the contrast in (34) follows.

This brings us to the third issue, the fact that the empty Tense marker is unable to move. This is suggested by the fact that it can only appear in WH-questions if the negated constituent is a subject (cf. 35). What I propose is that this is again a consequence of underspecification in conjunction with a natural restriction on what features are allowed to project. To be specific, suppose that a feature can only project if it has a value and if it is inherently interpretable. This makes sense from the perspective of the triggers proposed in this thesis. A feature like [-Past] must project in order to be interpreted distinctly from the verb. Rich Agr must project in order to be interpretable as a subject. Crucially, poor Agr does not project. Turning now to the paradigm representation in (36), we can argue that [αAgr] and [αAnch] are uninterpretable features, the first because Agr in English is poor, the second because [αAnch] merely describes a paradigmatic contrast among [+T]-markers; it is not interpretable itself. Hence, [αAgr] and [αAnch] cannot project in English. The consequence is then that the empty Tense marker is left with only one specified feature that can project, namely [+T]. This feature, then, is projected after the empty head has been inserted into the structure. The contrast in (35), repeated here as (39), now follows, as I will show.

(39)   a.   [Which party head]$_i$ will$_j$/does$_j$ John t$_j$ wear t$_i$?
          b.   *[Which party head]$_i$ ø$_j$ John t$_j$ wear t$_i$?

Let us follow Grimshaw (1997) in assuming that a syntactic operator must occupy a specifier position of a functional projection, in effect Rizzi's (1991) WH-criterion more neutrally stated. Then it follows that no verb movement is necessary if the question operator is a subject. Since subjects are base-generated in the specifier position of the Tense marker (or moved to this position in case we are dealing with an unaccusative predicate), no additional structure is needed.

(40)   [$_{TP}$ Who ø [$_{VP}$ wore that stupid party hat?]]

If the WH-constituent is anything other than a subject, an additional projection must be created. If the condition on WH-operator is a condition on the operator more than on the head, it does not matter much which feature value the Tensed head projects in order to host the operator, if only there is one. Since the only feature plus value that the empty

head has is projected after insertion (namely [+T]), it is frozen in place.[13] Hence, it cannot move up in order to accommodate any other WH-operator. For this reason, a form of *do* or a modal must be used instead since these have at least two interpretable features with values specified, [+T] and [±Past], that can be used to create space for the WH-operator.[14]

Having solved the three issues raised, I would like to point out an additional advantage of the approach taken. The assumption that the empty head, the modal and dummy *do* all belong to one and the same paradigm entails that the representation as a whole is more than just a modal paradigm. In fact, (36) is most straightforwardly characterized as a paradigm of Tense markers. This gives a handle on the fact that finite forms of *be* and *have* show the same distribution as the Tense markers discussed so far. The verbs *have* and *be* are notoriously difficult to fit into an analysis with the other facts about verb placement in English given their exceptional behaviour. On the one hand, they are like modals in appearing above negation when finite.

(41)   a.   Harry is not a very good clown
         b.   John has not seen a decent clown yet

On the other hand, they are unlike the modals (and therefore like lexical verbs) in having an infinitival form, *(to) have* and *(to) be*, meaning that in this shape they readily co-occur with modals:

(42)   a.   Harry will not be a very good clown
         b.   John would have liked to see a decent clown

All analyses of English verb placement are hence forced to say something special about these two verbs (cf. Baker 1991 on this point). Pollock (1989) for instance assumes that they are lexical verbs. The fact that they are able to raise to INFL, unlike other lexical verbs, is due to that fact that they lack thematic properties. Rohrbacher (1994) accounts for the fact that finite forms of *have* and *be* appear above negation by taking them to be auxiliary elements generated in INFL, leaving the analysis of infinitival forms unclear. The present analysis suggests the following possibility. If the English lexicon contains a paradigm of Tense markers, then finite forms of *have* and *be* are special in that their

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[13] Note that if the empty head were to move again and project [+T] anew, an ambiguous phrase markers à la Chomsky (1995) would be created. The result of such a merger, Chomsky claims, is that the top node becomes ambiguously a projection of the left or right branch, a situation that the computational system cannot handle. Hence, the empty head is forced to project a feature different from [+T] but this is impossible given the lack of other interpretable feature values.

[14] The order in which these features are projected is irrelevant, it seems. The condition on syntactic operators as well as the Tense condition will be satisfied in any order of derivation.

finite forms are listed as part of this paradigm. What facilitates their inclusion might in fact be just what Pollock (1989) suggests, namely their lack of thematic properties.[15] For this reason we find that they are capable of appearing in the same position as modals and dummy *do*.[16]

To sum up, the fact that English lacks generalized V to C entails that it must have another way of satisfying the Tense condition. This section tried to independently motivate this claim. English has three properties that make it rather unique within the Germanic language group: (i) It does not display verb movement in declarative clauses (ii) it has a modal paradigm and (iii) it has *do*-support. As has been shown, these three properties can be directly related by the hypothesis that English has a paradigm of Tense-markers that includes an empty head.[17] It is property (iii), the *do*-support

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[15] This leaves the notorious problem of how to account for the fact that thematic *have* is able to raise in British English:

(i)   I haven't a car

I have nothing more interesting to offer on this point than the assumption that (i) contains an empty predicate *got* or adopt Rohrbacher's (1994) suggestion that the construction is simply a hold-over from earlier stages.

[16] Pollock (1989) argues that infinitival *have* optionally raises, given examples like (i):

(i)   a.   To not have liked*Vertigo* is unusual
            b.   To have not liked *Vertigo* is unusual

It is unclear whether (ib) instantiates movement. The verb *have* can alternatively be analyzed as selecting a negated predicate. Moreover, Akmajian et al. (1979) observe that only finite forms of *have* may contract with negation, a fact they account for by restricting contraction to elements in INFL. If so, *have* cannot have raised to this position in (ib).

(ii)   a.   I haven't seen *Vertigo* in ten years
          b.   *To haven't seen *Vertigo* in ten years is unusual

[17] One other property of English that is very likely to be relevant for the discussion is the fact that English is the only Germanic language with a process known as VP-ellipsis. A VP can be elided when the inflectional position contains an overt element, as shown in (i):

(i)   a.   John will not come to our party, but Mary certainly will [VP e]
          b.   I don't know if John speaks French, but Mary does [VP e]
          c.   I don't know if John wants to come but I know Mary wants to [VP e]

The same class of elements that can precede negation (i.e., reside in *I*) can precede the position at which the VP has been elided. Since both *do*-support and VP-ellipsis are very rare properties for a language to have but both present in English, it is very likely that they are somehow related. Unfortunately, it is not clear to me what exactly licenses VP-ellipsis. The accounts of VP-ellipsis that I have seen do not provide a conclusive answer to the question of why VP-ellipsis is so rare and how it might be related to properties unique to English. Lobeck (1985:pp. 99-101) suggests that French lacks it since the verb movement operation that licenses it takes place too late, namely after instead of at S-structure, which is informulable in present frameworks. Zagona (1988) offers a parametrized

paradigm, that reveals a blocking effect induced by the presence of negation. It thereby reveals the presence of this empty element, both to the linguist and to the child acquiring the language. Under the assumption that universally Tense must COMMAND the subject and the predicate, it is this empty modal that satisfies this constraint in English by entering into a dependency relation with Tense affix. The *do*-support paradigm itself follows from the analysis: Negation blocks the dependency relation between T and the verb, so that a lexical element expressing a feature value for [αPast] must be generated above negation.[18]

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licensing condition having to do with Tense-marking, such that the setting in English licenses VP-ellipsis, but the Spanish setting does not. Under this account, it is a coincidence that most languages share the Spanish parameter setting. Lobeck (1995) argues that the features licensing an empty VP are checked overtly in French and German by V to I but not in English. This account leaves unexplained why VP-ellipsis is impossible in for instance Danish and Swedish, both languages in which the licensing features are not overtly checked.

[18] Old English was a verb second language but lost this property at the end of the fourteenth century, at the beginning of the Middle English period. Van Gelderen (1993) discusses a cluster of patterns that start appearing around the same time. These are (i) the first occurrences of split-infinitives, (ii) the first occurrences of VP-ellipsis and (iii) the rise of *do*-support in negative contexts. She argues that this cluster provides evidence for the introduction of a T-node in the grammar around this time. It will be clear that this analysis has much in common with the current proposal. There is one problem, however: Although Middle English did not have verb second, it did show overt V to I. On the one hand, this is expected, given the theory on V to I from chapter 2: Middle English was richly inflected. On the other hand, it is unexpected: If the verb in this language is forced to project AgrP, how is the Tense condition satisfied without an additional verb movement (i.e. V2)? Since we would like to maintain both triggers for verb movement, we must find a way out of this paradox. Now, in Middle English a modal paradigm was in development (cf. Lightfoot 1979; Roberts 1985, 1993) and these modals were poorly inflected (1st and 3rd person singular -*ø*, 2nd singular -*st* and plural -*en*). This opens the door for two innovations. First, these modals could be merged with VP and project Tense: Since they are poorly inflected no AgrP need be projected. Hence, modals could satisfy the Tense condition under m-command. Second, the modal paradigm licensed a null modal, like the one we adopt for Modern English. However, the null modal does not block Agr from appearing on the lexical verb. Hence, if this element is used, the condition on Agr must be satisfied as well and verb movement is triggered to create AgrP. For this reason, the null form cannot be used as a way of satisfying the Tense condition under m-command. Nevertheless, the modals make it possible to create well-formed structures without verb second. Suppose now that, given this paradox and given the idea that a language will try to lose V2 once the opportunity arises, the Middle English grammar finds the following solution: Rather than merge the empty modal in syntax, it is merged with the finite verb in morphology. After that, verb movement creates AgrP as in (i):

(i)   AgrP

                    DP   Agr'

                              Agr   VP

                         Agr   T (=ø)

                    V   Agr

                V   T [-Past]
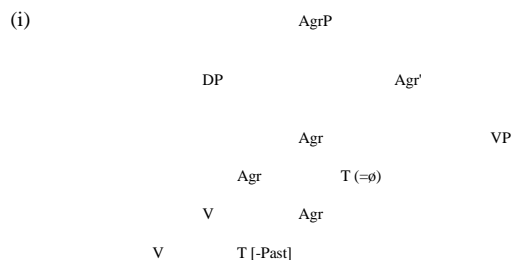
Note that the condition on rich Agr is met. Besides, empty T, the higher of the two, can enter into a dependency relation with the Tense affix on V. Consequently, [± Past] becomes visible on empty T and the Tense condition is

4. *Beyond the Germanic languages: a look at Italian and French*

The lack of verb second in English has been related to the presence of an empty modal, for which clear evidence exists in the form of the *do*-support paradigm. This explanation does not imply that all languages without *do*-support should have verb second, a prediction which would be rather off the mark. In this section, I will look at the Romance languages Italian and French and argue that the lack of generalized V to C can again be related to a language-specific property, namely the pronominal status of agreement. This property makes generation of AgrP unnecessary. Instead, the verb moves in order to project Tense features. It will appear that the pronominal affix then still appears in VP's predicational domain and can by itself be interpreted as a subject. The consequence of this analysis is that the difference between verb second and non-verb second does not lie in the nature of the verb movement and the projection it creates. That is, Swedish, Icelandic, French and Italian all generate a TP. What characterizes verb second, then, is that XP-fronting takes place so dominantly. The task, therefore, is to formulate a trigger for XP-fronting such that Swedish and Icelandic can be appropriately distinguished from Italian and French. I propose that Roberts and Roussou's (to appear) suggestion that XP-fronting is a clause-typing operation is correct under a specific formulation. In Italian and French, XP-fronting does not have this purpose since the presence of pronominal Agr suffices to clause-type a sentence.

The structure of this section is as follows. In 4.1 I will focus on the verb movement operation taking place in French and Italian and suggest that it takes place in order to project Tense features, as expected given the universality of the Tense condition. Section 4.2 will take up the issue of XP-fronting and formulate a trigger for this operation. At that point, the difference between verb second and non-verb second is accounted for. In section 4.3, finally, I will address the question of why verb second was lost in the history of both French and Italian but not in the Germanic languages (with the exception, of course, of English). It will be shown that this can be related to the null subject status of these languages, as already argued by Adams (1987), Vance (1989, 1995) and De Bakker (1997).

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satisfied: Empty T c-commands both Agr, the subject, as well as the VP-predicate. What follows from this is that (i) Middle English no longer requires V to C, (ii) still had V to I and (iii) loses V to I once agreement inflection has sufficiently eroded, since at that point the null modal can be merged in syntax, like the other modals, and block verb movement altogether.

4.1   *The difference between pronominal and anaphoric agreement*

Let us start by formulating the issue that needs to be solved. As is well known, none of the Romance languages has generalized verb second. They are richly inflected for subject agreement, so that projection of AgrP seems at first theoretically motivated. Moreover, V to I movement is empirically motivated for French (Emonds, 1976, Pollock 1989) and Italian (Belletti 1990). However, if AgrP is projected after the verb has moved, how is the Tense requirement met? Like in Icelandic and Yiddish, Tense would not have scope over the subject and the predicate and a second verb movement would be required to bring this about. This second movement of the verb would bring the verb in a position c-commanding the subject-specifier and create the possibility for some XP to move into spec-TP. Hence, we would expect subject-verb inversion effects to occur to the same extent as in Germanic, contrary to fact:

(43)   a.   *Hier achetait Jean ce livre   French
                    yesterday bought Jean that book
          b.   *Ieri visto Gianni Maria   Italian
                    Yesterday saw Gianni Maria

I will show how the well-formedness conditions on rich Agr and Tense can be met in languages like Italian and French with the use of only one functional projection and how the pronominal status of agreement morphology plays a crucial role.

Recall that anaphoric Agr needs to be further specified by a DP in spec-AgrP. Although the three features it is comprised of make it interpretable (so that verb movement is triggered), a DP is required in order to fill in missing feature values. Thus the underlying assumption is the one in (44):

(44)   VP can assign its theta role to an element within its m-command
                   domain iff this element is fully specified for number and person.

So, in Icelandic agreement is rich but not rich enough to stand on its own, so that missing feature values must be supplied by a DP in order to satisfy (44). Since this dependency relation is between a head and a maximal projection, a spec-head configuration is required. Therefore, DP must occupy the specifier position of the projection headed by Agr. Such a configuration is created by moving the verb and projecting Agr.
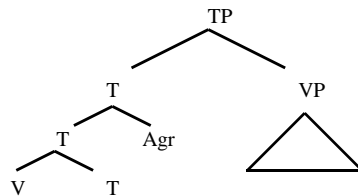
Italian agreement inflection, on the other hand, is pronominal and meets (44) straightforwardly. Agr can appear as an argument without there being an overtly realized DP-specifier: No features values have to be supplied. This gives rise to the pro-drop phenomenon. Moreover, it has consequences for the distribution of DP-subjects, or

more neutrally, the DP agreeing with the verb's inflection. It is well known that subject DPs are syntactically freer in null subject languages than they are in the Germanic languages (cf. Rizzi 1982; Philippaki-Warburton 1985; Tsimpli 1990; Cardinaletti 1994; Alexiadou & Anagnostopoulou 1998). Adding up these observations, many people have claimed that their status is fundamentally different in null subject languages. Benincà & Cinque (1985), Moro (1997) and Barbosa (1996) for instance claim that they are generated in A'-positions. Burzio (1986) and Rizzi (1987) argue that they are left-dislocated.

The fact that subject-DPs behave differently in Romance is not out of line with the theory of V to I movement as developed in chapter 2. There it was already assumed that DP-subjects are not uniformly defined but that their characterization depends on the status of Agr in the language. In Swedish, for instance, the subject DP is the element receiving VP's external theta role since Agr itself is poor. In Icelandic, the corresponding DP is a subject specifier: It specifies Agr, the element receiving VP's external theta role. From this perspective, it is not surprising to find that the difference between anaphoric and pronominal Agr has consequences for the status of subject DPs too. More concretely, suppose that a spec-head configuration is created if feature sharing or transmission must proceed in the syntax. Anaphoric Agr will have to become pronominal in the course of the derivation, that is before it reaches LF, given (44). Once missing feature values have been filled in by a DP in spec-AgrP, it can be interpreted as the subject at LF. Like pronouns in general, Agr will be interpreted as a semantic variable. The DP-specifier then binds Agr, so that the desired interpretation results. Now, in languages where Agr is pronominal from the start, Agr and the lexical DP can be interpreted in exactly the same way without having entered into a syntactic spec-head relation with each other in syntax. The only syntactic condition put on DP in Italian is probably that it must be able to bind Agr, for which it must be structurally higher at LF.

The claim that the relation between DP and anaphoric or pronominal Agr is different in the syntax (but not in semantics) solves the issue put central in this section, namely the lack of generalized V to C in Romance (cf. 43). Like in Icelandic, two constraints are relevant in Italian. First of all, Agr must be brought into a position in which it can receive VP's theta role. Second, Tense must occupy a position from which it has COMMAND over the subject and the predicate. Both constraints can be met in Italian by a single verb movement operation. Note what happens when, after movement, Tense projects:

(45)

```
                    TP
                  /    \
                 T      VP
               /  \    /  \
              T   Agr /    \
            /  \     /_____\
           V    T
```

In (45), Agr receives the external theta role from VP. This is possible since Agr is in the m-command domain of VP and is fully specified for person and number. It also c-commands VP, as it is not dominated by Tense (only by one segment of it). Moreover, Tense c-commands both the subject, which is Agr, and the predicate, so that the second relevant constraint is met as well. In short, nothing forces Agr to project since no spec-head configuration need be established: Agr is already specified for number and person and does not lack feature values that have to be filled in by some DP. Hence, the grammar opts for projection of Tense since all conditions will then be met by moving the verb only once. Therefore, example (45) is a well-formed structure.

The analysis ties in with the intuition that the lexical DP has a somewhat different status and behaves more like an adjunct than the corresponding DP in English (which is a subject) or DP in Icelandic (which is a specifier of a subject) as observed by the scholars mentioned above.[19] In principle, nothing excludes projecting spec-TP and filling it with this element, as in (46a). Alternatively, it could be adjoined to TP, assuming that this is the position for left-dislocated constituents, as in (46b). As long as DP can bind Agr at LF, the correct interpretation will obtain.

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[19] Evidence for the claim that in general adjuncts can provide more content for an argument for instance comes from constructions like (i):

(i)   [John regretted it [that he had not seen one decent clown]]

Bennis (1986) analyzes *it* as an argument in object position and the *that*-clause as an adjunct, suggested by the fact that extraction from it is blocked:

(ii)   *What$_i$ did John regret it that he had not seen t$_i$?

(46)   a.

```
                    TP
                   /  \
              Gianni   T'
                      /  \
                     T    VP
                    / \
                   T   Agr
                  / \
                 V   T
```

b.

```
                    TP
                   /  \
              Gianni   TP
                      /  \
                     T    VP
                    / \
                   T   Agr
                  / \
                 V   T
```
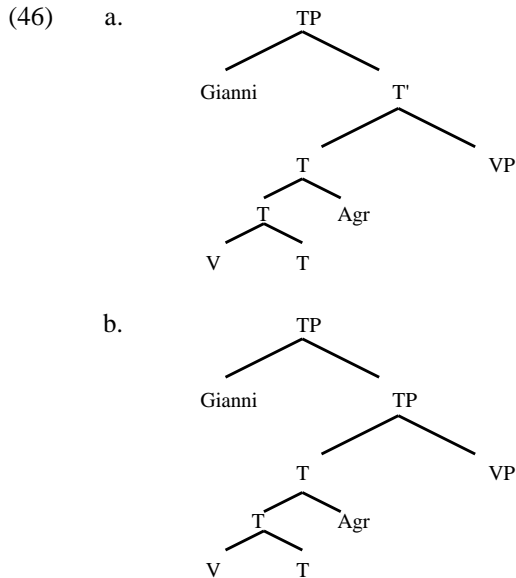
It is not so easy to decide between these two structures. There are reasons to suppose that both are possible in Italian. Recall that many people have claimed that preverbal DPs in Italian are always left-dislocated. If true, this would probably be more in line with the structure in (46b). However, Cardinaletti (1997) argues against the claim that Italian subject DPs are always left-dislocated when in pre-verbal position, saying that it is too strong. That is, in some instances they seem to behave as if they appear in the verb's specifier position. Weak pronouns for instance can easily show up in clause-initial position but they cannot be left-dislocated, as shown in (47):

(47)   a.   *Egli a Gianni non gli ha parlato ancora
                he to Gianni not to-him has spoken yet
        b.   *Essa questo problema non lo spiega
                it this problem not it explains

Moreover, lexical DPs behave like weak pronouns in being able to occur after raised gerunds (cf. a), a position that seems to be unavailable for left-dislocated constituents (cf. 48b):[20]

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[20] I have nothing interesting to say about the AUX-to-COMP movement in Italian and assume that Italian has a special rule for auxiliaries allowing them to raise in order to license the overt DP, perhaps by assigning it case, as Rizzi (1982) argues.

(48) a.   Avendo Gianni/egli telefonato a Maria...
            having Gianni/he telephoned to Maria
      b.   *Avendo a Roma vissitu per venti anni, conosce un po' tutti
            having in Rome lived-he for twenty years knows-he almost everybody

Cardinaletti's observations can be incorporated by assuming that spec-TP counts as a proposition-internal, non-dislocated, and hence more basic position, whereas all higher positions count as peripheral. One way to look upon this is to assume that spec-TP qualifies as an A-position. The subject-DPs can sometimes be forced to appear as a specifier due to whatever independent restrictions on left-dislocation are at work in (47) and (48).

The analysis for Italian can be extended to French. Traditionally this language has not been regarded as a null-subject language: A sentence with just the inflected verb is ungrammatical, as can be observed in (49):

(49)   *(Jean) parle
              (Jean) talks

This is in fact to be expected given that inflection in spoken French is poor. Example (49) provides both the written forms, preceded by nominative pronouns, and the phonetic forms between brackets. In spoken French the first person plural is expressed by *on mange* rather than by *noun parlons* (Lambrecht 1981).

(50)   *French*
              inf. manger
                          SG   PL
      1st   je parle [parl]   on parle [parl]
      2nd   tu parles [parl]   vous parlez [parle]
      3rd   il/elle parle [parl]   ils parlent [parl(t)]

It has been argued by an increasing number of scholars, however, that the pronouns in (50) behave like agreement markers on the verb (Muller 1984; Roberge 1986; Hulk 1986; Auger 1992; Zribi-Hertz 1993; De Wind 1995; Ferdinand 1996).[21] In fact,

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[21] Claiming that a subject clitic counts as an agreement marker in French does not necessarily imply that the element must be a morphological affix. The example in (i) from Ferdinand (1996) shows that it can be separated from the verb by other clitics, which is impossible to do with affixal agreement:

(i)   je ne le vois pas
           I-cl. not-cl. him-cl. see not

Ferdinand (1996), who explicitly argues for the agreement status of subject clitics, therefore assumes that they are

Rohrbacher (1994) argues that under such an analysis French agreement counts as rich and triggers verb movement. This then accounts for the fact that finite verbs obligatorily precede VP-adverbs:

(51)   Il <*souvent> parle <souvent> avec Marie
              he (often) talks (often) to Marie

Several observations corroborate the view that French pronouns are agreement markers. First of all, many French sentences contain both a DP and an agreeing subject pronoun:

(52)   a.   Jean il mange
              Jean 3sg eats
        b.   Lui il mange
              he 3sg eats

The full DP and the clitic can be separated by a pause but this is not obligatory. According to Sankoff (1982), this clitic doubling pattern occurs in as much as 80% of all sentences with a DP-subject. The lack of an obligatory pause makes it less likely that we are dealing with clitic left-dislocated structures here. This is confirmed by the observation that the clause-initial DP can be indefinite without giving rise to complete ungrammaticality. This is in contrast to clear cases of left-dislocation, where indefinites and quantifiers are ruled out. Observe the following contrast:

(53)   a.   *Un garçon je ne le vois pas
              a boy I neg-prt.him see not
        b.   %tsé un enfant il arrive et pis il te pose une question
                                          (Quebec French, Auger 1992)
              you know a child 3sg-msc arrives and then 3sg you-cl. asks a
              question
        c.   Personne i(l) m'aime   (Zribi-Hertz 1993)
              nobody 3sg me-cl. loves

Furthermore, these subject clitics cannot be contrastively stressed (Kayne 1975), cannot be conjoined with a lexical DP (Kayne 1975) and they cannot appear in isolation (De Wind 1995), all in contrast to pronouns in for instance Dutch:

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heads rather than affixes. Monachesi (1996, 1999), however, argues in favour of an affixal status of clitics in Romance. From the point of the theory of V to I developed in this thesis, the choice between head or affix is irrelevant for the issues at hand. After all, a rich agreement affix is interpreted as a subject, just like a subject clitic is. Hence, the same condition applies: They must both appear in VP's predicational domain.

(54)   a.   ***Il** partira le premier
                     he will-leave first
         a'.   **Hij** zal eerst weggaan
                     he will first away-go
         b.   *Jean et il/*Il et Jean partiront bientôt
                     Jean and he/he and Jean will-leave soon
         b'.   Jan en hij/Hij en Jan zullen snel vertrekken
                     Jan and he/he and Jan will soon leave
         c.   Qui a fait cela? -*Il.
                     Who has done that? He.
         c'.   Wie heeft dat gedaan? -Hij.
                     Who has that done? He.

Assuming that these pronouns indeed count as agreement for the grammatical system, we must conclude that French is not only richly inflected but has 'pro-drop' characteristics: Nominal DPs can be left out of the sentence (cf. 53). This is also suggested, George Kaiser (1990) remarks, by the fact that in colloquial French nominal subjects often appear in postverbal position, a property related to the pro-drop parameter (Chomsky 1981; Rizzi 1982).[22]

(55)   Il mange Jean
                     3sg eats Jean

Observations from language acquisition can be used to further strengthen the claim that pronouns are agreement markers. Subject pronouns start to appear once the distinction between finite and non-finite verb forms is morphologically marked (Verrips & Weissenborn 1992). The acquisition of finiteness and subject clitics coincides with the acquisition of verb positioning before or after negation (Meisel 1990). This indicates

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[22] This is not the strongest of arguments supporting a null subject analysis of French, however. An example like in (55) has different characteristics from that of free inversion in Italian, where the subject DP is clearly in a canonical focus position. The sentence in (i) is a felicitous response to the question 'Who arrived?'

(i)   Ha telefonato Gianni
                     has telephoned Gianni

The French counterpart, on the other hand, would be infelicitous in the same context and the post-verbal subject-DP usually remains without focus, as Jenny Doetjes and Frank Drijkoningen inform me. If Italian-style free inversion is a general property of null subject languages, this difference between (55) and (i) above could in fact be construed as an argument against the claim that French is a null subject languages. That, however, would be inconclusive. Safir (1986) notes that Portuguese, uncontroversially considered a null subject language, lacks free inversion as well, so that French just constitutes another counterexample to the correlation between these two properties.

that the appearance of subject clitics is related to the acquisition of verb movement. This is what we expect if rich Agr must appear in VP's predicational domain. Furthermore, it appears that as soon as these pronouns show up in child speech, postverbal DPs start to occur as well. The minimal pairs in (56) are from Kaiser 1990.[23]

(56)   a.   moi je peux abendbrot essen   (Pa 2;10)
                 me 1sg can supper eat
        a'.   je peux abendbrot essen moi   (Pa 2;10)
                 1sg can supper eat I
        b.   ce[n]ui-[n]à (=celui-là) i[n] (=il) est ma[n]ade (=malade)   (Iv 3;4)
                 this-one-here 3sg is sick
        b'.   I[n] (=il) est ma[n]ade (=malade) ce[n]ui (=celui)   (Iv 3;0)
                 3sg is sick this-one-here

The fact that the acquisition of subject clitics goes hand in hand with the acquisition of postverbal subjects again supports the claim that French has pro-drop characteristics.

Cross-linguistic support for the claim that French clitics count as agreement markers comes from the northern Italian dialects. As described by Brandi & Cordin (1989), subject clitics are obligatorily generated in these dialects, as can be seen in (57a).[24] The clitic is present when an overt DP, either a lexical DP (cf. 57b) or a tonic pronoun (cf. 57c), is present. Not generating the clitic leads to ungrammaticality:

(57)   a.   *(Tu) parli   Fiorentino/Trentino
                  you speak
        b.   La Maria *(la) parla
                 the Maria cl. speaks-3rd sg
        c.   Te *(tu) parli
                 you you speak

Since Fiorentino and Trentino behave like standard Italian in other respects (for instance allowing free subject inversion), Brandi & Cordin analyze these clitics as agreement markers. Note that in French, the same pattern arises with pronouns. Example (58a) patterns with (57a) and (58b,c) pattern with (57c):

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[23] These data are uttered by bilingual children. Hence, the mixture of French and German. I far as I can see this does not affect the argument.

[24] See also Sportiche (1998, chapter 5).

(58)   a.   *(Je) parle   French
        b.   Moi *(je) parle
                I cl. talk
        c.   Lui *(il) parle

French differs from Fiorentino and Trentino, however, with respect to third person DPs. As can be observed in (59), *il* can remain absent without affecting the grammaticality, in contrast to example (57b):

(59)   Jean (il) parle   French
                Jean speaks

Although it is unclear to me what causes the difference between (57b) and (59), the absence of overt agreement marking in third person contexts is not restricted to French. A striking parallel can be observed with object clitics in Spanish, which Borer (1984), Suñer (1988) and Franco (1993) analyze as agreement, given their pervasive presence.[25] Interestingly, the same pattern arises as in French: Clitics are obligatory with pronouns but optional with definite DPs.[26]

(60)   a.   Juan no *(lo$_i$) escucha a él$_i$ nunca
                Juan not him-cl. listen to him never
        b.   (Lo$_i$) conocí al nuevo panadero$_i$
                him-cl. met-I the new baker

Franco suggests that zero agreement is an option that can be used for third person forms. He refers to Paus (1990) for evidence that using unmarked forms in third person contexts is a wide-spread phenomenon. Given these remarks, I conclude that the optional absence of a subject clitic in (59) does not refute the analysis of these elements as agreement markers, nor the analysis of French as a null subject language.

        If French clitics are agreement markers, generated on the verb in morphology, this language is like Italian in relevant respects and the same analysis applies. The verb

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[25] Thanks to Sergio Baauw for pointing out Franco's paper to me.

[26] Moreover, in both French and Spanish, an overt clitic must remain absent if the subject or object respectively is questioned. Example (ia) is from Frank Drijkoningen (p.c.), (ib) is from Franco (1993):

(i)   a.   Qui a-(*t-il) parlé   French
                who has he-cl. talked
        b.   ¿A quién (*lo) viste?   Italian
                who him-cl. saw-you
                'Who did you see?'

moves once, after which Tense projects.[27] If Tense projects, this subject clitic (=Agr) is still in a position in which it can receive VP's theta role, since it is within VP's m-command domain.

In this section I argued that, although Italian and French have rich agreement, they are distinct from Icelandic and German in that they have pronominal rather than anaphoric agreement. The crucial property is that pronominal Agr can be interpreted as the subject without the presence of a DP-specifier. The consequence for the syntax of verbs is that the constraints on Agr and Tense can be met by a single verb movement operation. If the verb, after movement, projects Tense, Agr is still within VP's predicational domain. By capitalizing on the distinction between anaphoric and pronominal agreement, we derive the fact that French and Italian do not have a second verb movement operation that will give rise to the "subject-verb inversion" effects so dominant in the Germanic verb second languages. Although this solves the main purpose of this chapter (explaining the distribution of declarative V to C, here analyzed as projection of Tense features), it has obvious consequences for the analysis of verb second. The difference in verb placement between the Germanic verb second languages on the one hand and Italian and French on the other follows, but this only accounts for half of the verb second puzzle. What is so pervasive about the Germanic languages, with the exception of English, is that the neutral order of a declarative clause in a verb second language is one in which some XP is put in sentence-initial position. Verb second owes its name to the fact that in the regular case another constituent is fronted besides the finite verb, so that the verb always surfaces in second position.

(61)   a.   Ik heb gisteren die leuke film gezien   Dutch
               I have yesterday that nice movie seen
       b.   Gisteren <heb> ik <*heb) die leuke film gezien
               yesterday have I have that nice movie seen
       c.   Die leuke film <heb> ik <*heb> gisteren gezien
               that nice movie have I have yesterday seen

If the verb moves in order to project Tense features in Romance and verb second languages alike, what then is the purpose of XP-fronting in verb second languages and what makes French and Italian different? This issue will be taken up next.

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[27] Although French has suffixal agreement as well, it is poor and hence unable to trigger verb movement. It is the preverbal subject clitic that is the syntactically relevant agreement marker. French then, we must assume, has double agreement marking. Rohrbacher (1994) proposes that rich agreement differs from poor agreement in being listed in the lexicon. Poor agreement is nothing more than PF-spell out of abstract features. French is then analyzed as having both. Although this assumption can be incorporated without any problem, it does force one to assume two kinds of agreement, lexical and phonological.

4.2 XP-fronting

Verb second languages regularly front some constituent to clause-initial position, which the finite verb then immediately follows. This is different from a language like Italian, where verb first structures can regularly surface as well-formed declarative clauses:

(62)   Ha telefonato   Italian
                 (s)he has called-3rd sg.
                 '(s)he called'

The first approach that probably springs to mind is to account for the contrast between (61) and (62) by means of some syntactic licensing condition requiring that spec-TP be filled, perhaps formulable as a criterion (Rizzi 1991, 1995; Haegeman 1995) or a checking relation (Zwart 1993, 1996). In (62), this specifier is filled by an empty *pro,* making other XP-movement unnecessary. The result is a verb first order. There are two points that can be made against this approach.

    First, it would ignore the fact that declarative verb first orders are attested in verb second languages as well, which would be in violation of the hypothetical condition. Verb first orders typically arise in narrative contexts. An example is given in (63):

(63)   Komt een man de kamer binnen...   Dutch
                 comes the man the room in

In order to overcome a violation of the hypothetical condition on spec-TP, an empty operator must be postulated. Now, there are two verb first environments for which the presence of such an operator has been assumed. Yes/no questions are often taken to have a covert counterpart to a WH-operator (cf. (64a). In the literature on conditionals (Heim 1982, Kratzer 1986) a covert adverb of quantification is assumed to be present, which is called a generic or necessity operator (cf. 64b).

(64)   a.   *Op* heeft Jan dit boek gelezen?   Dutch
                 has Jan this book read
         b.   *Op* mocht Harry nog komen, dan kan hij doodvallen
                 should Harry still come, then can he dead-drop

Under the assumption that this operator is realized as an XP in spec-TP, the examples in (64) are not really verb first structures.[28] It is far less straightforward that an operator

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[28] The assumption that the operator corresponds to a maximal projection occupying a specifier position is not a

should be present in examples like (63). It is unclear how that would account for their interpretation and their restriction to particular contexts. Moreover, note that in English, a language without verb second, verb movement can be observed in examples parallel to (64), whereas a structure similar to (63) is lacking: [29]

(64)   a.   Has John read this book?
           b.   Should John come, tell him to drop dead.
           c.   #Does a man come in the room

In general, the postulation of empty operators should be very restricted. Otherwise it becomes hard to see why there is no empty operator that can be used precisely in declarative main clauses, as Roberts and Roussou (to appear) remark (cf. also Weerman 1989 for this point).

      A second point against the hypothetical constraint on empty spec-TP is that such a condition most naturally holds at PF in an output-based grammar, since it is unclear why the semantic component should require that some specifier position be filled in overt syntax. Note, however, that under such a formulation Italian becomes problematic. Whereas the highest specifier is usually filled in verb second languages, it can remain empty in Italian. The internal argument of an unaccusative clause, for instance, can stay in its base position in overt syntax (Belletti & Rizzi 1981):[30]

(65)   Sono entrati tre uomini/Gianni
               are entered three men/Gianni
               'three men/Gianni entered'

      A more interesting approach is sketched by Roberts & Roussou themselves. I will first present their analysis, so that one can get an idea of the array of data that has to be taken into account. On the basis of some problematic aspects of their analysis, I will sketch an alternative that is fully compatible with the analysis of verb second in

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necessary one. Roberts and Roussou (to appear) for instance remark that "[t]he only syntactic motivation for it is to generalise the Spec-head configuration, but this is precisely the configuration whose nature in V2 clauses we wish to understand". See note 38 for further discussion. The point made here is that it is not obvious that narrative inversion should be treated on a par with yes/no-questions and conditionals.

[29] Of course, one could think of sentences like *Comes a man into the room*, where spec-TP is either empty or filled by a hypothetical null operator. The point, however, is that these structures are only possible with unaccusative predicates, which makes them distinct from the operator constructions in (64a,b). Hence, if a null operator is involved in the narrative interpretation here, the question is why verb movement is not triggered with transitive predicates. An obvious way to derive the unaccusative restriction is to assume that an empty or dropped expletive is involved. Although initially plausible, we will later reject such an analysis for the verb second languages (cf. footnote 36).

[30] See Alexiadou & Anagnostopoulou (1998) for arguments against the presence of an empty expletive in (62).

this chapter. As a background assumption, Roberts & Roussou propose that the head positions in a clause, C, Agr, T and V, form a dependency. Languages differ as to which of these head positions is spelled out, leading to differences in verb placement. What exactly determines the position in which the finite verb is spelled out, the topic of this thesis, is not the focus of their concern: They simply assume that Tense must be spelled out in either Agr or C (which in a way is not unlike what happens in my analysis in fact). The only claim they make is that XP-fronting is somehow connected with the verb being spelled out in C.

What they propose is that there is a condition on Tense, requiring that it is appropriately identified. Exactly how this must be achieved depends on where Tense is spelled out. In Italian, for instance, where Tense is realized in the Agr position, identification of Tense boils down to identification of the Agr-dependency. Since the finite verb in Italian is spelled out in Agr, the verb's agreement features identify this position. In Icelandic, on the other hand, Tense is spelled out in C. Identification of Tense then means identification of the C-dependency. This, Roberts & Roussou argue, triggers XP-fronting. Why would this be so? They suggest that in declarative clauses C lacks a clause-typing feature, which C for instance has in WH-questions. Verb movement to C itself does nothing to identify the C-dependency since the verb lacks a clause-typing feature itself. What they assume is that the category C inherently introduces the speech time of the sentence. Since a fronted XP is usually interpreted as a topic or old information, the content of this XP is interpreted as part of the speech time and as such a suitable identifier for the C-dependency.

The attractive property of the analysis is that it aims at a unification of the EPP (or what they refer to as the 'subject requirement') and verb second. Just like there is an identification requirement affecting Agr (a subject-like element must appear in Agr or AgrP) there is an identification requirement affecting C. Second, it becomes obvious why $V_{finite}SO$ languages lack a dominant XP-fronting operation. Roberts & Roussou claim that $V_{finite}SO$ orders arise in different ways. In a language like Welsh, the C-dependency must be identified. Since the language has a main clause particle with clause-typing features, XP-fronting becomes redundant (cf. 66a). Irish lacks a main clause particle but, Roberts and Roussou assume, is a null subject language: Tense appears in Agr. Since Tense is spelled out in Agr, identification of the Tense dependency boils down to identification of the Agr dependency. This is carried out by the verb's agreement features, like in Italian, and no XP-fronting is triggered (cf. 66b).

(66)   a.   Fe/mi welais i ddraig   Welsh
                 prt. (root aff.) saw-I dragon
        b.   Bheadh sé ann   Irish
                 would-be he there

Third, it offers a way of accounting for narrative inversion (cf. 63). In these constructions, there is no clause-initial XP, hence no element to identify the speech time in C. This, they suggest, makes verb first constructions very suited as a way of beginning a story or joke since they signal the novelty of the information expressed by the clause.

Despite these advantages, there are some weak points too. First of all, the analysis hinges on the stipulation that speech time is an entity syntactically represented in C. Second, the fact that fronted XPs can identify the speech time since they imply old information is an idealization. Possible clause-initial constituents include sentential and manner adverbs (cf. 67a,b), XPs expressing contrastive focus (cf. 67c) or complete clauses (cf. 67d). None of these can be naturally said to express old information, nor is their occurrence restricted by discourse conditions like narrative inversion.

(67)   a.   Waarschijnlijk heeft Hans zijn fiets binnengezet
                   probably has Hans his bicycle inside-put
       b.   Langzaam reed de auto de straat in
                   slowly drove the car the street in
       c.   DEZE BOEKEN heb ik van Harry gekregen
                   these books have I from Harry got
       d.   Als Harry nog komt, kan hij doodvallen
                   if Harry still comes then can he dead-drop

Finally, Roberts & Roussou analyze Irish as a null subject language. It can be observed that DPs remain absent if the verb is inflected (data based on McCloskey & Hale 1984):

(68)   a.   Chuirfinn isteach ar an phost sin
                   put-cond.-1st sg. in on that job
       b.   Chuirfimis isteach ar an phost sin
                   put-cond.-1st pl. in on that job

Under this analysis, rich Agr can be used to identify the Tense-dependency, just like in Italian. The null subject status of Irish is not undebated, however. The observation to be made is that DP must remain absent, as shown in (69).

(69)   a.   *Chuirfinn mé isteach ar an phost sin
                   put-cond.-1st sg. I in on that job
       b.   *Chuirfimis muid isteach ar an phost sin
                   put-cond.-1st pl. we in on that job

If a lexical DP-subject or overt pronoun is used, the verb obligatorily appears in a form

uninflected for agreement:

(70)   a.   Chuirfeadh Eoghan isteach ar an phost sin
                  put-cond. Owen in on that job
        b.   Chuirfeadh sibh isteach ar an phost sin
                  put-cond. you in on that job

This makes Irish significantly distinct from Italian. Although in Italian pronouns usually do not show up in non-emphatic contexts, they are not prohibited. Irish, then, has two paradigms. One paradigm, the one consisting of inflected (or 'synthetic') forms, is used if no DP is present. The uninflected (or 'analytic') form is used when DP is present. Given the complementary distribution of agreement affixes and DP-subjects, scholars have analyzed agreement as incorporated pronouns (Hale 1989; Guilfoyle 1990; Baker & Hale 1990). Under such an analysis, Irish is actually poorly inflected and cannot be treated on a par with Italian. Another reason for not wanting to analyze Irish as Italian is that it raises the question of why Irish patterns with Welsh rather than with Italian again once an overt DP-subject is present. In Welsh and Irish these elements appear between the fronted verb and the object (cf. & 71a,b) rather than preverbally), as in Italian. (Example (71a) is from Duffield 1999).

(71)   a.   Chonaic Máire an fear ar an tsáid i nDoire inné   Irish
                  saw Mary the man on the street in Derry yesterday
        b.   Gwelai Emrys ddraig   Welsh
                  would-see Emrys dragon
        c.   Gianni ha telefonato Maria   Italian
                  Gianni has telephoned Maria

If in Irish Tense is spelled out in Agr, as Roberts & Roussou claim, it is unclear what identifies the T-dependency, given that Agr is absent.[31]

        Despite these problems, I nevertheless believe there is something essentially correct about Roberts and Roussou's idea that XP-fronting is in complementary distribution with rich Agr (Italian) or main clause particles (Welsh) and that they all satisfy a similar constraint. What I would like to do next is offer an alternative to their proposal that does not require the syntactic representation of speech time and neither predicts that fronted XPs are always topics in the relevant sense.

        The hypothesis put forward is based on the idea that verb first structures are unsaturated. When the verb moves and merges again with the structure already built, it

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[31] Note additionally, that no main clause particle is present in the Welsh example, which begs the question of how the C-dependency is identified in this case.

is some feature of the moved verb that projects. This verb movement allows subsequent merger of a specifier. What I would like to suggest is that adding a specifier is not merely a possibility that is opened up by verb movement. The fact that verb movement implies the possibility of a specifier has as a consequence that the overall structure counts as unfinished. The implication of a specifier corresponds to an unsaturated proposition at LF. More specifically, I propose that an implied specifier is interpreted as a semantic variable. It is this variable that has to be assigned a value.

I will now show how the assumption that verb movement introduces a variable since it implies a specifier derives the paradigm that Roberts and Roussou discuss. The link with their analysis can be made as follows. In their account, XP-fronting in verb second languages is directly related to the VP-external realization of rich subject agreement in a language like Italian. That is, both identify the T-dependency. In the alternative proposal, verb second languages and Italian employ different means of saturating the variable introduced by verb movement. In Italian, the verb moves in order to project Tense. This opens up the possibility of realizing a specifier. Although this verb movement therefore introduces a variable, note that it at the same time brings Agr in a position in which it is interpreted as a subject. I suggest therefore that in Italian the phi-features on the head assign a value to the variable introduced by verb movement.[32] For this reason, verb first structures are able to surface as well-formed declaratives. In verb second languages, on the other hand, there are no features on the head that can saturate the variable. In Mainland Scandinavian and Dutch, Agr is poor. In Icelandic and Yiddish Agr is rich but it does not count as the subject in the position where T is projected: It is interpreted in a lower position (namely, as a subject), when it is the head of AgrP. Given that the variable introduced by verb movement cannot be assigned a value by features on the verb in any verb second language, XP-fronting is required as a last resort operation. Note that under this analysis, any XP can be used for this purpose. That is, the fronted constituent does not necessarily have to be a topic. This, of course, does not ruled out that, if certain conditions are met, a fronted XP can receive this interpretation at LF. The point, however, is that such an interpretation is not necessary for clause-initial XPs, which is exactly what the data in (66) suggest. In short, verb first clauses are interpreted as unsaturated expressions. Both rich Agr and XP-fronting can be used to close the proposition.

The $V_{finite}SO$ languages instantiate a third way of assigning a value to a variable introduced by verb movement, namely by inserting a main clause particle. It is well-known that the Celtic languages have an intricate system of preverbal particles. If a language has a main clause particle in its lexicon, this element can be inserted to close the proposition. It overcomes the need to front an XP (basically a case of merge

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[32] In a sense, the idea that the implied specifier is no longer implied as a consequence of rich Agr comes close to assuming that Italian generates *pro*. This element with no features of itself is like the variable in that the specifier is 'understood' but remains empty.

over move (Chomsky 1995)). This, I suggest, is what characterizes Welsh. The verb moves in order to project Tense. After that, the particle is inserted:

(72)   Fe/mi welais i ddraig   Welsh
              prt (root aff.) saw-I dragon

Strong support for a correlation between the lack of generalized XP-fronting and a main clause particle comes from the diachronic development of this language. Willis (1998) shows that the decline of XP-fronting in the seventeenth century coincides with the introduction of main clause particle *fe* in the lexicon.

        Recall that the analysis of Irish as a null subject language was not straightforward. I believe that Welsh and Irish VSO can be made to fall out from a property that they have in common, namely the preverbal particle system. For this, I will make use of the assumption, first presented in the introduction, that paradigms can license null forms. What I propose is that Irish has a main clause particle which, unlike in Welsh, remains phonologically null. After the verb has moved to project Tense, this element is inserted to close the proposition:[33]

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[33] The movement that puts the verb in a position higher than the subject corresponds to V to C in traditional analyses. McCloskey (1998) explicitly argues against a verb movement to a position higher than I(NFL) in Irish, presenting two main arguments. One is that V_{finite}SO in Irish surfaces in main and embedded clauses alike. Under the assumption that in German, Dutch and Mainland Scandinavian V to C is blocked in embedded clauses by the presence of the complementizer, V_{finite}SO cannot involve a movement to C. The existence of symmetric verb second languages like Yiddish and Icelandic, however, shows that this assumption cannot be maintained anyway. Hence, the argument is inconclusive. The second argument runs as follows. McCloskey observes that complementizers appear after (multiple) adverbs, which according to him are adjoined to IP:

(i)   Tá a fhios agam i lár an gheimhridh ón ngrinneal aníos go gcaitear ballaigh ar an dtráigh
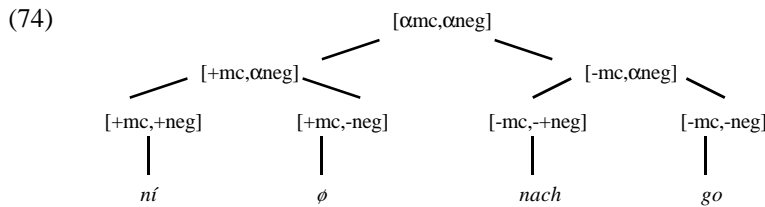   *know-I in-the-middle-of the winter from-the sea-bed up COMP throw wrasse on the beach*

He assumes that this order results as a consequence of a lowering rule moving the complementizer to the finite verb. Under the assumption that adjunction to CP is ruled out, the adverbs in (i) must be adjoined to IP and the verb must be in I. However, the ban on adjunction to CP is primarily motivated by ungrammatical examples with an adjunct adjoined to a projection headed by a complementizer rather than a moved verb (cf. ii). (Of course, *in general* is intended to modify the embedded clause.)

(ii)   *It's appalling [CP in general [CP that he doesn't understand what is going on]]

Under the assumption that both Irish and English allow adjunction to the category selected by the complementizer, this will be to TP in both languages, a projection is headed by an empty head in English and by the moved verb in Irish. Now, in verb second languages only one XP can appear before a fronted verb in main and embedded clauses. Whatever the reason for this as yet unexplained constraint, Irish is simply not a verb second language. This difference in fronting possibilities between a V2 (Icelandic, Dutch) and a non-V2 (English, Irish) language is an independent fact that does not straightforwardly follow from either position on the scope of verb movement in Irish. See footnote 34 for some further discussion.

(73)   ø bheadh sé ann   Irish
           prt (root aff.) would-be he there

It is easy to see how the restrictive assumptions about paradigm formation allow the postulation of such an empty main clause particle in Irish. There is one set of overt particles in this language that clearly indicates a root/non-root distinction. The particle *ní* is used in root negatives, whereas *nach* is used in embedded negatives. The subordinating complementizer is *go*. Adding up, we might then argue that a (partial) representation of the Irish particle paradigm looks as in (74), where a null form can be postulated as a consequence of other, overtly marked, distinctions. The abbreviations 'mc' and 'neg' stand for 'main clause' and 'negative', respectively:

(74)
$$[\alpha mc, \alpha neg]$$

$$[+mc, \alpha neg] \qquad [-mc, \alpha neg]$$

$$[+mc,+neg] \quad [+mc,-neg] \qquad [-mc,-+neg] \quad [-mc,-neg]$$

$$ní \qquad\qquad ø \qquad\qquad nach \qquad\qquad go$$

In short, a main clause declarative particle can be said to fall out of the presence of a particle paradigm. This particle can be generated in main clauses and consequently assign a value to the variable introduced by verb movement. The result is that VSO orders can surface as unmarked declarative clauses.[34]

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[34] Since V_{finite}SO can surface in main and embedded clauses, TP must be projected in both environments. Recall from the discussion of Yiddish and Icelandic that I claimed that embedded verb second is triggered because of the presence of AgrP (which blocks a dependency relation between the complementizer and Tense features). If Irish is poorly inflected, embedded verb movement is not immediately expected. I conclude, therefore, that besides the need to project TP, another factor triggers verb movement. One possibility that springs to mind is the following. In Irish, the fronted verb must be strictly adjacent to the DP-subject, a property that distinguishes it from verb second languages. In Dutch, for instance, the two can be separated by adverbs or focused objects:

(i)   a.   Deireann <*i gcónai> siad <i gcónai> paidir trioh am luí   Irish
             say-hab. Always they always prayer before the bedtime
       b.   Dit boek heeft vaak niemand gelezen   Dutch
             this book has often nobody read
       c.   Waarschijnlijk heeft DIT BOEK zelfs Jan niet gelezen
             probably has this book even Jan not read

This suggests that there is a special relation between the fronted verb and DP in Irish. Neeleman & Weerman (1999) for instance argue that the verb moves in Irish in order to assign nominative case to DP at PF; hence the adjacency effect. Another possibility to derive verb movement in embedded clauses is to assume that particles are part of the verbal complex, as argued for Welsh by Harlow (1983) and Rouveret (1990). If they are generated on the verb in morphology, the verb must move in order to project these particles. This makes especially sense for Irish, where complementizers are marked for [±Past]. Under both scenarios, the additional trigger for verb

Independent confirmation of this analysis comes from Breton. The analysis predicts that if in a language the particle paradigm is sufficiently impoverished, an empty main clause particle can no longer be postulated. This indeed seems to be the case in Breton. The paradigm looks as follows (Borsley & Roberts 1996):

(75)   subordinating   e
                 interrogative   hag-en
                 negative   ne
                 direct relative   a
                 indirect relative   e

As can be observed, there are no two overt particles revealing a root/non-root distinction. Since there is no overt evidence for this dimension in the paradigm, postulation of an empty main clause particle is effectively blocked. Hence, Breton is predicted not to allow $V_{finite}SO$ orders to surface as unmarked declaratives, which appears to be correct (Borsley, Rivero, Stephens 1996):[35]

(76)   *Lenn Anna al levr   Breton
                 reads Anna the book

Having provided an analysis of the main facts that Roberts & Roussou discuss, let us now turn to narrative inversion. Given the characterization of verb first clauses as unfinished propositions with an unsaturated variable, it is unclear how narrative inversion (cf. 63c, repeated here as 77) fits in.

(77)   Komt een man de kamer binnen...
                 comes the man the room in

In these cases, verb first structure can be felicitously used at the beginning of a story or joke, so that it is unclear what would saturate the variable introduced by verb

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movement is related to a language-specific property of Irish.

[35] Note that, although Welsh has an overt particle to mark root affirmative clauses, other particles in the paradigm also reveal a root/non-root distinction. The particle *ni(d)* is used in root negative clauses and *na(d)* is used in embedded negatives. It is probably for this reason that the root affirmative particle does not have to be overtly realized, judged from the following example from Borsley and Roberts (1996: 25):

(i)   Gwelai Emrys ddraig   Welsh
                 would-see Emrys dragon

Since the C-dependency must be identified in Roberts & Roussou's account, they must assume here that the particle is inserted but consequently deleted. I see no way of empirically distinguishing between these two analyses.

movement. Closer scrutiny, however, reveals that this is not the only environment in which verb first clauses show up. They typically appear embedded in conversations (Sturm 1986, Iris Mulders p.c.). Examples are given below:[36]

(78)   a.   Weet je nog dat ik gisteren naar Amsterdam zou gaan?
recall you still that I yesterday to Amsterdam would go?

Piet had eindelijk tijd voor me.
Piet had at last time for me

Kom ik daar aan. Wat denk je? Piet is er niet.
come I there prt. What think you? Piet is there not.

b.   Je kent die vreemde man die bij de supermarkt werkt, niet?
You know that strange man that at the supermarket works, not?

Ik sta daar laatst te wachten. Begint hij opeens tegen me te praten.
I stood there recently to wait. Begins he suddenly to talk to me.

The verb first structures here have the effect of making the link to previous discourse more tight. The absence of a syntactically marked link to previous discourse in the highest specifier in the last sentence seems to express that the link is completely obvious and not so much that the information conveyed by the clause is new, as Roberts & Roussou suggest is the case for narrative inversion. These verb first structures crucially appear after the discourse setting has been introduced. Similar observations have been made for verb first declaratives in Scandinavian. Both Platzack (1985) and Sigurðsson (1990) remark that these structures are prompted by discourse cohesion. As an indication of this, Sigurðsson notes for Icelandic that these sentences typically have pronominalized subjects.[37]

      The fact that verb first structures are so tightly connected to previous discourse reveals how they fit into the analysis developed so far. For pronouns, it is a generally accepted viewpoint that they are semantic variables which either obtain a value by

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[36] As can be observed in (78), definite subjects are perfectly felicitous in these contexts. This makes it less likely that verb first constructions arise as a consequence of expletive *er* having been dropped from first position, which would have been a potential analysis for (77). Sturm (1986: 356, footnote 19) remarks about these sentences that, though not unnatural or unusual, they are hard to define.

[37] Although I get the impression that verb first structures are more commonly attested in Icelandic than in Dutch, they at least have in common their reliance on previous discourse Sigurðsson (1990: 41) in fact states that non-narrative V1 declaratives are limited to Icelandic and Yiddish. Examples like (78) suggest that this claim might be too strong, unless it can be shown that we are dealing with fundamentally different clause types.

being (semantically) bound or have a contextually specified value (cf. Chierchia 1995b for discussion). If this state of affairs applies to pronouns, it would not be surprising to find that the same strategies are available for assigning a value to the variable introduced by verb movement. I therefore propose that in verb first structures, it is the situation expressed in the previous discourse (by approximation the time and place set up in it) that assigns a value to this variable. The variable in examples like (78), then, has a value defined by the linguistic context. For this to be felicitous, the link to previous discourse must be prominent. This is comparable to the fact that given a particular discourse pronouns can be felicitously used if and only if an antecedent is accessible, i.e. can be reconstructed in the previous discourse (cf. Ariel 1990).[38]

The question now is how narrative inversion fits in. Since these verb first clauses appear at the beginning of a story or joke, it seems impossible to assign the variable a discourse value. A way to understand it is to draw a parallel with the distribution of pronouns in discourse. Although these elements usually refer back to an accessible antecedent in previous discourse, it is not uncommon to find them at the beginning of a novel, for instance. [39]

(79)   a.   **Hij** staat elke dag om half zeven op.
                             (from *Eerst grijs dan wit dan blauw*, Margriet de Moor)

          b.   De boerenmeid (-of vrouw) had tenslotte niet geprotesteerd toen
                   hij zijn kin op haar schouder liet rusten.
                             (from *De tranen der acacia's*, W.F. Hermans)

Although the pronouns in (79) do not have antecedents, we do not judge these sentences as infelicitous or, worse, ungrammatical. Apparently, they are appropriate ways to begin a story. What the writer achieves by the use of a pronoun in the first sentence is the *suggestion* of a shared discourse, given the reader the feeling that (s)he is put right in the middle of things. We can then say that the pronoun is interpreted through accommodation (cf. Heim 1982) in this abstract discourse, which minimally contains the presupposition that there is a male entity. In this light, narrative inversion can be seen as a stylistic device with similar properties. A verb first structure can be used as a syntactic way of suggesting a shared discourse, just like the use of a pronoun in (79). The fact that these structures typically occur at the beginning of a story or joke then no

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[38] For conditionals and yes/no-questions two possibilities arise. Either an operator is syntactically present as an XP occupying a specifier position (recall footnote 28) and assigns a value to the variable already in the syntax or such an operator is introduced when the syntactic structure is mapped onto a logical structure. In the latter case, verb first really is verb first and the crucial distinction with examples like (77/78) is the presence vs. absence of an operator in logical structure.

[39] Thanks to Jan Frans van Dijkhuizen and Bertram Mourits for providing these examples.

longer comes as a surprise.[40]

Having characterized verb first structures as containing a variable and analyzed XP-fronting as a syntactic operation that assigns a value to this element. This operation is triggered in languages where the syntax of verbs is such that the finite verb ends up in first position and (i) the verb does not carry argumental agreement that is interpreted as a subject in the position it is in and (ii) the language does not have a main clause particle. If (i) holds, rich Agr assigns a value to the variable, as in Italian, and no XP has to move to do so. If the language has a main clause particle, this element closes the proposition, an option which is preferred over XP-fronting if we assume that in general merge is preferred over move.

4.3   *The loss of verb second in Romance*

In the previous section, the fact that the Romance languages do not have verb second was related to the pro-drop character of these languages. Since Agr can function as a grammatical subject on its own, the possibility is opened up to meet both the constraint on Tense and rich Agr by a single verb movement operation that projects Tense. Hence, it is more economical to do without verb second.
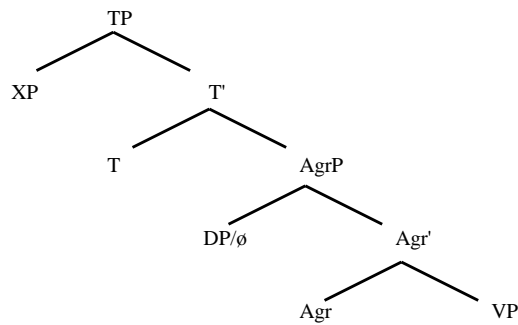
Suppose that, notwithstanding the notion of economy, pro-drop and verb second are not mutually exclusive. The structure of a declarative clause would look as in (80), where spec-AgrP is optionally realized:

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[40] Despite this parallel between verb first structures and structures in which the content of a pronoun is reconstructed on the basis of the previous discourse, it seems to me that examples like (i) (from Chierchia 1995b) are more commonly used in discourse than verb first structures (although I have no statistical evidence at my disposal):

(i)   a.   Every man except John gave his paycheck to his wife. John gave it to his mistress.
        b.   Either Morrill Hall doesn't have a bathroom or it is in a funny place.

Suppose they are, the worst case since it entails that an explanation is called for. We can then understand the marked status of verb first structures as follows. Superficially they look like yes/no-questions in that they display similar word order. If both verb first and verb second clauses are interpretable declarative clauses, a pragmatic principle then favours the one that is most clearly distinct from a non-declarative clause, i.e., a yes/no-question. For the present purposes, reference to Gricean maxims ('avoid obscurity and ambiguity') suffices to make the point. Hence, the verb second order is the unmarked declarative and the occurrence of verb first declaratives is relatively restricted.

(80)

```
                          TP
                        /    \
                     XP        T'
                            /     \
                          T         AgrP
                                  /      \
                             DP/ø         Agr'
                                        /      \
                                     Agr         VP
```

It seems that we indeed have to allow for structures of this kind. That is, French and Italian were verb second languages at earlier stages but lost this property along the way.[41] In order to understand how such uneconomic structures become part of a grammar, one must look more carefully at the development of verb second. Unfortunately, the rise of verb second in language is not a well documented area (but see Weerman 1989, Kiparsky 1994 and Roberts & Roussou (to appear) for some ideas), so that any statement about it is by necessity based on limited data.

One way to understand the development of the structure in (80) is as follows. It has been claimed for at least English that the operation fronting the verb to a position preceding the subject is initially a prosodic operation (Travis 1985), a rule of comment focusing used to highlight the 'vividness of action'. Once this rule applies together with a second prosodic rule fronting some XP, the resulting output can receive a syntactic analysis involving a functional projection. In the present proposal this would entail that the verb fronting rule is grammaticalized as a syntactic operation projecting Tense. XP-fronting is then analyzed as a clause-typing operation on the proposition. Such a grammar will give an output consisting predominantly of XP-V_{finite} orders, so that the next generation will incorporate the relevant rule in its grammar again.

Let us assume that this is more or less how verb second developed in Italian and French as well. The question is then what causes the change from the structure in (80), where Tense and Agr are projected distinctly, to the one in (81), which lacks AgrP.

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[41] Since Old French has rich inflection, AgrP must be projected. The prediction is that it should exhibit verb second effects in embedded contexts as well, just like Icelandic (Recall that projection of Agr blocks a dependency relation between complementizer and the Tense affix on the moved verb.) Although evidence can be found, it is not overwhelming. Adams (1987) argues that it is restricted to bridge verb complements, so that Old French is like Mainland Scandinavian rather than like Icelandic and Yiddish. However, V2 can take place in WH-complements too. To rule out the possibility of a free inversion analysis (cf. the discussion in the main text below), only examples with more than one verb are revealing. As can be observed in (i), the subject occurs between the fronted verb and precedes the infinitive (de Bakker 1997):

(i)   Quant a aus est li rois venus...
              when to them has the king come

(76)

```
              TP
          ╱        ╲
      (DP)          T'
                 ╱      ╲
              T            VP
```
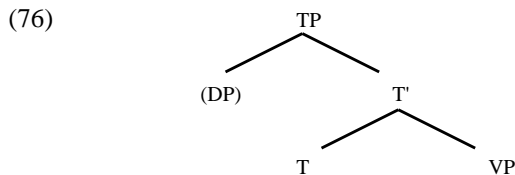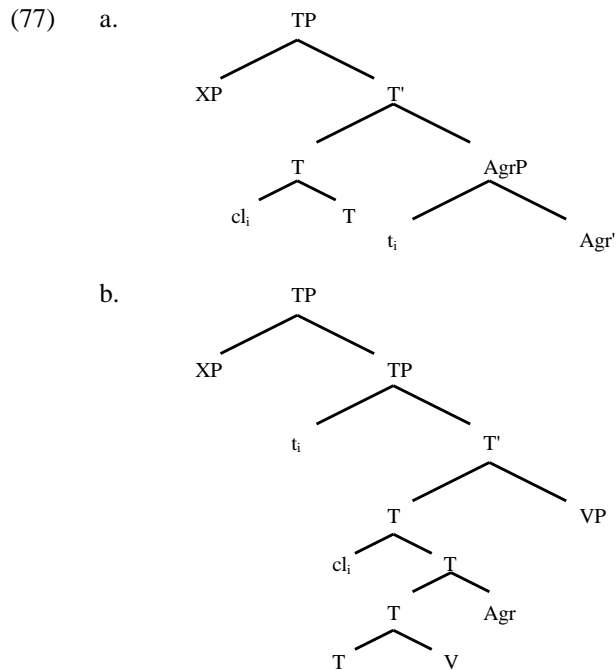
Intuitively, (76) is simpler than (75), so that the language learner might be inclined to switch to (76) once the occasion arises (cf. Lightfoot's (1979) Transparency principle, Robert's (1993) Least Effort Strategy). For this to happen, the evidence for verb second must have declined in French and Italian at some point. Note that the causes of this loss must have been unique to Romance because Germanic retained verb second. In other words, whatever the explanation for the loss of verb second in Romance, it should not predict that the loss could have taken place in Germanic but just did not.

The literature on the loss of verb second in the history of French provides interesting cues. There are at least three factors intrinsically related to pro-drop languages that might have instigated the loss of verb second, (i) the presence of subject clitics, (ii) the presence of free inversion and (iii) the presence of non-overt subjects. I will discuss each in turn.

It has been argued by many scholars (Zwanenburg 1978; Adams 1987; Hulk & van Kemenade 1995, Platzack 1995) that at the end of the Old French period full pronouns are reanalyzed as clitics attaching to the left of the finite verb. This gives rise to word orders that are superficially verb third: XP - clitic - V_{finite}. There are now two ways of analyzing this string. Under one analysis it is derived in a verb second grammar. In that case, the XP has the function of closing the proposition. The clitic has simply been moved from its base position, spec-AgrP to its position adjoined to the verb. An alternative, non-V2 analysis, however, is one in which the pronoun adjoins to V from its base-generated position in spec-TP and AgrP is not generated at all, as in (77a). Let us assume, following Travis (1991), that topicalization involves movement to a specifier in a V2 grammar and adjunction to TP in a non-V2 grammar. In that case, the sentence-initial XP is ambiguously either in spec-TP or adjoined to this category as in (77b).[42]

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[42] It is unclear, however, if the behaviour of these pronouns would suffice to trigger a grammar like in (76b). Why would the nominal subjects occurring postverbally not count as robust evidence for (79a) over (79b) but instead be analyzed on a par with pronouns? Moreover, it is predicted that a substantial number of the order XP-pronominal subject-V_{finite} shows up before XP-nominal-subject-V_{finite}. According to Vance (1989, 1995), such a point in time is not attested. For these reasons, the behaviour of pronouns may at most have been a stimulating factor.

(77)   a.

```
                        TP
                      /    \
                   XP       T'
                          /    \
                        T        AgrP
                      /  \      /     \
                   cl_i    T   t_i     Agr'
                          T
```

b.

```
                        TP
                      /    \
                   XP       TP
                          /    \
                        t_i      T'
                               /    \
                             T        VP
                           /  \
                        cl_i    T
                              /   \
                             T     Agr
                           /  \
                          T    V
```

Like in modern Italian, the agreement inflection on V, which counts as the grammatical subject in that position, closes the proposition in (77b) and the clause-initial XP is no longer analyzed as the element doing that. It is simply a constituent fronted in order to give it more prominence.

An even more robust factor involved in the reanalysis process is the presence of free inversion. This process takes a subject from its surface position and puts it at the end of the clause, to the right of the VP.

(78)   XP V_{finite} VP   subject

The consequence is that any clause without an object is ambiguous between a grammar with or without a verb second rule: The surface order in (78) does not reveal from which position the subject has been moved, as indicated by the arrow. In a verb second grammar, the subject has been moved from spec-AgrP, a position following the fronted verb. If the non-V2 grammar is adopted, the subject has been moved from spec-TP, a position preceding the fronted verb. The importance of free inversion in the history of Old French becomes especially clear from work by Vance (1989, 1995). She looks at

texts from Old to Middle French and shows that the percentage of unambiguous verb second clauses decreases, whereas the number of unambiguous examples of free inversion remains stable. Taking into account the increasing proportion of ambiguous cases, she concludes from the overall data that "as time goes on, inversions that could be produced without V-to-C movement increase from 43% of total inversions to 64% to 85%".

Generally, in a language that allows DP-subjects to remain absent, the order XP -V_{finite} can be analyzed by generating both TP and AgrP. Alternatively, it can be analyzed with the use of one functional projection TP. Hence, part of the output of the old grammar can be generated by the new grammar as well, making the introduction of the new grammar easier.

To conclude, the availability of free inversion in Old French is a likely factor in the reduction of evidence for verb second. Adopting Kroch's (1989) Double Base Hypothesis, Vance suggests that speakers start using a second underlying grammar, one without a verb second rule. This grammar will gradually win out over the old one. Since free inversion is a property related to the pro-drop parameter, it will be clear that an alternative analysis of certain inversion structures is only available in languages that allow for null subjects, that is languages with pronominal agreement. For this reason, the ambiguity present in Old French did not arise in Germanic. English lost verb second but for different reasons, as we have seen.

5. Conclusion

This chapter offered an account of V to C movement in declarative clauses. The best known instantiation of it is the verb movement taking place in verb second constructions. Given the alternative theory of verb movement adopted in this thesis, I was led to expect that this movement takes place in order to project some property of the verb. I argued that Tense features are projected after movement in order to satisfy the Tense condition, a universal constraint requiring that the Tense features of the predicate take scope over the subject and the predicate.

It was further shown that in those instances where the verb does not move to a position higher than the subject (which has become a highly ambiguous term), giving rise to subject-verb inversion, this movement is blocked for independent reasons. Three cases were discussed.

First, in a subclass of the verb second languages, verb second effects fail to show up in embedded clauses because the Tense condition can be met through the presence of the complementizer. That this strategy is not used in Icelandic and Yiddish is the consequence of a locality condition on head dependencies. Since both Yiddish and Icelandic project Agr after the first movement, intervening Agr will block a

dependency between C and Tense features on V. Although German projects an AgrP, this projection is headed by an affixal complex, a possibility related to the fact that German is an OV language. In the configuration created Tense straightforwardly c-commands both the subject and the predicate and verb movement is necessary in embedded domains.

Second, English lacks verb second since it has an empty modal head projecting Tense features. Since this head can enter into a dependency relation with the Tense features on V, no costly verb movement has to take place. The presence of the empty head finds support from the *do*-support paradigm, which is so characteristic of this language.

Third, Italian and French lack V to C since they have pronominal Agr. Null subject languages also project TP but differ from the verb second languages in that they do not have to project AgrP, although they have rich agreement. The reason is that pronominal agreement can be interpreted as a subject all by itself. When T instead of Agr projects after the first verb movement, Agr can still receive VP's external theta role since it is in VP's predicational domain.

A surprising outcome of the analysis is that the verb movement in Italian and French (usually coined V to I movement) and the verb movement in verb second languages (usually coined V to C movement) are alike in that they both operations move the verb in order to project Tense features: In both cases, the highest verbal projection is a TP. The difference between verb second and non-verb second then reduces to a difference in the nature of XP-fronting. This operation takes place in the bulk of declarative clauses in the verb second languages, which makes it different from Romance. I argued, following Roberts & Roussou, that in verb second languages XP-fronting is a clause-typing operation. It closes a proposition and gives it an independent status. I suggested that this is what makes verb second clauses distinct from verb first clauses, which appear in more restricted contexts given their dependence on other propositions. Under this proposal it follows naturally that null subject languages lack this pervasive property: The presence of pronominal Agr on the verb ensures that the proposition is closed. Independent support comes from the Celtic V_{finite}SO languages. These verb first languages can be characterized as verb second minus XP-fronting. The lack of this fronting operation, so dominant in the Germanic verb second languages, follows from the fact that the Celtic languages have a preverbal particle system including a main clause complementizer. It is this element that clause-types the proposition and makes XP-fronting redundant, at least as a closing operation on the proposition.

Chapter 4

The distribution of expletives

1. Introduction

The purpose of this chapter is twofold. First of all, it develops a theory that accounts for the distribution of expletives. In doing so, I will try to improve on recent analyses of similar data (cf. Thráinsson 1996; Bobaljik 1995; Bobaljik & Jonas 1996; Bobaljik & Thráinsson 1998). Second, I will show that, given the account that I will propose, the distribution of expletives serves as independent support for claims made in chapters 2 and 3, most notably the claim that languages differ with respect to the number of functional projections that they generate in overt syntax. Let me shortly discuss these aims in some more detail, starting with the second.

In the previous chapters I argued that languages differ with respect to the amount of functional structure that they project in overt syntax. Languages with anaphoric agreement, for instance, have to project AgrP in overt syntax because (i) the argumental agreement affix has to be associated with VP's external theta role and (ii) some DP must specify anaphoric Agr so that a spec-head relation must be established. On top of this, the Tense condition needs to be satisfied and a second verb movement is triggered in order to project Tense features. Hence, a language like Icelandic is different from a language without rich agreement, such as Swedish, in that it requires two projections dominating VP, namely AgrP and TP. A language with anaphoric agreement is also distinct from a language with pronominal agreement. In Italian, for instance, Agr does not have to be specified by DP. It was shown that the constraints on Tense and Agr could be met if the verb only moves once and projects Tense. The conclusion is therefore that the clausal make-up is not uniform across languages, at least not in overt syntax: There is more syntactically active structure in a language with anaphoric agreement than in a language with pronominal agreement or poor agreement. As yet, there is no independent motivation for this claim. This chapter, however,

shows that the difference in structural size has a syntactic effect, namely on the distribution of expletives.

The contrast that will play a crucial role in this chapter is the one illustrated in (1). As can be observed, Icelandic and Yiddish allow expletives to occur in clauses with a transitive predicate, a possibility that is blocked in Swedish and Danish.

(1)   a.   [$_{TP}$ Það hafa [$_{AgrP}$ margir jólasveinar [$_{VP}$ borðað búðing]]]   Icelandic
                there have many Santa Clauses eaten pudding
        b.   [$_{TP}$ Es hot [$_{AgrP}$ imitser [$_{VP}$ gegesn an epl]]]   Yiddish
                There has someone eaten an apple
        c.   *[$_{TP}$ Det har [$_{VP}$ någon [$_{VP}$ ätit ett äpple]]]   Swedish
                There has someone eaten an apple
        d.   *[$_{TP}$ Der har [$_{VP}$ nogen [$_{VP}$ spist et æble]]]   Danish

This is not to say that Swedish and Danish lack expletive constructions altogether. The examples in (2), with ergative verbs, are grammatical.

(2)   a.   Det har kommit många män hit idag   Swedish
                there has many men come many men here today
        b.   Der er kommet en dreng   Danish
                there is come a boy

Recent accounts propose that a difference in the size of the functional domain is relevant. Bobaljik & Jonas (1996), for instance, propose that for a TEC to be well-formed there must be two accessible specifier positions in the functional domain between CP and VP, one for the subject and one for the expletive. In Danish one of these specifiers is inactive in overt syntax. An analysis along these lines is in principle compatible with the hypothesis that all languages have the same set of functional projections. Bobaljik & Jonas propose that functional T to Agr movement makes spec-TP an inaccessible specifier in overt syntax. A more radical view is expressed in Thráinsson (1996), Bobaljik (1995) and Bobaljik & Thráinsson (1998). In these proposals it is argued that languages contain a different number of functional projections in the IP-domain: This domain comprises one projection in some languages but several in other languages. A language with an unsplit IP has one specifier, spec-IP, hosting either the subject or the expletive. Hence, generation of both in one clause is blocked. In a language where IP is split up into at least TP and AgrP, the overall structure contains enough specifiers to host both the subject and the predicate. In that case, TECs can be generated.

Although I believe that the size of the functional domain is indeed a crucial factor, there are two problems with these approaches, one empirical and one theoretical. From an empirical point of view, they fail to incorporate Vikner's generalization. Vikner (1990, 1995) observes that transitive expletive constructions are only possible in languages with V to I

movement as well as verb second. Recent analyses of the distribution of expletives (cf. references above) have been unsuccessful in deriving this generalization. Since the number of specifiers in the IP-domain determines whether or not generation of a TEC is possible, it is a coincidence that the languages allowing them are verb second languages. There is, however, an important fact suggesting that verb second is a relevant factor: In languages that allow for TECs expletives can only occur in clause-initial position, as can be observed in (3):

(3)　　a.　　Það hefur komið strákur　　　　　　　　　　　　　　Icelandic
　　　　　　　there has come a boy
　　　a'.　　*Í gær hefur það komið strákur?
　　　　　　　yesterday has there come a boy
　　　b.　　Es iz gekumen a yingl　　　　　　　　　　　　　　　Yiddish
　　　　　　　there is come a boy
　　　b'.　　*Nekhtn iz es gekumen a yingl
　　　　　　　yesterday is there come a boy

For this reason, these elements are often referred to as topic-expletives (Sigurðsson 1989; Holmberg 1995) so as to distinguish them from subject-expletives. Irrespective of their exact nature, what the data in (3) show is that in Icelandic and Yiddish expletives never surface in the position in which they are supposedly inserted according to the analyses just mentioned (i.e. in spec-AgrP). This seriously weakens the claim that it is the structure of the I-domain that decides whether generation of a TEC is well-formed.

　　　From a theoretical point of view, it is not straightforward that a VP dominated by a single functional projection should block generation of a TEC. Why isn't it possible to generate the expletive in spec-IP and the subject in spec-VP or adjoin it to the predicate? In other words, in addition to the difference in structural size, it must be stipulated that the subject always leaves its base position. This then shows that predictions concerning the grammaticality of TECs can only be spelled out if it is made explicit where subjects and expletives are licensed. In other words, saying that structural size is a relevant factor in the licensing of TECs still leaves the question of which part of the structure is crucial and why. Without answering these questions, the claim that structural size matters remains an underived observation.

　　　The theory developed in this chapter overcomes both problems. The claim is that Vikner's generalization follows from two properties of the theory that have played a role throughout this thesis. One is the theory of verb movement as developed in chapters 2 and 3 and the other is predication theory. Against this background, it becomes easy to see why the distribution of expletives is as it is and relatively little extra needs to be said. Recall that Thráinsson (1996), Bobaljik (1995) and Bobaljik & Thráinsson (1998) claim that the number of available specifiers determines the well-formedness of TECs in a language, although not in a way that is compatible with Vikner's generalization. The alternative theory of functional

structure proposed in this thesis unifies both insights in a straightforward way since verb movement determines to a large extent the structural size of a clause. A way of stating Vikner's generalization, then, is to say that TECs become possible in a language if the verb moves twice in order to project its features, in other words if it creates both AgrP and TP. In the previous chapter I claimed that this is the case if a language has anaphoric agreement, as in Icelandic and Yiddish. These are precisely the languages that allow for TECs. Hence, the contrast in (1) is nothing more than a syntactic side-effect of a difference in structural size that I have independently motivated. Hence, the empirical problem is overcome.

Let us now turn to the theoretical problem. In short, a TEC is analyzed as a VP dominated by AgrP and TP where the expletive is generated in spec-TP and the subject (or rather, the specifier of the subject) occupies spec-AgrP. This analysis presupposes that expletives can be base-generated in a topic position. This non-standard assumption highlights the fact that the theory of functional projections interacts crucially with the theory that deals with the licensing of subjects and associated elements. Now, according to predication theory, there is no specific subject position, nor are there specific specifiers in which subjects and expletives must occur. Rather, predicates must find their subject somewhere within their m-command domain. Suppose now that expletives mark the LF position of the subject (Chomsky 1986a, 1995). Suppose furthermore that no argument can move to a position in which it could have been base-generated (that is, where it could have received its theta role), which is basically a specific formulation of economy of movement. Then, covert movement of the subject to an expletive inserted within VP's predicational domain is prohibited. As VP's predicational domain consists of the entire clause when it is dominated by a single functional projection, languages with a relatively poor functional architecture cannot project TECs. This is depicted in (4), where square brackets indicate VP's predicational domain.

(4) $*[_{FP-1}$ expletive-DP ... t_{DP} ... VP]   (LF)

If VP is dominated by two or more functional projections, expletives can be inserted outside VP's predicational domain. The consequence is that movement of the subject to the expletive is allowed: The subject does not move to a position in which it can also receive a theta role. Hence, TECs are acceptable in languages with a richer functional architecture:

(5) $[_{FP-2}$ expletive-DP ... $[_{FP-1}$ t_{DP} ... VP]]   (LF)

Thus, the size of the functional domain determines whether a language can have TECs or not. Under the assumption that only in languages with anaphoric agreement the verb moves twice in order to generate both TP and AgrP, Vikner's generalization follows.

This chapter is organized as follows. Section 2 will develop the proposal just sketched in more detail. Empirical confirmation is presented in section 3. Section 4 then

shows how the V to I parameter from chapter 2 explains why expletives cannot be generated in spec-AgrP, not even in unaccusative contexts. At that point, the analysis will reveal that Dutch is the odd one out within the languages discussed. Section 5 will discuss how the behaviour of this language can be accounted for. Section 6 discusses the Romance languages Italian and French. Since Italian lacks expletives altogether, the analysis presented makes no predictions for this language. Although it seems to make the correct prediction for French (which disallows TECs but allows expletive constructions with unaccusative verbs), the *il*-construction has properties that make it distinct from expletive constructions in Germanic. Hence, the Romance languages can neither confirm nor falsify the claim that the size of the functional domain is parametrized. Section 7, finally, deals with questions concerning the extended projection principle. More specifically, it will address the question of why NP raising is obligatory in the absence of an expletive but only in a restricted class of languages (namely VO languages with poor Agr), a fact that we will encounter when discussing the distribution of expletives.

2. Predication and expletives

This section shows how predication theory and economy interact such that Vikner's generalization is derived. In 2.1, an economy condition banning unmotivated movement is presented. It follows from this condition that no arguments can move within VP's predicational domain. In section 2.2, the consequences for the distribution of expletives are discussed: It points out how the theoretical prediction can be turned into a strong empirical one.

2.1 Unmotivated movement

It is uncontroversial nowadays to claim that every movement must have a trigger. This requirement entails that the head of a movement chain $\{\alpha, t_\alpha\}$ must be licensed by at least one function, F, which cannot be satisfied by the tail of the chain (cf. 6). In the absence of such a function, α's derived position counts as unmotivated.
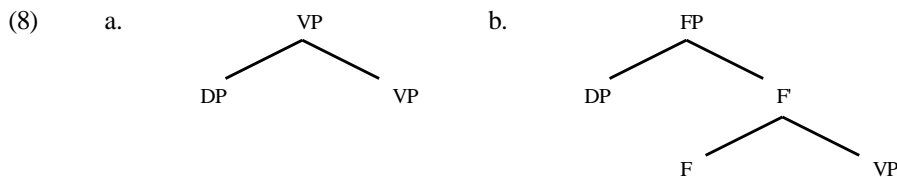
(6) $\qquad$ α $\qquad$ ... $\qquad$ t_α
$\qquad\qquad\quad$ F

If this is the defining property of triggers, one would expect a further requirement to hold as well: Something must motivate the presence of the trace. Like the head, the tail of a movement chain must be licensed by at least one function, F', which cannot be satisfied by its head (cf. 7). In the absence of such a function, the trace counts as unmotivated. This assumption is implicit in both GB theory and minimalism.

(7)   α   ... t_α
                       F   F'

One question that arises is which functions may license the presence of a trace. For verb movement, a straightforward answer can already be given. If the verb moves in order to project Agr, the trace of the verb encodes the position from which the internal theta roles are assigned. The head of the chain cannot do so: Hence, the trace is licensed. For argumental traces, the literature suggests a particular characterization of F'. As Chomsky (1981) notes, it is a pervasive property of chains containing an argument position that this position constitutes the foot of the chain. Conversely, we may say that the foot of such chains is licensed if and only it is theta-marked. From the present perspective, the foot of such a chain is only motivated if assigned a theta-role which cannot be assigned to the head.[1] When an object undergoes WH-movement, for example, its trace is licensed because its landing site is well beyond the domain in which the verb can assign its thematic roles.

Things are rather different when we turn to movement of the subject within VP's predicational domain. I have assumed throughout that the subject must be generated in a position from where it can c-command the predicate. Moreover, it must appear within VP's m-command domain.[2] This leaves two positions in which we can find a subject: Either it occupies a VP-adjoined position (cf. 8a) or it is in the specifier of the first projection dominating VP (cf. 8b).

(8)   a.   VP   b.   FP
                      /   \   /   \
                   DP   VP   DP   F
                                                            /   \
                                                          F   VP

This implies that a structure like (9), in which the subject moves from one of these positions to the other, violates the ban on unmotivated movement. The theta role assigned to the foot of

---

[1] The foot of a chain could of course have additional functions. It could, for example, mark a scope that is different from that of the head of the chain. The question, however, is whether these additional functions are enough to *motivate* the presence of a trace. As expressed by Chomsky's (1981) chain condition, there are no argument chains in which the chain root is not a thematic position.

[2] Let me, for clarity's sake, repeat the definitions here:

(i)   A category a c-commands a category ß if and only if (i) a does not dominate b, and (ii) every category that dominates a dominates b.

(ii)   A category a m-commands a category ß if and only if (i) a does not dominate b, and (ii) every maximal category that dominates a dominates b.

the chain can also be assigned to its head, since DP is still within VP's predicational domain (which I indicate with rounded lines). Hence, the presence of the trace is not sufficiently motivated.[3]

---

[3] The ban on this movement has consequences for the analysis of subject-initial clauses in Mainland Scandinavian and Dutch. Subjects must be directly inserted in spec-TP, since moving it to clause-initial position from a VP-adjoined position would create an illegitimate trace. Hence, spec-TP can function as an A-position in these languages but not in languages that generate AgrP. This entails that Dutch and Mainland Scandinavian have the option of satisfying the Tense condition under m-command. The reverse does not hold. English for instance satisfies the condition under m-command. Satisfaction under c-command would necessitate an additional functional projection, unlike in Mainland Scandinavian and Dutch. It is tempting to use this analysis as an explanation for the subject-object asymmetry in Dutch. As is well known (cf. Zwart 1993, 1996, among others), only weak subject pronouns can appear in sentence-initial position in this language:

(i)   a.   Het betekent niet zo veel
                it means not so much
        b.   *Het hebben die jongens gezien
                it have those boys seen

If spec-TP counts as an A-position in Dutch, the contrast in (i) would follow from the assumption that weak pronouns do not like to move to clause-initial position. The prediction would then be that a similar contrast is absent in languages that generate AgrP like German and Icelandic, since clause-initial pronouns would always have to be moved to that position. This seems to be disconfirmed by the following data from Travis (1991):

(ii)   a.   Es hat das Brot gegessen
                it has the bread eaten
        b.   *Es haben die Kinder gegessen
                it have the children eaten

However, Winfried Lechner informs me that clause-initial *es* is not ruled out across the board (cf. iii):

(iii)   Es hat jemand gut gemacht
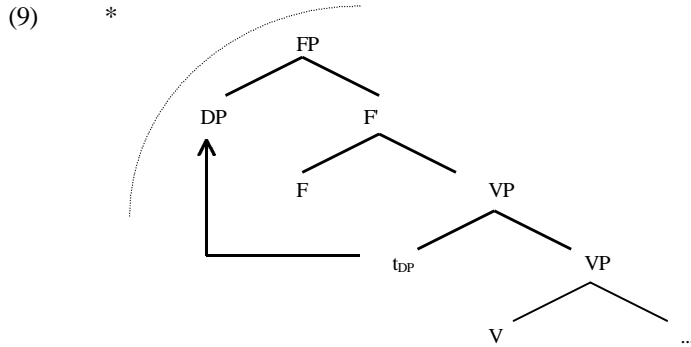   *it has someone good done*

The well-formedness of (iii) has been confirmed by two other native speakers that I consulted. Apparently, another factor is at play in (iib), perhaps involving the definiteness of the subject. Þorbjörg Hróarsdóttir (p.c.) notes a similar effect in Icelandic, although it is significantly less severe:

(iv)   Það hefur ᴼᴷeinhver/[?] barnið borðað
                it has someone/ the child eaten
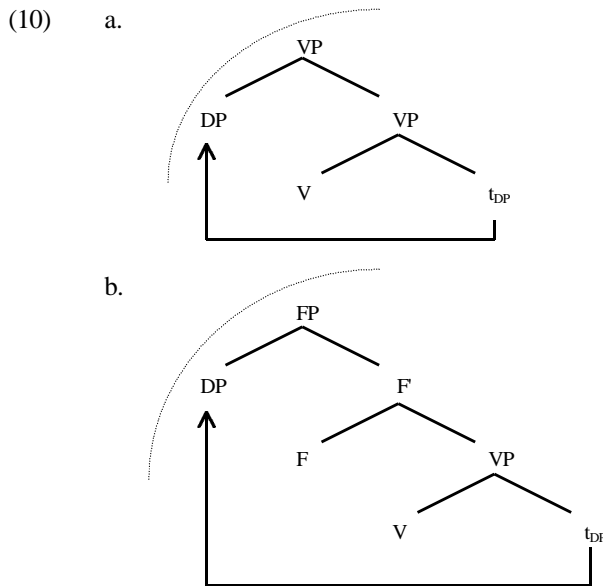
Note that a literal translation of (iii) into Dutch still gives a bad result:

(v)   *   Het heeft iemand goed gedaan
                it has someone good done

Before the contrast between Dutch on the one hand and German and Icelandic on the other hand can be construed as an argument for the different status of spec-TP, one would like to understand the condition at play in German and to see more data from both German and other verb second languages. I therefore leave it at this suggestion.

(9)   *

```
                        FP
                      /    \
                   DP       F'
                    ↑      /   \
                    |     F     VP
                    |     |    /   \
                    |___ t_DP      VP
                                  /   \
                                 V      ...
```

Although movement from the VP-adjoined subject position to the specifier of the first
projection dominating VP counts as unmotivated, movement to or from either of these
positions is not excluded across the board. For a start, both subject positions may function as
a landing site for NP movement. In the representations in (10), the trace in object position is
licensed, as it is theta-marked by the unaccusative verb. The verb cannot assign its internal
theta role to the position in which the object has landed, as this position lies outside of VP.

(10)   a.

```
                   VP
                 /    \
              DP       VP
               ↑      /   \
               |     V     t_DP
               |_____|
```

         b.

```
                        FP
                      /    \
                   DP       F
                    ↑      /   \
                    |     F     VP
                    |          /   \
                    |         V     t_DP
                    |_____|
```

Furthermore, both subject positions may function as the foot of a movement chain, as long as
the movement in question targets a landing site outside VP's predicational domain. The

representations in (11), for example, are well formed because DP has moved to the specifier of the second projection dominating VP. This specifier is not m-commanded by VP and hence the theta role that licenses the foot of the movement chain cannot be assigned to it. As a result, the presence of a trace in subject position is sufficiently motivated.

(11) a.

b.
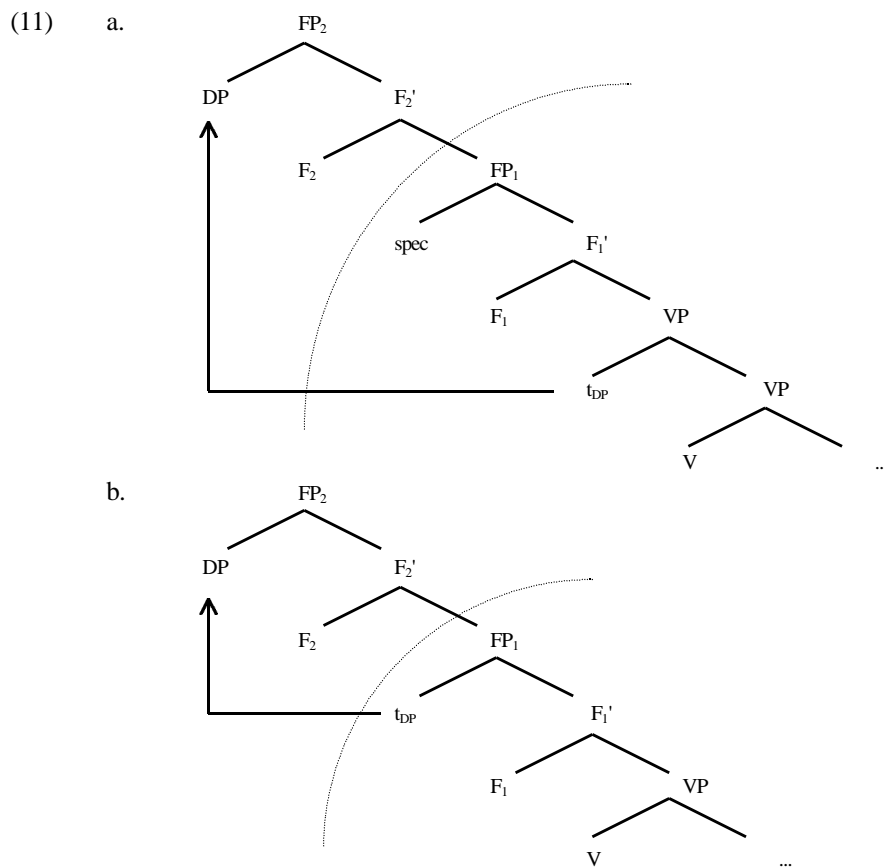
In sum, the ban on unmotivated movement, in conjunction with predication theory, blocks movement of the subject within VP's predicational domain, but not movement to this domain or movement from it. From this, the distribution of TECs can be derived, as will now be argued.

2.2 Consequences for expletive insertion

Expletives cannot function as arguments by themselves, a fact illustrated by the ungrammaticality of **there arrived*.[4] Rather, they must have an associate, as in *there arrived three men*, and this associate must occupy a position within 'moving distance' from the expletive.[5] One interpretation of this state of affairs is that the associate moves and adjoins to the expletive at LF. Thus, a sentence like (12a) is assigned the LF in (12b) (Chomsky 1986a, 1995; see Moro 1997 and Hoekstra & Mulder 1990 for an alternative analysis).[6]

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[4] Excluded from the discussion are expletive pronominals like that in (i). Following Bennis 1986 and Vikner 1995, I take this element to be a true argument which is coreferential with an adjunct clause. An analysis along these lines is corroborated by the fact that the pronominal may appear in clearly theta-marked positions (cf. ib,c), in which case *it* must indeed be argumental and the associated clause must indeed occupy a non-thematic position. Furthermore, clauses associated to pronouns can often be omitted and they are islands for certain types of extraction (Bennis 1986:104).

(i)   a.   It is obvious (that he could not come)
           b.   He regretted it (that he could not come)
           c.   He saw to it (that he could not come)

[5] Some languages allow expletive insertion in the absence of an associate, in particular in impersonal passives. This does not mean, however, that the expletive functions as an argument: It cannot be assigned a thematic role, for example. Since impersonal constructions pose a problem for many theories of expletive constructions and since they do not directly bear on the purposes of this chapter, I will leave them out from the discussion (but see Ackema and Neeleman (1998) for an analysis).

[6] Evidence for such a covert movement operation comes from the fact that the associate behaves as a subject with respect to control. As pointed out by Chomsky (1995), there is a contrast between (ia) and (ib):

(i)   a.   *The inspector arrested three men without PRO identifying themselves
           b.   There arrived three men without PRO identifying themselves

On the other hand the analysis seems to predict, incorrectly, that the associate can bind and take scope over material c-commanded by the expletive (Den Dikken 1995). For the observation concerning scope, the following tentative explanation can be offered. Suppose that in the case of NP raising scope may in principle be marked either before or after movement (Ruys 1992). Suppose furthermore that, as a discourse constraint, the usage of extra material in a sentence must have an impact on interpretation (Sperber & Wilson 1986). Then, if a speaker includes an expletive in the numeration, and thus uses a structure in which the subject surfaces in its base position, (s)he signals to the hearer that the LF subject is to be given narrow scope. As for binding, it is unclear whether the data really pose a problem for associate to expletive movement. In general, LF movement across a dependent does not feed binding. The example in (iia) is infelicitous, even though it is presumably mapped onto the LF representation in (iib) (which is grammatical as a surface representation). Whatever the explanation for (iia), it will probably carry over to binding in expletive constructions.

(ii)   a.   *dat [[alleen haar eigen kinderen] de moeder bevalt]
                     that only her own children the mother pleases
           b.   dat de moeder [[alleen haar eigen kinderen] t$_{DP}$ bevalt]
                     that the mother only her own children pleases

The explanation may lie in a discourse constraint on the order of dependants and their antecedent. Such a constraint will be discussed in section 7.

(12)   a.   There have arrived three men   (overt syntax)

           b.   [[There] three men] have arrived *t*   (LF)

Movement to the expletive, as in (12b), satisfies the EPP as formulated in the introduction, repeated here as (13):

(13)   *Extended Projection Principle*
                Map the syntactic category VP onto λx [|VP|]

The condition that VP be mapped into a predicate at LF is met in exactly the same way as in other cases of NP raising: The trace in object position is interpreted as a variable bound by VP's lambda operator. Thus, a configuration results that requires VP to take a subject. Since the expletive itself is not an argument, the DP-object must raise to a position within VP's predicational domain, just like in other raising constructions. Once the DP-object has adjoined to the expletive, it occupies a position in which it can receive VP's theta role. It c-commands VP according to the definition of c-command adopted (cf. footnote 2) and can therefore be interpreted as VP's subject.

      On this view, expletives mark the LF position of the subject in overt syntax. This does not imply that an expletive must itself occupy the thematic subject position. Since arguments are commonly seen as (possibly one-membered) chains, marking the position of the subject means marking the head of the chain to which VP's thematic function is assigned. This includes the possibility that the expletive appears in the thematic subject position itself. Alternatively, however, it may occupy a position higher in the tree, most notably a topic position (spec-TP in the present analysis). In this case, the associate must pass through the subject position at some stage of the derivation. English expletive constructions instantiate the first option; the second, I will argue, obtains in Icelandic and Yiddish TECs (Thráinsson 1979, Sigurðsson 1989 and Holmberg 1995).

      Which constructions may host expletives now follows from the ban on unmotivated movement. As argued, this constraint blocks movement of the subject to a position within VP's predicational domain. The complementary distribution in English of expletives and base-generated or raised subjects, illustrated in (14), is a consequence of this. Recall from the previous chapter that English clauses consist of VP dominated by TP. This functional projection is headed by an element from the Tense-marker paradigm. A structure in which both the expletive and the subject are in a position external to the predicate looks as in (14):

(14)   a.   *[TP There have [VP three men [VP eaten an apple]]]   (overt syntax)

           b.   *[TP There have [VP three men [VP arrived *t*]]]   (overt syntax)

First, consider the construction in (14a), which is mapped onto the LF representation in (15) by movement of the subject to the expletive. Crucially, this movement creates an unmotivated

trace because the theta role assigned to the subject's trace can equally well be assigned to the position marked by the expletive. After all, this position also appears within VP's m-command domain. Consequently, the presence of a DP in the VP-adjoined subject position blocks expletive insertion within VP's predicational domain; the TEC in (14a)/(15) instantiates the ungrammatical structure in (9).[7]

(15)   *[$_{TP}$ [There [three men]] have [$_{VP}$ *t* [$_{VP}$ eaten an apple]]]   (LF)

Next, consider the construction in (14b), in which an object has overtly raised to the VP-adjoined subject position while an expletive is inserted in the first functional shell dominating VP. As before, the DP argument is adjoined to *there* at LF. This gives rise to the representation in (16). Since movement of the VP-adjoined DP to the expletive takes place within the m-command domain of VP, it counts as unmotivated. The theta role assigned to the (intermediate) trace can also be assigned to the position marked by the expletive. Therefore, the trace is not licensed. Like (15), (16) instantiates the ungrammatical structure in (9).[8]

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[7] On the basis of examples like (i), Chomsky (1995) suggests that English does have TECs. If *enter* is analyzed as a transitive verb, this example contains both an expletive and an extraposed subject (namely *a tall dark stranger*).

(i)   There entered the room a tall dark stranger

However, one could alternatively analyze *a tall dark stranger* as the internal argument of an unaccusative complex predicate *enter the room*. On this analysis, the example at hand patterns with *there arrived a tall dark stranger*. There are two arguments that support such an analysis. First, the expression corresponding to *enter the room* in Dutch takes BE rather than HAVE as an auxiliary in the perfect (cf. iia). Second, *enter the room* can be combined with a nominal secondary predicate (cf. iib) and in this respect it patterns with unaccusatives rather than transitives (cf. iib',b").

(ii)   a.   Hij is de kamer binnengekomen
                      he is the room entered
            b.   He entered the room a happy man
            b'.   He died a happy man
            b".   *He ate his steak a happy man

[8] The explanation offered excludes raising NP into the predicational domain that also contains the expletive. On the assumption that in passive constructions the relevant predicate includes the verb *be*, the ungrammaticality of (ia) has the same source as that of (14b). The analysis does in principle not exclude raising operations internal to the predicate. Hence, even if (ib) involves raising of *someone* from the object position of *arrested*, it is not ruled out.

(i)   a.   *There has someone$_i$ [been t$_i$ arrested by the police]
           b.   There has [been someone$_i$ arrested t$_i$ by the police]

It is not clear to me, however, that (ib) should involve movement of *someone*. The generalization is that this DP can only show up between a form of *be* and *arrested*. It cannot even appear in its base position, for instance (Bill Philip provided his judgement):

(ii)   *There has been arrested someone by the police

(16)   *[TP [There [three men]] have [VP *t* [VP arrived *t*]]]   (LF)

To conclude, since VP in English is dominated by only one functional projection, the expletive will always be inserted within the m-command of the predicate. Consequently, overt NP-raising to a lower subject position is blocked, as is base generation of a subject in that position. The only remaining possibility is that the associate of the expletive is located within VP rather than in VP's m-command domain (cf. 12). From the object position, DP can then move and adjoin to the expletive in one fell swoop. Since this movement will bring DP in a position where it can function as VP's subject, there is no need for an intermediate landing in a VP-adjoined position. The resulting LF structure (cf. 12b) will therefore not contain any unmotivated traces. As the object trace in (12) is theta-marked by the verb, its presence is sufficiently motivated. The grammaticality of unaccusative expletive constructions like in (12) is thus accounted for.

2.3 Expletives and functional structure

Suppose that in some language VP is dominated by a second functional projection that allows expletive insertion. Then, an expletive could be generated outside VP's predicational domain. This implies that even if the associate is a subject, the trace left behind by LF raising will not violate the ban on unmotivated movement. TECs are hence ruled in.

Consider the structure in (17). In this structure the subject is inserted in the specifier of FP-1, while an expletive appears in the specifier of FP-2.

(17)   [FP-2 expletive F-2 [FP-1 DP F-1 [VP ... V ...]]]

Movement of the subject to the expletive yields the LF representation in (18).

(18)   [FP-2 expletive-DP F-2 [FP-1 tDP F-1 [VP ... V ...]]]

Note that this structure does not violate the ban on unmotivated movement. As VP cannot assign its theta role outside its m-command domain, the function of subject can only be fulfilled by the trace, whose presence is thereby sufficiently motivated. In other words, (18) instantiates the structure in (11b).

This strongly suggests that grammatical examples like (ib) are in fact copula constructions, where *arrested* is the predicate of an adjunct to DP:

(iii)   a.   There has been [[someone] PRO_i arrested t_i by the police]
           b.   There has been [[someone] PRO_i arresting John]

In any event, (ib) does not involve movement within the predicational domain, as predicted to be impossible by the current proposal.

Structures like (18) are not available in English as in declarative clauses VP is dominated by only a single functional projection that allows for expletive insertion. Of course, the set of verbal projections is extended beyond IP in WH-questions and negative inversion, but in these constructions the extra specifier position is filled by a WH-expression or a negative operator, leaving no room for expletive insertion. Hence, expletives will always appear within VP's m-command domain in English, with the consequence that including a subject in this domain as well leads to an unmotivated movement.

So, languages in which TECs are grammatical should have a richer functional structure than English: VP should be dominated by at least two functional projections, the second of which allows for expletive insertion. This raises the question what determines the size of the functional domain. In this thesis, a particular view of functional structure is provided. The verb and its affixes form a complex morphological object of which any element could in principle be the syntactic head. Output requirements will determine which features project and in which order. In chapters 2 and 3 it was argued that the verb moves in order to project Agr and Tense. Under this view, there is a strong correlation between head movement and the availability of functional structure. In the absence of clear evidence to the contrary, no functional projection is present if no verb movement takes place. Hence, on the assumption that overt verb movement is generally indicative of available structure, we are able to make a very strong empirical claim: Given that two projections are necessary for a TEC to be well-formed, TECs should only occur if the verb is forced to move twice. As we will see in the next section, this prediction is borne out.

Before I turn to the empirical confirmation, I would like to make some assumptions concerning complex tenses, i.e. clauses that contain more than one verb. In the previous chapter, I followed common practice in taking English modals to be functional categories: They project Tense after they are inserted. I argued that finite forms of *have* and *be* belong to the same paradigm of Tense markers. In other languages, however, the status of modals and auxiliaries is subject to much more debate. As can be illustrated for Dutch, for instance, verbs with a modal meaning usually have an infinitival form (cf. 19a) and can appear as the only verb in a clause (cf. 19b), both in contrast to English.
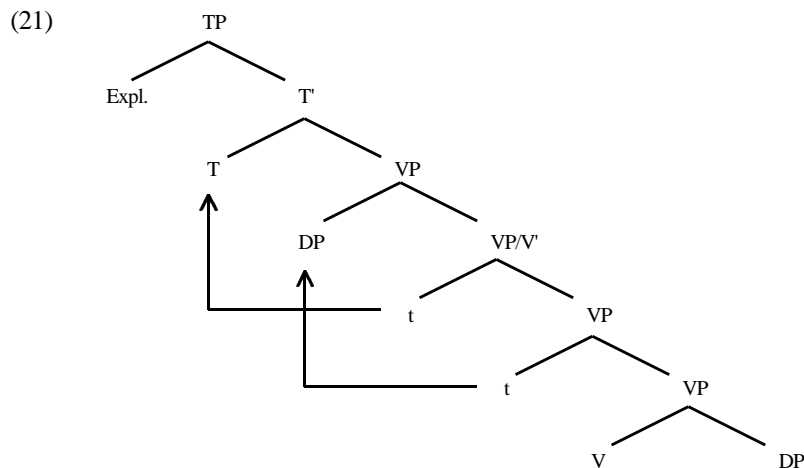
(19)   a.   Harry zal nooit fatsoenlijk doedelzak kunnen spelen
                        Harry will never decently the bag pipes can-inf. play
           b.   Harry kan nooit op zondag
                        Harry can never on sunday
                        'Harry is never able to make it on a Sunday'

Moreover, it can be observed that in embedded clauses in Mainland Scandinavian finite forms of auxiliaries follow the adverbs that were taken to mark the left edge of the predicate (cf. 20). This strongly suggests that they do not move.

(20)   a.   at Peter **ofte** *havde* læst den   Danish
                that Peter often had read it

Moreover, it cannot be the case that these elements project Tense right after their insertion for the very fact that it would predict that verb movement in main clauses becomes redundant: Verb second is no longer expected. Hence, I conclude that after insertion modals and auxiliaries project V in languages other than English.

The analysis of TECs proposed in this chapter has consequences for the analysis of complex tenses: That is to say, not any analysis is available if the present proposal is to work. To be specific, suppose that the subject is adjoined to the projection of the lowest lexical verb and there receives its theta role. It then moves to a position c-commanding the highest, finite, verb for reasons of case for instance, thereby supposedly moving through specifiers of all intermediate verbal phrases it encounters. In every verb second language, the finite verb will consequently move and project Tense. This will create a specifier that can be used for expletive insertion, deriving the structure in (21):

(21)

```
                    TP
                  /    \
              Expl.     T'
                      /    \
                    T        VP
                    ↑      /    \
                  DP    VP/V'
                  ↑    /    \
                  t        VP
                         /    \
                        t       VP
                              /    \
                            V       DP
```

In covert syntax, DP will move and adjoin to the expletive, leaving an intermediate trace. Whether the subject is adjoined to the projection of the finite verb or is in its specifier, movement to the expletive is allowed in both cases. The movement is not to a position to which a theta role is assigned. The lower trace is therefore licensed by a theta role, the intermediate one by case. Hence, given this analysis of complex tenses, TECs should be available in any verb second language, contrary to fact. For this reason, we reject this analysis of complex tenses.

There are at least two analyses that circumvent this undesirable prediction and undoubtedly there are others. One is to assume that modals and auxiliaries are generally theta

assigners taking two arguments, a subject (external) and a VP-predicate (internal). In that case, there are two thematic domains and therefore two subject positions. PRO receives the external theta role of the lower predicate, DP the one of the higher predicate.

(22)   [... [$_{VP}$ DP [$_{VP-2}$ V [$_{VP-1}$ PRO V]]]]

The grammaticality of TECs in a language then hinges on the number of functional projections that dominates VP-2. The subject position of the lower predicate is not involved since it is unavailable for a DP-subject; PRO and DP are in complementary distribution. This approach will probably entail an extension of the set of theta roles normally assumed: It is not obvious what role *John* would receive from a verb like *zullen* 'will', for instance.

Alternatively, modals and auxiliaries can be taken to extend the predicate introduced by a lexical verb rather than introduce additional ones. That is, they add modal and aspectual information to the predicate without changing the thematic properties of the structure as a whole, much like an adverb that is merged with a VP. Under this analysis, the external theta role is not discharged after insertion of the modal or auxiliary and becomes a property of the combined structure.[9] One example of an analysis along these is the one in Williams (1994). He distinguishes functor relations from theta relations and classifies modals, just like adverbs, as functors, elements that map theta assigners into theta assginers. This approach makes it possible to analyze raising verbs as functors as well, as Williams in fact does. The relation between a verb like *seem* and a VP and the relation between *seemingly* and a VP is similar in relevant respects.[10] Hence, the intuition behind this approach is that all bracketed constituents below are predicated of the subject (cf. Bobaljik (1995:202) for this point):

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[9] A similar intuition underlies Grimshaw's (1991) notion of extended projection. Although the lowest, lexical projection can be dominated by functional ones, the lexical head still remains the head of the whole structure in crucial respects.

[10] Rejection of the first analysis has consequences for the analysis of scope relations in an example like (i):

(i)   Every student can fit into my car

(i) is ambiguous between a reading where the quantifier has scope over the modal ('There's no student so gigantic that they can't get into my car') and a reading where the modal has scope over the quantifier ('My car is big enough to hold all of the students at once'). In an analysis that contains a lower subject trace (i.e. the analysis rejected here), the presence of this trace can be used to account for the ambiguity. After all, the modal c-commands the trace of the quantifier and the quantifier itself c-commands the modal. As pointed out to me by Kyle Johnson, who provided the example, this analysis is unavailable to the alternative I adopt. Since a full-fledged discussion of quantifier scope would take us too far afield here, I refer to Williams (1994, chapter 4) for an alternative analysis of these facts that is compatible with the present premises.

(23)   a.   dat Jan [een liedje zingt]
                that Jan a song sings
       b.   dat Jan [een liedje heeft gezongen]
                that Jan a song has sung
       c.   dat Jan [een liedje zou hebben willen zingen]
                that Jan a song would have like sing

Under this view, the predicational domain can be defined as the m-command domain of the highest V. For concreteness' sake, I will adopt this latter analysis of complex tenses and assume that we should look at the size of the functional domain dominating the highest VP (i.e. the one headed by the finite verb or its trace) in order to establish whether a TEC is predicted to be possible or not. With this in mind, let us now turn to the empirical data.

3.   Empirical confirmation

In this section, I will show the data that confirm the present proposal. In section 3.1 I will discuss those languages that corroborate it most straightforwardly, namely the Germanic VO languages. The syntax of OV languages is such that the number of functional projections dominating VP is a bit harder to determine. In chapter 2, however, predictions concerning the presence of AgrP in OV languages were formulated on the basis of the agreement paradigms and some data were presented (most notably PP-over-V facts) suggesting that these predictions were indeed correct. Section 3.2 discusses German and Afrikaans and shows that the distribution of TECs is exactly as expected: Only German has them.

3.1   The Germanic VO languages

Let us start by considering the functional structure of languages other than English. With the exception of this language, all Germanic languages have V2. The finite verb always occurs in second position; if another element than the subject is topicalized, subject-verb inversion is obligatory. This basic fact is illustrated by the examples in (24).

(24)   a.   [$_{TP}$ Bókina keypti [Jón ekki]]   Icelandic
                the-book bought John not
       b.   [$_{TP}$ Dos bukh shik [ikh avek]]   Yiddish
                the book send I away
       c.   [$_{TP}$ Boken köpte [Ulf inte]]   Swedish
                the-book bought Ulf not
       d.   [$_{TP}$ Denne film har [børnene set]]   Danish
                this film have the children seen

V2 was analyzed as the result of two movement operations. The first fronts the verb and thus creates a functional projection, TP, and the second places some XP in sentence-initial position. These sentences therefore provide evidence for the existence of at least one functional projection on top of VP. We have labeled this projection TP.

As we have seen in chapter 2, there is a typological split between Icelandic and Yiddish on the one hand, and Mainland Scandinavian on the other. It can be shown that the first two have a second, inflection-related verb movement operation. This operation is absent in Mainland Scandinavian, as can be directly observed in embedded clauses, where no V2 occurs. Here the finite verb follows adverbs that mark the left edge of VP, suggesting that it does not leave its base position.

(25)   a.   [$_{CP}$ at [$_{VP}$ Peter [$_{VP}$ **ofte** *havde* læst den]]]   Danish
                that Peter often had read it
        b.   [$_{CP}$ att [$_{VP}$ Jan [$_{VP}$ **ofta** *kysser* Maria]]]   Swedish
                that Jan often kisses Maria

In chapter 3, I concluded that distributional evidence for V to I in Icelandic and Yiddish cannot be obtained. The reason is that these languages need to project TP in all finite clauses in order to satisfy the Tense condition. Hence, none of the *observable* verb positions marks the head of AgrP. Nevertheless, Yiddish and Icelandic have a bundle of properties that follow under the assumption that they have independent V to I movement. First of all, they are richly inflected for subject agreement, so that from a theoretical point of view we expect them to generate AgrP. Second, it was argued in the previous chapter that embedded verb second takes place in these languages to project TP. This was necessary since the complementizer is separated from the Tense features on V by Agr. Third, as we will see later, NP-raising does not have to take place overtly, a property shared by Italian. It will be argued in section 7 that V to I movement is partly responsible for that. These facts strongly suggest that, in addition to V2, Icelandic and Yiddish have a second verb movement and therefore an additional functional projection between VP and TP. Whereas Mainland Scandinavian has one verbal projection on top of VP (TP in main clauses), Icelandic and Yiddish have two (AgrP and TP). We therefore predict that TECs are available in Icelandic and Yiddish but not in the Mainland Scandinavian languages. This prediction is borne out by the examples below.

(26)   a.   [$_{TP}$ Það hafa [$_{AgrP}$ margir jólasveinar [$_{VP}$ borðað búðing]]]   Icelandic
                there have many Santa Clauses eaten pudding
        b.   [$_{TP}$ Es hot [$_{AgrP}$ imitser [$_{VP}$ gegesn an epl]]]   Yiddish
                There has someone eaten an apple
        c.   *[$_{TP}$ Det har [$_{VP}$ någon [$_{VP}$ ätit ett äpple]]]   Swedish
                There has someone eaten an apple

d.   *[TP Der har [VP nogen [VP spist et æble]]]   Danish
there has someone eaten an apple

The ungrammaticality of (26c,d) originates in the fact that VP's predicational domain consists of the entire clause. Hence, raising of the subject to the expletive will leave an unmotivated trace. In the grammatical representations of Icelandic and Yiddish on the other hand, VP's predicational domain includes AgrP but not TP. At LF, the DP-specifier in spec-AgrP will move to the expletive in spec-TP and the trace it leaves behind is sufficiently motivated. It marks the position of the subject's specifier. In its position adjoined to the expletive, DP cannot fulfil that function.

The claim that expletives cannot but appear in VP's predicational domain in Mainland Scandinavian, in contrast to Icelandic and Yiddish, makes a further prediction. Overt raising in unaccusative and passive structures creates configurations comparable to those in (26). The only difference is that the subject (specifier) is a raised category and the object a trace. Therefore, even if an expletive is inserted, overt NP raising should be possible in Icelandic and Yiddish. In Mainland Scandinavian, on the other hand, such raising is excluded. The associate cannot move to a position other than the one marked by the expletive. If it raises to the VP-adjoined subject position in overt syntax, subsequent LF movement to the expletive will leave an unmotivated trace. The data are as expected:[11]

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[11] It is correctly predicted that unergatives do not allow expletive insertion in Mainland Scandinavian. This illustrated by the Danish example below:

(i)   *Der snakker mange folketingsmænd med journalister hver dag
there talk many congressmen with journalists every day

Interestingly, at least Swedish and Danish allow the single (agentive) argument of certain unergatives to be realized in object position, a fact noted by Maling (1988) for Swedish and Vikner (1995) for Danish. This possibility will only have an overt reflex if an expletive is present. Otherwise the subject position has to be filled in overt syntax (see section 7 for discussion):

(ii)   at der har danset nogen i haven
that there has danced someone in garden

At this point, it is unclear to me which principles of theta theory allow for the realization of unergative subjects in object position. It also unclear to which extent the phenomenon occurs in other languages. However, the crucial prediction of the theory is that VP-external realization of the subject and expletive insertion cannot be combined. This is indeed the case; there is a sharp contrast between (ii) and (iii) in Danish.

(iii)   *at der nogen har danset i haven
that there someone has danced in garden

(27)   a.   [TP Það hafa [AgrP <margir menn> [VP komið <margir menn>
                there have many men come many men
                hingað í dag]]]   Icelandic
                here today

        b.   [TP Es vert [AgrP <an epl> [VP gegesn <an epl>]]]   Yiddish
                there was an apple eaten an apple

        c.   [TP Det har [VP <*många män> [VP kommit <många män>
                hit idag]]]   Swedish
                there has many men come many men here today

        d.   [TP Der blev [VP <*et æble> [VP spist <et æble>]]]   Danish
                there was eaten an apple

It should be pointed out that the analysis presented so far does not yet capture the optionality of raising in Icelandic and Yiddish. However, if we assume for the moment that NP raising is optional in general, the contrast between those languages and Mainland Scandinavian is derived straightforwardly. The optionality issue will be addressed in section 6.

        Faroese corroborates our analysis in an interesting way. This language has V2 in main clauses only: It is an asymmetric V2 language, as (28) shows.

(28)   a.   [TP Í morgin fer [VP Maria tíðliga á føtur]]   Faroese
                Tomorrow will Mary get-up early

        b.   *Jón ivast í [CP um [TP í morgin fer [VP Maria tíðliga á føtur]]]
                John doubts on that tomorrow will Mary get-up early

Recall that within Faroese there is a split between a dialect that has V to I and a dialect that does not. This can be observed in embedded clauses, where, as said, V2 fails to apply. In one dialect (Faroese I), the finite verb precedes VP adverbs, while in the other (Faroese II) it follows them. Of these two dialects, only the former seems to have two functional projections on top of VP:

(29)   a.   Tað var ovæntað [CP at [AgrP dreingirnir vóru [VP **als ikki** ósamdir]]]   F.I
                it was unexpected that boys-the were at-all not disagreed

        b.   Taþ var ovæntaþ [CP at [VP dreingirnir [VP **als ikki** vóru ósamdir]]]   F.II
                it was unexpected that boys-the at-all not were disagreed

It is hence predicted that only Faroese I has TECs. According to Jonas (1995) and Bobaljik and Jonas (1996), this is correct: Only speakers that accept (29a) accept TECs.[12]

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[12] A further prediction is made. As opposed to Icelandic and Yiddish, Faroese is an asymmetric V2 language. For Faroese I, this entails that, in embedded clauses, there is only one functional projection between the phrase headed by the complementizer and VP. As a result, an expletive can only be inserted within VP's predicational domain. An expletive co-

(30)   a.   [$_{TP}$ Tað bygdu [$_{AgrP}$ nakrir íslendingar [$_{VP}$ *t* hús í Havn]]]   F.I
              there built some Icelanders houses in Torshavn
       b.   *[$_{TP}$ Tað bygdu [$_{VP}$ nakrir íslendingar [$_{VP}$ *t* hús í Havn]]]   F.II
              there built some Icelanders houses in Torshavn

To conclude, the Germanic VO languages confirm our theory in a straightforward manner. If the verb remains in situ in non-V2 contexts, a clause consists of VP dominated by TP only and the functional domain is too small to host a TEC. In this respect, Mainland Scandinavian and Faroese II are just like English. Recall that a clause in English consists of VP dominated by one functional projection only (namely TP headed by an element from the Tense-marker paradigm). Hence, TECs are ungrammatical. This highlights the fact that the nature of the functional projections involved is irrelevant. What matters is the number of functional projections generated in total. Since in predication theory subjects and expletives are not licensed in specific positions, this is exactly what one would expect.

3.2 The Germanic OV languages

Now that the basic contrasts have been accounted for, let us turn to a more complicated class, namely the OV languages. The languages that I will discuss, German and Afrikaans both have verb second.[13] In German, V2 is a root phenomenon, which does not take place in the presence of a complementizer.[14]

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ocurring with a VP-external subject would consequently violate the unicity of predication.

(i)   *[$_{CP}$ C [$_{AgrP}$ expletive I [$_{VP}$ DP [$_{VP}$ ...]]]

So (ii) is predicted to be ill-formed; at this moment, I do not know whether this prediction is correct.

(ii)   *Jón ivast í um tað bygdu nakrir íslendingar hús i Havn
                       John doubts on that there built some Icelanders houses in Torshavn

The fact that this dialect has V to C and V to I in main clauses but only V to I in embedded ones again signals the marked status that the V to I parameter must have in this language.

[13] Dutch does not behave as expected, as we will see. In order to show that Dutch is anomalous on all counts, I will discuss this language after section 5.

[14] Afrikaans allows embedded verb second in the presence of a complementizer. It is unclear whether Afrikaans is of the Mainland Scandinavian type, where the possibility of embedded verb second depends on the matrix verb and clause type, or of the Yiddish/Icelandic type, where the phenomenon is much less restricted (see Robbers 1997:p.30 for discussion). Since this issue does not affect the prediction concerning TECs, I will not go into this issue any further.

(31)   a.   [TP Dieses Buch hat [Hans nicht gelesen]]   German
                     This book has Hans not read

           b.   *Ich glaube [CP dass [TP dieses Buch hat [Hans nicht gelesen]]]
                     I believe that this book has Hans not read

           c.   [TP In hierdie jaar sal [daar verandering kom]]   Afrikaans
                     in this year will there change come

           c'.   [TP Tot almal se verbazing word [die meubels betyds afgelewer]]
                     to everyone his surprise were the furniture on time delivered

Verb second in both Afrikaans and German therefore provides evidence for one functional projection, TP, dominating VP. If the direction of V to I is sensitive to the OV/VO parameter, as is often assumed, V to I will usually be string-vacuous in OV languages. This makes it difficult to check whether AgrP is present or not. There is one theory-internal factor we can use as a first indication, namely the richness of agreement. German shows five distinctions in the present Tense paradigm. Afrikaans is like Mainland Scandinavian in not showing any person and number distinction at all: Only one form is used for all persons.

(32)   a.   *Afrikaans*   b.   *German*

	inf. werk				inf. laufen	
	SG	PL			SG	PL
1st	werk	werk		1st	laufe	laufen
2nd	werk	werk		2nd	laufst	lauft
3rd	werk	werk		3rd	lauft	laufen

Hence, we expect German to be in need of an AgrP, in contrast to Afrikaans. Recall from the previous chapter that many speakers of German do not allow for prepositional phrases to occur after the clause-final verb(al cluster). This was taken to indicate that German projects a head-final AgrP. If so, we expect PP-over-V to occur in Afrikaans without any problems. This prediction is borne out, as can be concluded from (33), taken from Ponelis (1977) (see also Steyn 1996).

(33)   a.   Ek sal die advokaat <in sy kiesafdeling> help <in sy kiesafdeling>
               I will the lawyer in his electoral-district help in his electoral-district

           b.   Dass er Zucker <beim Bäcker> kauft <??beim Bäcker> kauft, ist ungewöhnlich
               that he sugar at-the baker's buys is strange

On the basis of the inflectional paradigms and the contrast in (33), I conclude that German projects AgrP, in contrast to Afrikaans. Since Afrikaans only provides evidence for one functional projection, the functional domain is not large enough to host both the expletive

and the subject: TECs are predicted to be ungrammatical in this language. This prediction is borne out (cf. 34a). Afrikaans does of course allow unaccusative expletive constructions:

(34)   a.   *[_{TP} Daar het [_{VP} baie mense [_{VP} baie bier gedrink]]]   Afrikaans
                there have many people much beer drunk
      b.   [_{TP} Daar was [_{VP} geen geld in die lopende rekening nie]]
                there was no money in the current account not

In German main clauses, an expletive can be inserted outside VP's predicational domain. There are two functional projections dominating VP in root contexts, AgrP and TP. This allows for TECs. In embedded clauses, there is only one functional projection between the complementizer phrase and VP, so that expletives must be inserted within VP's predicational domain. TECs should therefore be excluded in non-root environments. Both predictions are borne out:

(35)   a.   [_{TP} Es hat [_{AgrP} jemand [_{VP} einen Apfel gegessen]]]   German
                there has someone an apple eaten
      b.   *[_{CP} dass [_{AgrP} es [_{VP} jemand [_{VP} einen Apfel gegessen hat]]]]
                that there someone an apple eaten has

As opposed to German, Icelandic and Yiddish are symmetric V2 languages. This means that embedded clauses have two functional projections between the complementizer and VP. Consequently, expletives can also be inserted outside VP's predicational domain in embedded clauses. As a result, it is predicted, and correctly so, that embedded TECs are acceptable:

(36)   a.   [_{CP} að [_{TP} það mundi [_{AgrP} einhver [_{VP} hafa borðað þetta epli]]]]   Icel.
                that there would someone have eaten this apple
      b.   [_{CP} az [_{TP} es volt [_{AgrP} imitser [_{VP} gevolt esn der epl]]]]   Yiddish
                that there will someone would eat an apple

Although the data in (34), (35a) and (36) strongly corroborate the analysis, the ungrammaticality of (35b) only provides a weak argument. Embedded TECs in German are also ruled out by a more general constraint that blocks expletive insertion in spec-AgrP altogether. That such a constraint is needed can be illustrated by using an unaccusative predicate, as in (37).

(37)   [_{CP} dass [_{AgrP} (*es) [_{VP} ein Junge gekommen ist]]]   German
          that there a boy come is

Expletive insertion as in (37) does not violate the ban on unmotivated movement, since at LF the trace in object position is properly licensed: It receives a theta role from V. Although the ungrammaticality of (37) is only addressed occasionally (Cardinaletti 1990), it should of course be incorporated in any theory of expletives. In section 5 it will be shown that the pattern found in German extends to the other languages that allow for TECs. It is argued that it follows from predication theory, given the particular view of V to I presented in chapter 2.

4. V to I movement and expletive insertion

It is striking that in languages allowing TECs, expletives never show up in the specifier of the first functional projection dominating VP, spec-AgrP, not even if the verb is unaccusative. If the expletive is not generated at all, however, the resulting sentence is grammatical. This is shown for Icelandic in (38).[15]

(38)   a.   [$_{TP}$ Það hefur [$_{AgrP}$ [$_{VP}$ komið strákur]]]   Icelandic
                there has come a boy
        b.   [$_{TP}$ Í gær hefur [$_{AgrP}$ (*það) [$_{VP}$ komið strákur]]]
                yesterday has there come a boy
        c.   [$_{TP}$ Af hverju hefur [$_{AgrP}$ (*það) [$_{VP}$ komið strákur]]]?
                why has there come a boy

As noted in the previous section, the ban on unmotivated movement does not rule out expletive insertion in unaccusative structures, since at LF the trace in object position is properly licensed. Whereas (39a) is correctly predicted to be grammatical, it is unclear why (39b) is ruled out.

(39)   a.   [$_{TP}$ expletive C [$_{AgrP}$ I [$_{VP}$ V DP]]]
        b.   [$_{TP}$ (XP) C [$_{AgrP}$ (*expletive) I [$_{VP}$ V DP]]]

The pattern in (39) extends beyond Icelandic. Parallel data are found in Yiddish and German. Again, not generating an expletive at all yields a grammatical result.

(40)   a.   [$_{TP}$ Es iz [$_{AgrP}$ [$_{VP}$ gekumen a yingl]]]   Yiddish
                there is come a boy
        b.   [$_{TP}$ Nekhtn iz [$_{AgrP}$ (*es) [$_{VP}$ gekumen a yingl]]]
   *yesterday is there come a boy*

---

[15] Dutch is a potential counterexample. It allows both TECs and expletive insertion in third position. In section 7 it is argued that these expletives should be analyzed as adverbs.

        c.   [$_{TP}$ Far vos iz [$_{AgrP}$ (*es) [$_{VP}$ gekumen a yingl]]]
               why is there come a boy

(41)   a.   [$_{TP}$ Es ist [$_{AgrP}$ [$_{VP}$ ein Junge gekommen]]]   German
               there is a boy come
    b.   [$_{TP}$ Gestern ist [$_{AgrP}$ (*es) [$_{VP}$ ein Junge gekommen]]]
               gestern ist there a boy come
    c.   [$_{TP}$ Warum ist [$_{AgrP}$ (*es) [$_{VP}$ ein Junge gekommen]]]
               why ist there a boy come

We established earlier that in embedded clauses German has one functional projection between VP and the complementizer whereas Icelandic and Yiddish have two. It is therefore in line with the pattern in (39) that expletives can immediately follow C in Icelandic and Yiddish but not in German.

(42)   a.   [$_{CP}$ að [$_{TP}$ það hefur [$_{AgrP}$ komið strákur]]]   Icelandic
               that there has come a boy
    b.   [$_{CP}$ az [$_{TP}$ es iz [$_{AgrP}$ gekumen a yingl]]]   Yiddish
               that there is come a boy
    c.   [$_{CP}$ dass [$_{AgrP}$ (*es) [$_{VP}$ ein Junge gekommen ist]]]   German
               that there a boy come is

I propose that the data above follow from the interaction between the V to I parameter and the operation that attaches the associate to the expletive. As we have seen, elements in spec-AgrP are not arguments but rather specifiers of arguments. They satisfy full interpretation by entering into a specifier-head relation with Agr. Consider now what happens if the specifier of Agr contains an expletive to which some DP has adjoined:

(43)   *
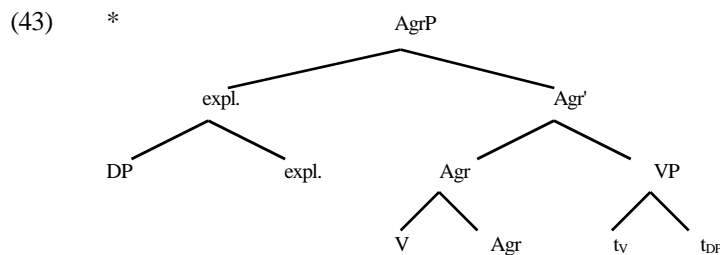
The structure is ungrammatical, since the DP adjoined to the expletive violates full interpretation. Recall that a VP containing a trace is interpreted as a predicate at LF. However, the adjoined DP cannot be interpreted as the subject of this predicate, since VP's thematic function is already assigned to Agr. The adjoined DP cannot be interpreted through

specifier-head agreement either, since the specifier position of AgrP is already filled by the expletive: DP is adjoined to a specifier rather than a specifier itself. Seen from the other side, the inflectional argument finds an expletive in its specifier position, and not a DP that narrows down its interpretation. It will therefore not be fully specified for person and number at LF, which is required to obtain VP's theta role. Since the adjoined DP can neither be interpreted as an argument nor through specifier-head agreement with an inflectional argument, it cannot be properly interpreted at LF.

From this analysis, several predictions follow. To begin with, the structure in (43) would be grammatical if the expletive wase absent. In that case, the LF structure that results from movement of the object would be the one in (44). This structure is grammatical, since DP can narrow down the interpretation of the inflectional argument through specifier-head agreement. Agr receives missing feature values and can receive VP's theta role.

(44) $[_{\text{AgrP}} \, DP \, [_{\text{Agr}} \, V \, Agr] \, [_{\text{VP}} \, t_V \, t_{\text{DP}}]]$

It is correctly predicted, then, that in Icelandic, German and Yiddish expletives can only be inserted in spec-TP. If this position is already filled, expletive insertion is blocked. Indeed, the grammaticality of (38b,c), (40b,c), (41b,c) and (42c) depends on whether or not an expletive is generated. (Of course, the optionality of NP raising in these structure must still be explained. This issue will be addressed in section 6.)

Second, a structure in which the expletive occupies the specifier of the first functional projection dominating VP would also be grammatical if there were no inflectional argument present saturating VP's theta role. In that case, the adjoined DP could simply be interpreted as the subject of VP. The reason is that DP adjoined to the expletive does not have to enter into a specifier-head relation with the head, C. It moves to the expletive, since it has to end up in a position where it can receive VP's theta role. As assignment of this role takes place under m-command, DP can be interpreted as a subject in (45).

(45) $[_{\text{FP}} \, [[\textit{expletive}] \, \text{DP}] \, F \, [_{\text{VP}} \, ... \, t_{\text{DP}}... \,]]$

Obviously, within a language there is no choice between generating or not generating inflection: The elsewhere principle requires that the most fully specified verb form is used in any given context. The implication is that the effects of inflection for expletive insertion can only be observed if we compare languages. One instantiation of the structure in (45) is found in Mainland Scandinavian. Since Mainland Scandinavian has V2 but no V to I, a well-formed main clause has one functional projection on top of VP, namely TP. The prediction is that an expletive can be inserted in the specifier of this projection. In the absence of argumental inflection, the associate can be interpreted as the subject of VP after raising:

(46)   a. $[_{\text{TP}} \, \text{Der er} \, [_{\text{VP}} \, t_V \, \text{kommet en dreng}]]$ Danish

                         there is come a boy

       b.   [$_{TP}$ [Der [en dreng]] er [$_{VP}$ t$_V$ kommet t$_{DP}$]]

                there a boy is come

A second instantiation of (45) would be English, which lacks rich inflection but has a functional projection headed by a Tense-marking head. In this position, a class of poorly inflected verbal elements can be inserted. As we have already seen, spec-TP can host expletives without any problem. Since argumental inflection is absent, the associate of the expletive can again be interpreted as the subject:

(47)   a.   [$_{TP}$ There may [$_{VP}$ arrive a few new guests tomorrow]]   (overt syntax)

       b.   [$_{TP}$ [There [a few new guests]] may [$_{VP}$ arrive t$_{DP}$ tomorrow]]   (LF)

English and Mainland Scandinavian confirm, then, that what blocks expletive insertion in (38b,c), (40b,c), (41b,c) and (42) is the presence of an inflectional argument.

    Furthermore, the proposed analysis accounts for a well-known contrast between Mainland Scandinavian on the one hand and Icelandic, Yiddish and German on the other: Expletives do not show up in third position in Yiddish and Icelandic, whereas they do in Mainland Scandinavian. Compare (48) to (38), (40) and (41):

(48)   a.   [$_{TP}$ Igår/Hvorfor er [$_{VP}$ der [$_{VP}$ kommet en dreng]]]   Danish

             yesterday/why is there come a boy

       b.   [$_{TP}$ Idag/Varför har [$_{VP}$ det [$_{VP}$ kommit många lingvister hit]]]   Swedish

             today/why have there come many linguists here

Recall that Mainland Scandinavian has V2 but no inflection-related verb movement. Hence, TECs are excluded: It is impossible to generate an expletive in spec-TP if the subject is adjoined to VP. However, there is nothing that excludes the expletive in Mainland Scandinavian from being merged with an unaccusative VP. The LF representation in (49a) is grammatical. This structure cannot be extended by moving the verb and projecting Agr, in languages with rich agreement, since in that case the unicity of predication would be violated. There would be two competitors for VP's theta role, namely Agr and the associate of the expletive. Since VP can take only one subject, one of these elements would violate full interpretation. In contrast, nothing prohibits extension of (49a) by V2, as in (49b).

(49)   a.

```
                        VP
                      /    \
                 expl.      VP
                /    \      /\
             DP      expl  /  \
                          /____\
```

        b.

```
                    TP
                  /    \
               XP       T
                      /    \
                    T       VP
                          /    \
                      expl      VP
                      /  \      /\
                   DP    expl. /  \
                              /____\
```
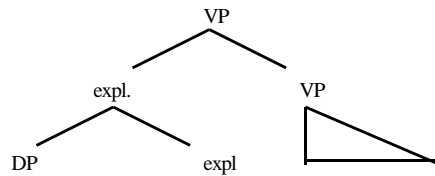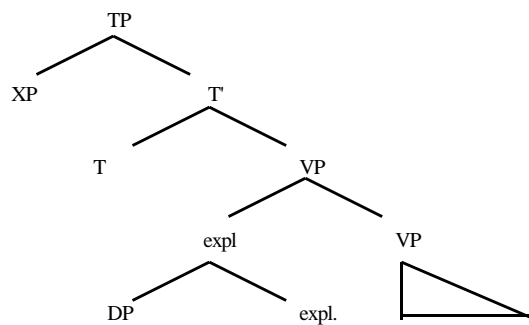
This structure yields the surface order XP-Vf-expletive-VP, which is precisely the order excluded in languages allowing TECs. Hence, the grammaticality of (48) is accounted for.

         Given that Afrikaans has V2 but lacks AgrP, we correctly predict it to pattern with Mainland Scandinavian:

(50)   [$_{TP}$ In die koerant word [$_{VP}$ daar [$_{VP}$ sekere aantyginge gemaak]]]   Afr.
                 in the paper were there certain accusations made

A similar contrast should exist between German and the Mainland Scandinavian languages in embedded clauses. Recall that German is an asymmetric V2 language which projects AgrP. Hence, the possibility of generating expletives in embedded clauses is effectively ruled out, both with transitive and unaccusative predicates. There is no reason, however, why the structure in (49a) could not be embedded under C. Hence, we correctly predict that the examples in (51), where the expletive follows the complementizer, are grammatical.

(51)   a.   [$_{CP}$ at [$_{VP}$ der [$_{VP}$ er kommet en dreng]]]   Danish
                 that there is come a boy
        b.   [$_{CP}$ att [$_{VP}$ det [$_{VP}$ har kommit många lingvister hit]]]   Swedish
                 that there have come many linguists here

To summarize, the distribution of expletives in Germanic presents us with the following paradox. The languages with the largest functional domain have more room for the insertion of expletives, which explains why they allow for TECs. Nevertheless, in such languages

expletives can appear in fewer positions than in languages with a smaller functional domain. In Icelandic, for example, expletives occur in spec-TP only, whereas a second, lower position is available in Mainland Scandinavian. More structure, therefore, does not necessarily entail more freedom. It is precisely this paradox that predication theory, or rather the V to I parameter based on it, helps to solve.[16]

5. The exceptional status of Dutch *er*

This section will show that Dutch does not behave like any of the languages we have seen so far. The distribution of *er* in this languages is unexpected on all counts. There are two possible ways to proceed. One is to try and incorporate Dutch into one's analysis. This, however, implies that the generalizations one can draw on the basis of other languages are all lost. Alternatively, one could argue that Dutch *er* looks like an expletive, and can perhaps be characterized as an expletive *element* (in the sense that it does not have lexical meaning) but that it is not an expletive *subject*: It does not mark the LF position of the logical subject. Hence, it does not fall under the theory defended in this chapter. To make such a claim plausible, one would have to show that, besides its different distribution, *er* behaves differently from expletive subjects in other respects as well. This direction will be taken in this section.

Some languages have a semi-locative expression that is sometimes analyzed as an expletive subject. An example is German *da* 'there', which exists alongside *es* (cf. Cardinaletti 1990). *Da* is an adverb that does not necessarily have a locative meaning. Instead, it can have a pragmatic function, indicating that the sentence introduces new information (or, in terms of Bennis 1986, that its presupposition set is empty). This has implications for the subject: Although usually a topic, it must express new information if *da* is inserted. More surprisingly perhaps, *da* also affects the object. Like the subject, the object in sentences containing *da* may not refer back to entities mentioned earlier in the discourse. This becomes apparent when such sentences are compared with sentences containing the expletive subject *es*. As an answer to the question *how are things with your friend?*, only (52a) is felicitous (Christine Erb and Dirk Bury, p.c.)

(52) a.   Es hat ihn die letzte Zeit keiner gesprochen   German
             there has him recently no-one spoken

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[16] Hornstein (1991) proposes that Icelandic expletives are PF-clitics that need a filled I(NFL) to their right. This rules out expletive insertion in question and topicalization contexts since the verb has moved on to C, leaving the I-position empty. English *there* is different in not being a PF-clitic, which Hornstein will also have to assume for Mainland Scandinavian clitics. The idea that clitics in Germanic are either PF-clitics or not is basically a stipulatation. Apart from the data discussed in this section, there is no independent motivation for it. The present proposal assumes that the settings for the V to I and V to C parameter are responsible for the distribution of expletives. These settings have been independently motivated in chapters 2 and 3.

      b.   #Da hat ihn die letzte Zeit keiner gesprochen
                 there has him recently no-one spoken
      b'.   #Die letzte Zeit hat ihn da keiner gesprochen.
                 recently has him no-one spoken

Expletive subjects in other languages that allow for TECs pattern with *es* rather that *da*. So, in a similar context, the answer in (53) is felicitous in Icelandic (Þorbjörg Hróarsdóttir. p.c.).

(53)   Það hefur enginn séð hann, eftir því sem ég best veit   Icelandic
              there has nobody seen him, after that which I best know

The fact that *da* affects both the subject and the object suggests that it is not a genuine expletive *subject*. Whereas a genuine expletive subject has a special relation with the (logical) subject, which presumably plays a role in explaining the definiteness effect, it has no relation with the object.

      The conclusion that *da* is an adverbial that signals an empty presupposition set is strengthened by the following observations. To begin with, *da* can be combined with transitive VPs even if it is inserted below the C position (and hence within VP's predicational domain). As we have seen, a similar string is ruled out with genuine expletive subjects as these may not occur in spec-AgrP. Thus, the following contrasts can be understood if *da* is an adverbial:

(54)   a.   dass da/*es jemand einen Apfel gegessen hat   German
               that there someone an apple eaten has
    b.   Gestern hat da/*es jemand ein Apfel gegessen
               yesterday has there someone an apple eaten

Moreover, *es* and non-locative *da* can co-occur in colloquial German, yielding examples like the one below (Christine Erb and Dirk Bury, p.c.). If *es* is an expletive subject, *da* must receive some other analysis, as proposed.

(55)   Es hat da jemand einen Apfel gegessen   (colloquial) German
              there has there someone an apple eaten

To summarize, there are three reasons for not analyzing *da* as an expletive in the sense of a place-holder for the LF subject: (i) it affects both the subject and the object, (ii) it can follow a fronted verb or a complementizer as opposed to *es*, and (iii) it can co-occur with a genuine expletive subject.

      The analysis of *da* as an adverb suggests a solution for the apparent existence of TECs in Dutch:

(56)   Er heeft iemand een appel gegeten   Dutch
                  there has someone an apple eaten

Suppose that Dutch *er* is a genuine expletive subject. Then the example in (56) can only be understood if Dutch has both verb second and V to I. Although there can be no doubt that Dutch has verb second, there is no evidence in favour of V to I. Recall from chapter 2 that Dutch has poor agreement, so that the presence of AgrP is unexpected. Moreover, like Afrikaans, Dutch allows PP-over-V:

(57)   dat Jan <aan zijn vader> denkt <aan zijn vader>   Dutch
                  that John of his father thinks of his father

If Dutch does not generate AgrP, the functional domain of Dutch is too small to host TECs. This implies that we must analyze *er* as an adverb signalling an empty presupposition set, on a par with German *da*. An analysis along these lines has been proposed earlier by Bennis (1986). Indeed *er* behaves like *da* in all relevant respects.

     First, like *da*, *er* does not only affect the subject but also the object of the sentence that hosts it (Bennis 1986: 213-214). As an answer to the question *how are things with your friend?*, only (58a) can be used. If *er* is inserted, the result is unacceptable.[17]

(58)   a.   Niemand heeft 'm de laatste tijd gezien   Dutch
                  no-one has him recently seen
       b.   #Er heeft niemand 'm de laatste tijd gezien
                  there has no-one him recently seen
       b'.   #De laatste tijd heeft er niemand 'm gezien
                  recently has there no-one him see

Second, two occurrences of *er* are allowed (cf. 59). Even if one of these is analyzed as marking the LF position of *iemand* 'somebody', at least the other must be an adverb.

(59)   Er heeft er iemand een appel gegeten   Dutch
                  there has there someone an apple eaten

Third, *er* can follow a complementizer or a fronted verb, even if the verb is transitive:

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[17] Note that even with focal stress the examples in (60b,c) are unacceptable. At first site this may seem unexpected, given that focal stress is usually associated with new information. Note, however, that pronouns inherently refer back to entities introduced earlier in the discourse. Hence, they can bear contrastive focus (which does not imply an empty presupposition set), but not new information focus. So, the fact that the pronouns in (60b,c) can bear focal stress does not affect the argument given in the main text.

(60)   a.   dat er iemand een appel gegeten heeft   Dutch
                  that there someone an apple eaten has
        b.   Gisteren heeft er iemand een appel gegeten
                  yesterday has there someone eaten an apple

These data motivate an analysis of *er* as an adverbial, irrespective of one's position on V to I
in this language. Projection of AgrP has been taken as a prerequisite for the grammaticality
of TECs. If Dutch lacks AgrP, *er* cannot be an expletive subject on this analysis. It should be
stressed that the data in (60) lead to the same conclusion if one assumes that Dutch *does* have
AgrP. As we have seen, genuine expletive subjects cannot be inserted in spec-AgrP in
languages like German or Icelandic. This implies that, if *er* were an LF place-holder, the
examples in (60) should be ungrammatical.

There is one further difference between Dutch *er* and German *da* on the one hand
and the Germanic expletive subjects on the other hand worth mentioning. Extraction across
an expletive marking the subject position generally leads to ungrammaticality. In contrast, *er*
and *da* can appear in these contexts without problem.[18] In Dutch, the result actually becomes
worse if this element is left out (cf. Reuland 1983; Bennis 1986):

(61)   a.   *Who$_i$ do you think that there arrived t$_i$?   English
        b.   *Hvem$_i$ tror du at det kom t$_i$ igaar?   Norwegian
                  who think you that there came yesterday
        c.   *Hvaða málfræðingar heldur Þu að Það hafi lesið *Barriers*?   Icelandic
                  What linguists think you that there have read Barriers
        d.   Wie$_i$ denk je dat $^{??}$(er) t$_i$ aangekomen is?   Dutch
                  who think you that there arrived is
        e.   Wer$_i$ glaubst du ist (da) t$_i$ angekommen?   German
                  Who think you is there arrived

Although I unfortunately do not have an explanation for the ungrammaticality of (61a-c), the
contrast is remarkable.[19] If Dutch *er* is analyzed on a par with German *da* rather than with

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[18] Example (61b) is from Øystein Nilsen (p.c.), (61c) from Hornstein (1991), and (61d) from Patrick Brandt
(p.c.). I have used an example with embedded verb movement for German, because Patrick Brandt informs me that
it sounds somewhat better than (i):

(i)   ?Wer glaubst du dass da angekommen ist
            who think you that there arrived is

[19] Note in this respect that the status of the English example depends on the nature of the WH-constituent. The
example below, for instance, is perfectly grammatical (Bill Philip, p.c.):

(i)   How many pictures do you think that there are in this box?

the expletives in English and Scandinavian, this pattern is predicted.

        The parallels between Dutch *er* and German *da* indicate that the former must at least be ambiguous between a genuine expletive subject and an adverb signalling an empty presupposition set. However, it seems that the burden of proof lies on those who wish to argue for such an ambiguity. The simplest conclusion one can draw from the data discussed here is that *er* is always an adverb. It should be stressed that the presence of a definiteness effect in *er*-sentences is in itself not a sufficient argument for an analysis as an expletive subjects, as the same effect is induced by German *da*.

6. Romance

Since in previous chapters I argued that declarative clauses in the Romance languages Italian and French consist of a VP dominated by one functional projection, TP, the theory predicts that these languages should lack TECs. Although this fact is true, it would be wrong to applaud the theory for that. Italian, for instance, does not have any overt expletives to begin with. Hence, the present theory makes no predictions for this language at all.[20]

(62)   Sono entrati tre uomini
                are entered three men
                'three men entered'

The construction in (62) has often been analyzed as a covert expletive construction since it shares two properties with an English *there*-construction; (i) the logical subject appears in object position and (ii) the postverbal DP is indefinite. It is not straightforward, however, that these properties should follow from the presence of a covert expletive. It is not the case, for instance, that the postverbal DP has to be indefinite (cf. Alexiadou & Anagnostopoulou 1998), as (63) shows:

(63)   Ha arrivato Kasparov
                has arrived Kasparov

What the DPs in (62) and (63) have in common is that they are both legitimate responses to

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[20] *Ci* only occurs with the verb 'be' (Burzio 1986). In this environment it does not obligatorily trigger a definiteness effect, as the example in (i) from Burzio (1986:130) shows:

(i)   Ci sono io alla festa
             there am I at the party

This element therefore seems to be restricted to 'presentational' contexts, unlike Germanic expletives.

an out of the blue question ('What happened?') (cf. Pinto 1997). If Italian can in general leave both definite and indefinite DPs in object position, no expletive has to be assumed in (62) to account for that. In section 7, I will discuss the factor that makes overt object-to-subject raising optional in Italian, in contrast to for instance English.

French *il* is generally taken to be an expletive. In this language VP is also dominated by one functional projection, TP. The expectation is therefore that French lacks TECs. On the other hand, it should allow expletive constructions with unaccusative predicates as long as the associate does not raise to a lower subject position. This is in fact exactly the pattern that we find for *il*, as can be observed in (64):

(64)   a.   *[$_{TP}$ Il a [$_{VP}$ un homme [$_{VP}$ mangé une pomme]]]   French
                 there has a man eaten an apple
        b.   [$_{TP}$ Il est [$_{VP}$ arrivé un homme]]
                 there has a man arrived a man
        c.   *[$_{TP}$ Il est [$_{VP}$ un homme$_i$ [$_{VP}$ arrivé t $_i$]]
                 there has a man arrived a man

Examples (64a) and (64c) are ungrammatical under an analysis in which covert movement of the associate to the expletive creates an unmotivated trace. French then patterns just like Mainland Scandinavian and English. Unfortunately, this conclusion cannot be so straightforwardly drawn. Compared to for instance English *there*, French *il* behaves differently in two respects. First of all, *il* rather than the associate shows concord with the verb. That is, agreement on the verb is still singular when the associate is plural (cf. 65). This is in strong contrast with English, where the associate determines the agreement marking on the verb (cf. 66):

(65)   a.   Il est arrivé un homme   French
                 there is-sg. arrived a man-sg.
        b.   Il est arrivé trois hommes
                 there is-sg. arrived three men-pl.

(66)   a.   There has a man arrived   English
        b.   There have three men arrived

Second, recall from footnote 5 that in English the associate behaves as a subject with respect to control. That is, the object in expletive constructions patterns with a subject in a transitive construction. This fact is generally taken as evidence for covert raising of the associate to the expletive.

(67)   a.   The inspector arrested three men without PRO identifying ^{OK}himself/

                *themselves

b.   There arrived three men without PRO identifying themselves

If we now look at French, it appears that the object in an expletive construction is unable to control PRO as in the English counterpart.

(68)   a.   *Il est arrivé un homme sans s'annoncer   French
                    there is arrived a man without himself-cl. identifying

Applying the same reasoning, we must conclude that the object does not covertly move from its base position.

        These two properties also show up in the Italian dialects Trentino and Fiorentino. Like in French, the verb appears in a third person singular form with postverbal DPs, in Fiorentino with an obligatory clitic (Brandi & Cordin 1989:121):

(69)   a.   Gli è venuto delle ragazze   Fiorentino
                    cl. 3rd sg. is come some girls
        b.   E' vegnú qualche putela   Trentino
                    is come some girls

Unfortunately I do not know whether Fiorentino and Trentino allow PRO control. However, Cardinaletti (1997) discusses two other Northern Italian dialects, Paduan and Bellunese. These have structures that parallel those in (69), where the verb is marked by a default third person. As can be observed, these dialects disallow control of PRO, just like French:

(70)   a.   L'é rivà tre omini (*sensa presentarse)   Bellunese
                    cl.-sg. arrived-sg. three men without introduce-themselves
        b.   Ieri sarà vignù dentro dei omeni (*sensa presentarse)   Paduan
                    yesterday will-sg. come-sg inside some men without introduce-themselves

What these Italian dialects and French have in common, then, is that an 'expletive construction' can be characterized as involving a post-verbal subject and default agreement (i.e., third person singular) on the verb. Hence, *il* in French is a default agreement marker rather than an expletive marking the LF position of the subject. This is confirmed by the fact that postverbal DPs cannot control PRO. This distinguishes these constructions from expletive constructions in Germanic.

        To sum up, if the Romance languages do not have expletives, the theory proposed in this chapter obviously does not make any predictions for Italian and French. For this reason, Romance neither confirms nor falsifies out account. Although a proper comparison of Germanic and Romance is therefore not directly relevant for what we try to achieve in this

chapter, I would like to speculate on the question of why these languages should lack Germanic-style expletives. I propose the following rationale. Recall that the defining property of expletives is that they mark the LF position of subjects: They occupy the position to which at LF the thematic subject adjoins in order to receive its theta role from VP. Moreover, the expletives we have seen are XPs. They either appear in the subject position, adjoined to VP, or in a functional specifier, spec-TP. If these are the two characterizing properties of expletives, it follows that they can only exist in languages where the subject, or the subject-specifier, is an XP. Since in Italian pronominal Agr is an independent subject and this element is a head, XP-expletives cannot occur: They can never mark the LF position of the subject under the reasonable assumption that a head cannot adjoin to a maximal category. The only possibility left in a null subject language would be to have an expletive head in VP's predicational domain. If, however, verb movement is by necessity overt, which is what I have been assuming all along, Agr already occupies a subject position in overt syntax. Hence, the expletive head would mark the overt position of Agr, not the LF position. For this reason, then, Italian and French lack a Germanic-style expletive.

Apparently, a subclass of the Romance languages, that is French and the Italian dialects, have a construction in which the verb adopts a default form and the 'logical subject' appears in object position. Intuitively, this construction has the 'feel' of an expletive construction in that the absence of an overt subject in VP's predicational domain is overtly marked, not by means of an expletive but by default agreement. Furthermore, suppose that, as a discourse constraint, the use of default agreement must have an effect on interpretation, just like the use of an expletive (cf. footnote 6 for this point). Then these structures must make a difference with respect to structures in which the object raises to subject. A natural distinction seems to be that the default agreement strategy has the effect that the VP-internal DP receives narrow focus. Since narrow focus is usually assigned to new information, it is not surprising to observe a definiteness effect in these constructions: Indefinite DP are by default interpreted as new information.[21]

7. Overt effects of the extended projection principle

Throughout, it has been assumed that the EPP holds at LF. VP is mapped onto a predicate and must therefore take a subject at the LF interface. At first sight, this seems to imply that in

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[21] The control data suggest that, more strongly, a subject is absent at any level of representation. From the theory of predication, this raises the question of how VP is interpreted in constructions with default Agr. If VP must always assign an external theta role, it is unclear what role this would be. If the DP in object position never raises, no variable will be available for the lambda operator introduced by VP. Hence, even if *il* is a subject, there is no role that can be assigned to it. One way of accommodating these constructions within predication theory is to assume that in some cases VP can be interpreted as a function mapping events rather than entities to truth values. Hence, VP is not interpreted as a predicate in these constructions but as an unsaturated event. The purpose of default Agr, then, is to close the event. As said, these constructions are not crucial for the purposes at hand. I will leave it to future research to give a more thorough analysis.

order to circumvent economy violations NP raising must be postponed until after overt syntax (assuming that economy favours covert operations, cf. Chomsky 1995). On closer inspection, the proposed analysis of NP raising (cf. chapter 1, appendix) suggests a different conclusion, however, namely that NP raising is syntactically optional.[22]As argued here, this conclusion is corroborated by empirical data.

Let us start by distinguishing two syntactic operations. The first is movement, a purely mechanical procedure by which an element is removed from the syntactic tree and attached in a different position. The other operation is chain formation, which associates a moved element and the trace it leaves behind. If the distinction is correct, the question arises which operation economy applies to. Suppose now that economy is sensitive to chain formation. No costs are attached to movement itself, but if a moved element and its trace are combined into a chain, thus forming a discontinuous syntactic expression, economy comes into play (Poole 1996). Of course, chain formation is almost always forced. Hence, in the vast majority of cases the proposal made here does not differ empirically from the standard view.

In one case, however, chain formation is unnecessary. Recall that the trace of NP raising is bound by a lambda operator introduced at the VP level. The structure in (70a) is interpreted as in (70b), which is in turn applied to the derived subject (Kitagawa 1989, Williams 1994 and Chierchia 1995a).

(71) a. $[_{VP}\ V\ t]$
      b. $\lambda x\ [_{VP}\ V\ (x)]$

Of course, the interpretation of certain other constructions also involves lambda operators. Null operator movement and WH-movement are examples. However, in such cases the lambda operator is introduced by the moved element, which c-commands the trace. In NP raising structures, the lambda operator is introduced by a dominating category, namely VP. Standard assumptions will block chain formation between an object and the VP in which it is included: There is no c-command relation. So although a chain can in principle be formed in case of syntactic operator movement, this is impossible in the case of NP raising. If Reuland (1998) is correct in arguing that chain formation is automatic when the relevant configuration presents itself, the desired results obtain. Raising differs from operator movement in that it does not involve chain formation.[23]

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[22] Syntactic optionality does not imply that the two variants are equivalent in all respects. Typically, syntactic variants are assigned different pragmatic values. In the case at hand, the logical subject tends to express old information if it surfaces external to VP, whereas it tends to express new information if it surfaces in its base position (Diesing 1989, Calabrese 1991, Vangsnes 1995 and Jónsson 1996). Note, however, that these interpretations cannot be inherently linked to the positions occupied by the subject. In languages with obligatory NP raising (see section 7.2) the subject always surfaces external to VP, yet it does not always express old information. This suggests that pragmatic specialization of structures is the result, and not the explanation, of syntactic optionality (Wiltschko 1995, Reinhart 1996).

[23] Note, however, that a DP and its trace cannot but form a chain if the latter fails to be bound by VP's lambda operator. This is instrumental in ruling out certain ungrammatical constructions. Movement of a subject from a VP-adjoined position

If so, NP raising is not restricted by economy considerations. Structures with covert and with overt raising may coexist since neither induces computational costs avoided by the other. The result is syntactic optionality. As we have already seen, this is the correct result for quite a few languages. In Italian, for example, covert raising exists alongside its overt counterpart:[24]

(72)   [TP <Due navi> affondarono [VP t V <due navi>]]   Italian
             two ships sank two ships

The same is true for other languages with V to I, as the Icelandic and Yiddish data in (73) show:

(73)   a.   [TP Það hafa [AgrP <margir menn> tV [VP tV komið <margir menn>
             there have many men come many men
             hingað í dag]]]   Icelandic
             here today
        b.   [TP Es vert [AgrP <an epl> tV [VP tV gegesn <an epl>]]]   Yiddish
             there was an apple eaten an apple

Similarly, NP raising is optional in OV languages like German, Afrikaans and Dutch (Weerman 1989). Usually, indirect objects may not precede subjects in these languages, but with unaccusative predicates this order is allowed. More precisely, the derived subject may either precede or follow the indirect object, suggesting that it raises optionally:

(74)   a.   [CP dass [AgrP <deine Geschichten> [VP meinem Bruder <deine
             that your stories my brother your
             Geschichten> tV] gefielen]]   German
             stories pleased
        b.   [CP dat [VP <die vis> [VP vir die katte <die vis> gegee is]]]   Afrikaans
             that the fish to the cats the fish given is
        c.   [CP dat [VP <de foto's> [VP Jan <de foto's> getoond werden]]]   Dutch
             that the pictures Jan the pictures shown were

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to spec-IP, for example, must involve chain formation as it does not cross a category that introduces a lambda operator. Consequently, the trace would remain unbound if no chain is created. If chain formation is obligatory, the ban on unmotivated movement applies. This excludes *there will a man eat an apple* (see section 3).

[24] The optional movement in Italian is referred to here as raising, as the landing site should presumably be qualified as an A-position. The nature of the landing site does not bear on the issue of optionality, however. What is crucial is that the trace is bound by the lambda operator, whereas the moved element is interpreted as binding argumental inflection, which is.a semantic variable Hence, no chain formation is necessary between the trace and the moved DP.

The account for the optionality of NP raising offered makes a further prediction. In most constructions a trace cannot appear without an antecedent, because it is the antecedent that binds the trace. However, if a trace can be bound by VP's lambda operator, it can be generated even in the absence of a raised nominal. Of course, the external argument role of VP must be assigned, which usually requires the presence of such a nominal. The prediction can be tested, however, in languages with argumental inflection. As argued in the previous section, VP's external theta role is assigned to Agr in such languages. If Agr is rich enough to stand on its own, we expect that a trace can be inserted in object position without there being a DP subject:

(75) $[_{TP} \text{ V Agr } [_{VP} \text{ t}_V \text{ } t]]$

In other words, pro drop should be possible with ergative predicates, which is of course correct:

(76) $[_{TP} \text{ Affondar-ono } [_{VP} \text{ t}_V \text{ } t]]$ Italian
              sank-3rd.pl.

To summarize, the assumption that predication theory holds at LF at first sight seems to predict that NP raising should be procrastinated. Here it was argued, however, that the syntax of NP raising is such that it is invisible to economy considerations. Hence, it is in principle optional. This leaves the opposite problem: why is NP raising (or insertion of an expletive) obligatory in certain languages. In the remainder of this section, a non-syntactic factor will be introduced that is responsible for these facts.

According to Williams (1997), the dependent element in an anaphoric relation must either follow, or be in a subordinate clause to, the antecedent. Williams calls this condition the 'general pattern of anaphoric dependence' (GPAD). Some examples illustrating it are given in (77) ('#' marks non-syntactic ill-formedness). The pronoun *it* can be dependent on *term paper* in (77a-c), but not in (77d).

(77)   a.   Anyone [who has written his <u>term paper</u>] can turn <u>it</u> in to me now
       b.   Anyone [who has written <u>it</u>] can turn his <u>term paper</u> in to me now
       c.   Anyone can turn his <u>term paper</u> in to me now [who has written <u>it</u>]
       d.   #Anyone can turn <u>it</u> in to me now [who has written his <u>term paper</u>]

(77d) is infelicitous, because the anaphoric relation is forward and the dependent is not subordinated. *Term paper* is capitalized to signify that it has main stress. This implies that it does not itself refer back to some preceding instance of the same DP.

The GPAD predicts that when subordination of the dependent is impossible, anaphora must be backward. Indeed, in cases of intersentential anaphora, the antecedent

must always precede the dependent. Thus, *he* can be dependent on *John* in (78a), but not in (78b) (Ariel 1990, Jackendoff 1990, Ernst 1994 and others). As before, *John* is stressed to avoid it referring back to an earlier instance of the same DP.

(78)   a.   John walked in. He was wearing a helmet.
        b.   #He walked in. JOHN was wearing a helmet.

Recall that, following Williams 1980 and subsequent work, predication has been analyzed as an anaphoric relation between a dependent element (the predicate) and an antecedent (the subject). If this analysis is correct, the subject must either precede the predicate or be located in a clause subordinate to it. The latter case is independently ruled out, given that predication requires m-command by the predicate. Consequently, the subject must precede VP (Walinska de Hackbeil 1989 and Déchaine 1993; indeed #*reads a book John* is ill-formed).

        In this context, precedence must be understood in terms of the human parser. Discourse conditions apply on line while the parser analyzes the input string. Hence the category to be construed as the subject precedes the VP-predicate in the relevant sense, if it is available before the VP-predicate is postulated. The latter happens when the parser encounters the verb or inserts a trace as the root of a verbal chain.[25] Consequently, the exact prediction that the GPAD makes for predication is that the LF subject must linearly precede the verb. As will now be shown, it follows which languages have, and which languages do not have, optional NP raising.

        Recall that, as far as syntax is concerned, NP raising is optional. So, the syntax of English allows both (79a) and (79b) as surface representations. According to the GPAD, however, (79a) is ill-formed.

(79)   a.   #[$_{VP}$ Arrived a famous linguist] yesterday   English
        b.   A famous linguist [$_{VP}$ arrived t$_V$] yesterday

The parser postulates the predicative category VP when it encounters the verb (there is no inflection-related verb movement in English). This entails that the category construed as VP's subject, *a famous linguist*, is introduced too late in (79a). The same patterns can be observed in Mainland Scandinavian:

(80)   a.   Igår er <en dreng> kommet <#en dreng>   Danish
                    yesterday is a boy come a boy

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[25] This does not imply that no structure is postulated before the parser encounters the verb (or inserts its trace). However, no specific properties (such as predicatehood) can be assigned to this structure before its categorial identity is fixed.

b. Idag har <många lingvister> kommit <#många lingvister> hit   Swe.
today have many linguists come many linguists here

The discourse principle alluded to predicts that optional NP raising is a property of OV languages and languages with V to I. Let us first consider why inflection-related verb movement would be relevant. In chapter 2 it was argued that rich inflection triggers verb movement because it must be interpreted as the subject of VP. The consequence is that richly inflected languages with verb movement meet the GPAD without NP raising. The parser postulates the predicative category VP when it inserts the trace of the moved verb in a language like Italian or Icelandic (cf. 81). At that point, argumental inflection has already been encountered, so that a subject for VP can be found even if no overt DP movement takes place (cf. 72, 73).

$$(81) \qquad \ldots \qquad [_{Agr/T} \; V \; T \; Agr] \; [_{VP} \; \ldots \; t_V \; \ldots]] \qquad (I \; \text{precedes} \; t_V)$$
$$1 \qquad 3 \qquad 2 \qquad \text{(parsing steps)}$$

Let us next consider why the basic order of object and verb would be relevant. As said, the VP-predicate is postulated when the parser encounters the verb (or inserts the verb's trace). In unaccusative structures in OV languages, the category to be construed as subject is available before the parser postulates the VP-predicate. This is the case, even if that DP does not raise overtly. When the parser encounters the verb in (82) and postulates the VP-predicate, it can construe the already parsed DP as subject by shifting it to a VP-external position. Thus, (82) complies with the GPAD.

$$(82) \qquad \ldots \qquad [_{VP} \quad \ldots \; DP \; \ldots \; V] \qquad (DP \; \text{precedes} \; V)$$
$$3 \qquad 1 \qquad 2 \qquad \text{(parsing steps)}$$

To repeat, a similar parse is not possible in VO languages (without V to I). When the parser encounters the verb in (83), the DP in object position not yet available. Hence, a dependent category is postulated that lacks an antecedent.[26]

$$(83) \qquad \# \; \ldots \; [_{VP} \; \ldots \; V \; DP \; \ldots] \qquad (DP \; \text{follows} \; V)$$
$$2 \qquad 1 \; 3 \qquad \text{(parsing steps)}$$

Thus, in OV languages NP raising is optional, irrespective of whether AgrP is generated (cf. 74). In VO languages, V to I is a prerequisite for optional raising. Note that it is very difficult

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[26] The account does not rule out VSO languages, as in such languages the verb has been fronted (Emonds 1981, Sproat 1985, amongst others). Hence, it is the trace of the verb that is relevant for the GPAD. Verb second structures in which the subject follows the verb are unproblematic for the same reason.

to describe this state of affairs in syntactic terms. OV languages and VO languages with V to I do not form a natural class. As argued, the data are captured straightforwardly by an independently motivated discourse condition.

Let us finally return to expletive constructions. Crucially, overt NP raising is no longer necessary if an expletive is inserted in English and Mainland Scandinavian. Apparently, expletives can be used to satisfy the GPAD:

(84)   a.   There arrived a famous linguist yesterday   English

         b.   Igår er der kommet en dreng   Danish
              yesterday is there come a boy

         c.   Idag har det kommit många lingvister hit   Swedish
              today have there come many linguists here

Recall that expletives overtly mark LF subject positions. This implies that when the parser encounters an expletive, it knows that a subject will be adjoined to it. Suppose that the effects of the input string are maximized in parsing in that as much information as possible is translated into structure. If so, the parser creates a DP-adjunct to the expletive whose content is later supplied by the subject.[27] It is this underspecified DP-adjunct that satisfies the GPAD in examples like (84):

(85)   [[there] e_{DP}] ... [$_{VP}$ ... V DP ...]   (e_{DP} precedes V)
                1   2   4   3 5   (parsing steps)

8. Discussion

At the heart of this thesis lies a theory of predication according to which VP must find a unique subject in its m-command domain. In conjuction with other assumptions, this theory explains (i) why the verb must move twice in TECs, (ii) why inflection, if sufficiently rich, blocks expletive insertion in spec-IP, and (iii) why NP raising is optional in OV languages and languages with V to I. Let me briefly summarize how these results obtain.

The distribution of TECs follows from the interaction of predication theory with independently motivated verb movement parameters. TECs are allowed if the expletive can be generated outside VP's predicational domain, a possibility dependent on the size of the functional domain in a language. Assuming that overt verb movement is indicative of available structure, it follows that TECs only occur if verb undergoes both V2 and V to I (Vikner's generalization).[28] Hence, the claim that languages differ in the amount of

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[27] Of course, the underspecified DP-adjunct is never present in syntax. It is a very common assumption, as far as I can see, that incomplete parses contain underspecified structure.

[28] Bobaljik & Jonas (1996) and Bobaljik & Thráinsson (1998) argue that a split-IP actually entails three projections, Agr$_s$P, TP and in addition also Agr$_o$P. In this way, they incorporate Bures' (1993) generalization that

functional structure that they employ (at least in overt syntax) has been shown to have an effect on another part of the grammar.

Predication theory also provides a trigger for V to I, as argued in chapter 2. This proposal explains why expletive insertion in spec-AgrP is excluded: The associate can neither be interpreted as subject (Agr already fulfils this function) nor as the specifier of Agr, as this position is filled by the expletive. Hence, this analysis further strengthens the theory of V to I proposed in chapter 2.

Under predication, NP raising is a process of predicate formation that licenses the derived subject. In other words, although NP trace has a relation with VP and VP has a relation with the derived subject, there is no chain that connects the subject and the trace. If economy is sensitive to chain formation, it follows that NP raising is optional from a syntactic point of view. Where it is not optional, this is due to a non-syntactic condition on anaphoric relations, of which predication is one.

Standard analyses of expletives face difficulties when confronted with the three observations made above. It is commonly assumed, contra predication theory, that there is a specific subject position, let us say spec-IP, which must be filled in overt syntax (the standard EPP). The function of the expletives is to fill spec-IP in the absence of a subject. If so, it is hard to understand why in languages with V to I expletives may not surface in spec-IP. After all, it is this position that they are supposed to fill. Moreover, if both expletive insertion and NP raising are associated with the requirement that spec-IP be filled, one would expect NP raising to be obligatory in the absence of an expletive and to be blocked if an expletive is

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languages allowing TECs also allow object shift: In their analysis, Icelandic, Yiddish German and Dutch can generate TECs and these are all languages in which the object can appear to the left of VP-adjoined adverbs. Several empirical observations cast doubt on Bures' generalization, however. First, Faroese I allows TECs but not object shift. Second, If I am right about Dutch in that it lacks expletives, object shift is unexpected. Third, it is unclear that scrambling in Dutch and German can be equated with object shift in Icelandic and Yiddish: Object shift only affects DP-objects, whereas scrambling can also affect PP-objects. Fourth, and this is the most damaging observation, Nilsen (1997) shows that Norwegian and Swedish also allow object shift of full DPs if the verb undergoes V2 and stress is put on negation:

(i)   Jeg leste den boka IKKE   Norwegian
            I read that book-the not

One could be inclined to analyze negation as being generated in clause-final position rather than in a VP-adjoined position. Note, however, that if the main verb remains in situ (i.e., in embedded clauses and complex tenses), object shift becomes ungrammatical, perfectly in line with Holmberg's generalization and with the Icelandic facts. This strongly suggests that negation is VP-adjoined and that object shift is grammatical in (i) but not in (ii) and (iii).

(ii)   *...at jeg leste den boka ikke/IKKE
            that I read that book-the not

(iii)   *Jeg har lest den boka ikke/IKKE.
            I have read that book-the not

inserted. We have seen, however, that neither prediction is correct. In Icelandic, for example, NP raising is optional in the presence of an expletive and expletive insertion is optional whether or not NP raising takes place.

The assumption that expletives are inserted in spec-IP also prevents a straightforward account of Vikner's generalization. At first sight, this assumption excludes TECs altogether, as the subject and the expletive compete for the same position. The solution proposed in recent analyses is that V to I licenses a second specifier in the IP domain, so that subjects and expletives may co-occur. Although this is not unreasonable, it does not explain why TECs only occur in languages with V2 with the expletive exclusively in clause-initial position. Of course, it may be possible to remedy these problems, but note that the problems originate in the claim that there is a specific subject position that must be filled. As argued, they do not arise if this claim is abandoned.

Chapter 5

Conclusion

This thesis looked at differences in verb placement across languages. On the basis of the data presented in chapter 1, I set out to develop an account of verb movement parametrization in declarative clauses. In this attempt, I tried to formulate hypotheses that not only account for the correlations observed but are falsifiable as well. The central claim is that cross-linguistic differences fall out from the interplay of universal constraints and language-specific factors that are independently motivated. Hence, the extent to which the present theory improves over standard analyses in this respect largely determines its success. This final chapter summarizes the main results and spells out the most important conceptual and empirical advantages.

The main hypothesis of this thesis is that verb movement is an operation that takes place in order to project a particular feature of the verb. There is no longer a prefabricated head position that attracts the verb. Rather, it is the verb itself that takes the initiative. Output conditions will force the verb to move. They can demand that a particular feature be visible in a particular structural position that does not correspond to the position in which the verb is initially inserted. Hence, verb movement becomes inevitable. Irrespective of one's formulation of output conditions, this view on functional structure has a number of conceptual advantages. Let me mention three.

First, since the presence of prefabricated head positions is no longer required for providing a trigger for verb movement, it becomes possible to drastically reduce feature redundancy in overt syntax. In standard approaches, a functional head has a feature make-up that corresponds to similar features on the verb. This entails that these features are represented twice in the structure. Under the alternative view, they are only represented once, namely on the verb. This view becomes possible once we allow these features to project after movement.

Second, violations of Chomsky's (1995) extension condition are reduced. This

condition requires that movement always extends the tree structure. Movement of an object to spec-IP, for instance, creates a specifier and thereby extends the root of the clause. When heads are taken from the lexicon, they are merged with the top node of the representation already built, never somewhere in between. Verb movement blatantly violates this condition if analyzed as an operation that adjoins the verb to an empty head, as standardly assumed. In the alternative conception, verb movement is just as *creating* as XP-movement is: The operation extends the root of the clause just like insertion of head does. Hence, verb movement no longer violates the extension condition.[1]

Third, the proposal allows a straightforward correspondence between functional projections and affixes without falling into the same pitfalls as the Morphological Head Hypothesis, the view according to which affixes are generated in a VP-external position separate from the verb. In general, I take it that affixes are generated on the verb in morphology. By hypothesis they can project after verb movement if circumstances should require that. It is not unexpected then that we find inflected verbs in both base and dislocated positions. This fact is not entirely expected under a strong version of the MHH: Under the assumption that affixes are generated VP-externally, a lowering rule becomes necessary to account for inflected verbs occupying their base position. Such a rule is conceptually undesirable.[2]

I concluded from the empirical data presented in chapter 1 that there are two verb movement operations for which the evidence is robust and for which it is clear that parametrization is involved, V to I and V to C. With the alternative conception of functional structure in mind, I designed two triggers for verb movement. Let me repeat the essentials.

I proposed that V to I movement is an operation triggered by a condition on rich agreement inflection. Rich inflection, defined in a particular way, is interpretable and must be associated with the external theta role assigned by VP. For this reason, the verb moves and projects Agr. The consequence is that Agr is in VP's predicational domain and can receive the external theta role, as required. This proposal was able to account for four facts.

First and foremost, the analysis captures the pervasive correlation between rich inflection and overt verb movement noted in the literature. Languages with rich agreement move the verb to a VP-external position and differ in this respect from languages with poor agreement. It accounts for the fact that this verb movement

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[1] The only operation that violates the extension condition is associate-to-expletive raising in chapter 4. This, however, is an operation that takes place after spell out, where according to Chomsky (1995: 327) the condition does not hold.

[2] Recall from chapter 1 that Bobaljik (1995) offers an original and interesting way of accounting for this pattern without adopting affix lowering. The analysis he offers, however, only works by introducing (i) additional structure and (ii) readjustment rules. The present proposal works without these additional assumptions.

operation gets lost once the agreement paradigm is significantly eroded.

Second, the definition of rich agreement that determines whether V to I must take place allows a natural description of the null subject parameter. I hypothesized that rich agreement comes in two kinds, pronominal and anaphoric, adopting Rizzi's (1982) terminology. The distinction is as follows. Anaphoric Agr is rich enough to be interpretable (and trigger movement) but not rich enough to be interpretable as a subject on its own. Therefore, a DP must occupy the specifier position of the moved verb in order to supply missing feature values. This accounts for the fact that, although Icelandic and Italian both have V to I movement, only the latter has pro drop. Pronominal Agr can be interpreted as a subject on its own and no overt DP-specifier need be present.

Third, the idea that in languages with anaphoric agreement Agr must be specified by a DP further accounts for the ban on expletives in spec-AgrP in languages as Yiddish, Icelandic and German. Under the assumption that the associate covertly moves to the expletive, it will be unable to specify Agr in the adjoined position since the expletive counts as the specifier. As a consequence, Agr fails to obtain missing feature values and the associate remains without an interpretation.

Fourth, the idea that rich Agr counts as the grammatical subject provides an explanation for the fact that NP-raising is syntactically optional in languages with anaphoric or pronominal agreement. It was observed that in OV languages NP-raising is optional as well, even if they have poor agreement such as Dutch and Afrikaans. Since languages with rich Agr and OV languages with rich or poor agreement do not form a natural class, it was argued that a syntactic explanation for the optionality of NP-raising seems unlikely. Once rich Agr is analyzed as a subject, however, a straightforward generalization can be formulated: NP-raising is optional in languages where the 'logical subject' linearly precedes the verb. Williams' (1997) 'general pattern of anaphoric dependence' (GPAD) was used to explain why NP-raising is optional in languages with the aforementioned properties. Irrespective of this explanation, however, it should be pointed out that the generalization can only be formulated under the assumption that rich Agr counts as a grammatical subject, just as the theory of V to I hypothesizes.

Let us next consider V to C movement. In chapter 3 I postulated the Tense condition, requiring that the Tense features anchoring the event expressed by the proposition in time should have COMMAND over the subject and the predicate. It was argued that V to C movement is just one way of satisfying this constraint. In verb second languages the verb moves up to a position higher than the subject and the predicate and projects Tense features. These then satisfy the Tense condition under c-command. I argued that XP-fronting is an operation that takes place for an independent reason, namely to assign a value to the variable introduced by the implied specifier. Together, the verb movement and XP-fronting lead to a verb second effect. Given this analysis of verb second, the question becomes why Romance and English are different.

After all, the Tense condition is taken to apply universally. I argued that in both cases the lack of verb second is related to a language-specific property that is independently motivated. English has an empty head that selects a VP. This head, which is marked for Tense, is motivated by the *do*-support paradigm. Once it enters into a dependency relation with Tense features on the verb, the Tense condition is satisfied under m-command, making any verb movement unnecessary. In Italian and French one verb movement projecting Tense feature suffices to bring Agr into VP's predicational domain and to satisfy the Tense condition under c-command. The absence of an independent AgrP follows from the assumption that pronominal Agr can appear as a subject on its own: No spec-head relation has to be established with a DP-specifier. Since pronominal Agr can assign a value to the variable introduced by the implied specifier, XP-fronting is not a necessary operation. Hence, these languages lack generalized verb second.

Looking at both the Agr and Tense parameter, I conclude that especially the former is a successful one in the sense that setting it will give the child knowledge about at least four properties of his/her language. Although no such cluster has been established for the Tense parameter, it has been shown that in combination with a positive setting for the V to I parameter the setting of the Tense parameter provides knowledge of two more properties of the language.

First, the two settings together determine the extent of verb movement taking place in embedded clauses. It was argued that Icelandic and Yiddish satisfy the Tense condition under c-command. The verb moves up higher than the subject and predicate. XP-fronting is triggered for independent reasons. That verb second effects also show up in embedded clauses is caused by the fact that these languages have rich, anaphoric, agreement and therefore an independent AgrP. The consequence was that the complementizer cannot be involved in satisfaction of the Tense condition and verb movement takes place as a last resort operation. In Mainland Scandinavian, on the other hand, no AgrP has to be projected, given the poor nature of Agr, and the complementizer is able to satisfy the Tense condition by entering into a dependency relation with the Tense features on the verb. For this reason, generalized verb second is absent in embedded clauses.

Second, if in a language AgrP must be generated and the Tense condition is satisfied under c-command, two projections will dominate VP in declarative clauses. The consequence of this is that transitive expletive constructions can be generated. This option is excluded if either of these parameters is set differently. An interesting consequence of the analysis is that it singles out Dutch as a unique case. In no way does the distribution of *er* fit in with the generalizations that can be made about expletives in Germanic. It was shown that there are independent reasons for not considering this element to be an LF place-holder of the logical subject. This strengthens the analysis of *er* as an expletive (i.e. semantically empty) *adverb* rather than an expletive *subject*, a claim already defended in Bennis (1986).

In the introduction I remarked that the view on functional structure adopted in

this thesis and the specific triggers I argued for are logically distinct. The theory of verb movement could be right but the triggers wrong or vice versa. It should be noted, however, that it is the interaction of the two that makes a couple of explanations straightforward. The explanation for the lack of verb second in English as well as the explanation for the distribution of TECs are directly related to the view on functional projections that I adopt. In a more standard view holding that every functional projection is headed by an empty head, it becomes impossible to directly relate the lack of verb second in English to the presence of an empty head in this language, since empty heads appear much more unrestrictedly. Likewise, the grammaticality of a TEC hinges on the number of functional projections available. In the present proposal verb movement is directly indicative of available structure, so that Vikner's generalization is derived in a natural way. Since in standard approaches empty heads can in principle be postulated without an overt head moving to it, it becomes hard to see what blocks generation of a TEC. One could of course claim that a projection only becomes active once a verb has been moved to it: Only where two projections are activated through movement is generation of a TEC allowed. Note, however, that in English a subject can occupy the specifier position of a projection with an empty head position. Why this possibility should not be available in general is therefore not immediately obvious. In general, one can always introduce extra assumptions but the point is that the explanation for the lack of verb second in English as well as the explanation for the distribution of TECs follow without such extra assumptions from the theory of overt verb movement in this thesis and the constraint it puts on the occurrence of empty heads.

If the triggers for V to I and V to C are correct, the nature of the two verb movement operations can be successfully unified. Recall from the introduction that the MHH and AHH both had trouble explaining why V to I is related to a morphological effect (namely richness of inflection) whereas no such effect can be observed with V to C. The dichotomy between the category C and I is eliminated by the present analysis since C is replaced by T. Hence, V to C and V to I movement are related to morphology to the same extent: Both operations take place to project some feature of the verb and in both cases this feature correlates with existing morphology.

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Samenvatting

Recente ontwikkelingen in de generatieve taalkunde hebben niet geleid niet tot nieuwe inzichten omtrent de factoren die de positie van het finiete werkwoord in een bevestigende zin bepalen. Alhoewel de crosslinguïstische variatie op dit terrein goed gedocumenteerd is, zijn de theoretische voorstellen voor concrete parameters over het algemeen descriptief van aard. Het is het doel van deze dissertatie om de theorie op dit punt te verbeteren.
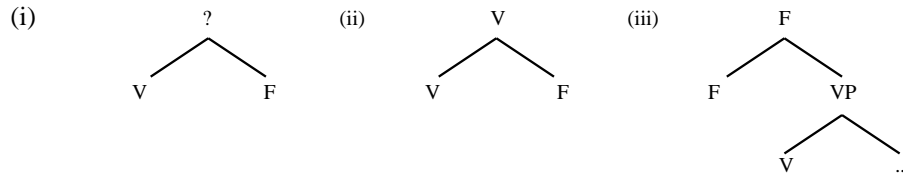
In de standaardopvatting over werkwoordsverplaatsing wordt aangenomen dat een VP gedomineerd wordt door een rij functionele projecties en dat het werkwoord kan verplaatsen naar de hoofden van deze projecties. In hoofdstuk 1 wordt betoogd dat er twee verplaatsingsoperaties zijn voor finiete werkwoorden die duidelijk zijn geparametriseerd. De eerste verplaatst het werkwoord ruwweg gezegd naar een positie die hoger ligt dan adverbialen die VP modificeren maar lager dan het zinssubject. De andere verplaatst het werkwoord naar een positie hoger dan het subject. Een standaardboom die beide verplaatsingen laat zien ziet er als volgt uit.
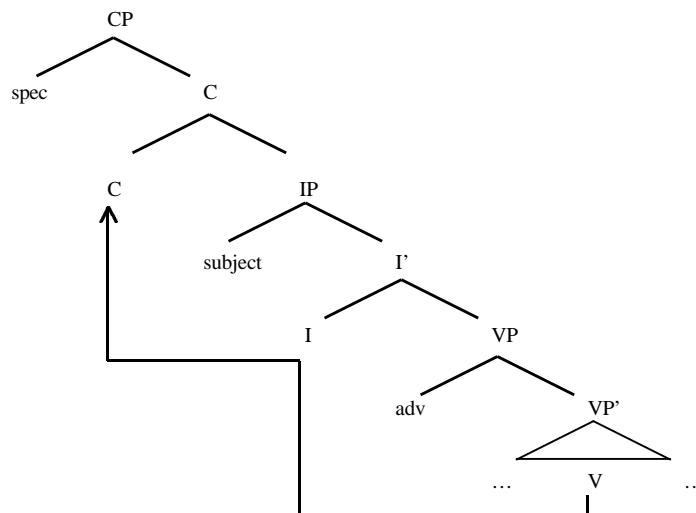
Talen verschillen in twee opzichten. Aangenomen dat er twee onderscheidbare werkwoordsverplaatsingen zijn, verwacht men op de eerste plaats vier mogelijke patronen. Afgaande op de literatuur lijken deze inderdaad alle vier te bestaan. Sommige talen (zoals het Frans) hebben in bevestigende zinnen alleen de operatie V naar I maar geen V naar C. Andere (zoals het Zweeds) hebben juist alleen V naar C en geen V naar I. Daarnaast zijn er talen (zoals het IJslands en het Jiddisch) die evidentie geven voor de aanwezigheid van beide operaties. Tenslotte zijn er talen, zoals het Engels, die beide verplaatsingen kunnen missen (alhoewel een restrictieve klasse van werkwoorden in de positie van I kan verschijnen). Op de tweede plaats is V naar C onderhevig aan verdere parametrisatie. In sommige talen (zoals het Zweeds, het Nederlands en het Duits) vindt deze operatie alleen in hoofdzinnen plaats terwijl hij in talen als het Ijslands en het Jiddisch in zowel hoofd- als bijzinnen optreedt. Een complicerende factor is dat in het Nederlands en het Duits het werkwoord achter zijn argumenten staat wanneer geen V naar C optreedt, namelijk in bijzinnen. Als men de mogelijkheid openhoudt dat V naar I een verplaatsing naar rechts kan zijn, wordt het moeilijk vast te stellen of V naar I plaatsvindt in deze talen omdat de verplaatsing niet leidt tot een woordvolgordeverschil.

In de traditionele benadering worden parametrische verschillen opgehangen aan eigenschappen van de lege hoofden I en C. Zo kan men veronderstellen dat in een taal waarin het werkwoord in de C-positie verschijnt C sterke eigenschappen heeft die werkwoorden aantrekken (Chomsky 1995). Aan de hand van een uitgebreide literatuurbespreking laat hoofdstuk 1 echter zien dat zo'n benadering, alhoewel het een juiste beschrijving van de feiten kan geven, niet afdoende is als verklaring voor verschillen in werkwoordspositionering. Het geeft geen bevredigend antwoord op de vraag waarom de parameterwaardes voor de afzonderlijke talen zijn zoals ze zijn.

In deze dissertatie wordt het standaard model voor overte werkwoords-verplaatsing vervangen door een alternatief. De centrale hypothese is dat er condities bestaan die vereisen dat bepaalde kenmerken van het finiete werkwoord zichtbaar worden gemaakt in specifieke structurele posities die hoger liggen dan de basispositie van het werkwoord. Het gevolg is dat verplaatsing van dat werkwoord met zulke kenmerken afgedwongen wordt. Wat er gebeurt is dat het werkwoord eerst in het lexicon gecombineerd wordt met finiete kenmerken (in de regel corresponderend met morfologische affixen) en vervolgens in de structuur wordt geïnserteerd. Alhoewel het lexicon onbepaald laat welk kenmerk in de syntaxis het hoofd van de projectie wordt (zie i), zal eerst V projecteren (zie ii), zodat de thetarollen kunnen worden uitgedeeld. Bestaat er echter een conditie op één van de andere kenmerken, bijvoorbeeld F, dan zal het werkwoord verplaatsen, met zijn eigen projectie de operatie 'merge' ondergaan en vervolgens het betreffende kenmerk projecteren (zie iii). Het resultaat is een VP gedomineerd door een functionele projectie:

(i)   ?   (ii)   V   (iii)   F

(i) tree: ? dominating V and F
(ii) tree: V dominating V and F
(iii) tree: F dominating F and VP; VP dominating V and ...

Taalvariatie ontstaat nu als volgt. Er is een algemene economieconditie van het type 'verplaats niet als het niet hoeft'. Allerlei taalspecifieke, en onafhankelijk gemotiveerde, eigenschappen van een taal kunnen ervoor zorgen dat de condities op kenmerken van het werkwoord bevredigd worden zonder dat het werkwoord zelf verplaatst. Het zal daarom alleen verplaatsen als de betreffende taal deze eigenschappen niet heeft. Gegeven deze hypothese is de taak dus het vinden van de condities die werkwoordsverplaatsing afdwingen alsmede het vinden van de taalspecifieke eigenschappen die verplaatsing overbodig maken.

In hoofdstuk 2 wordt een 'trigger' gepostuleerd voor V naar I. Het is opvallend dat deze operatie zichtbaar is in talen die rijk geïnflecteerd zijn voor subjectscongruentie ('Agreement'). De verklaring die hiervoor geboden wordt is dat de congruentieaffixen in deze talen voldoende kenmerken hebben om als argument geïnterpreteerd te worden. Het gevolg is dat zij voor het computationele systeem zullen gelden als subject. Onder de assumptie dat subjecten een externe thetarol ontvangen van VP, zoals wordt aangenomen in predikatietheorie (Williams 1980, etc.), zal een werkwoord met rijke congruentie moeten verplaatsen om het congruentieaffix in het predikatiedomein (gedefinieerd als m-command domein) van VP te brengen. Na deze verplaatsing zal het werkwoord Agreement projecteren en kan thetaroltoekenning zonder problemen plaatsvinden. Parametrisatie volgt nu logisch: In een taal zonder rijke flexie zal de noodzaak congruentieaffixen als subject te interpreteren niet bestaan en is de werkwoordsverplaatsing onnodig.

Het idee dat congruentieaffixen kunnen gelden als subject biedt een natuurlijke verklaring voor het bestaan van het fenomeen "nulsubjecten", het kunnen wegblijven van DP-subjecten in de Romaanse talen. Vanuit het huidige perspectief betekent dit dat de congruentie op het werkwoord zelfstandig als subject kan opereren. In talen waarin congruentie subjectsstatus heeft worden DP's daarom niet meer opgevat als subjecten maar als specificeerders van subjecten. Omdat deze specificeerders niet weg kunnen blijven in de Germaanse talen, wordt in dit hoofdstuk een definitie van rijke congruentie gegeven die (i) werkwoordsverplaatsing afdwingt en (ii) het mogelijk maakt het verschil tussen wel of geen nulsubjecten te beschrijven. De onderliggende gedachte is dat paradigma's bestaan uit binaire kenmerken. Congruentie laat zich dan beschrijven als bestaande uit [± enkelvoud], [± spreker] en [±geadresseerde]. Door aan te nemen dat een kind alleen die kenmerken zal postuleren waarvoor overte evidentie bestaat in haar/zijn paradigma, zal het aantal kenmerken waaruit congruentie bestaat

per taal verschillen. We kunnen 'rijk' dan definiëren als congruentie die drie kenmerken uitdrukt. In die gevallen zal congruentie argumentstatus hebben en wordt werkwoordsverplaatsing afgedwongen. Door een onderscheid te maken tussen kenmerken en waardes van kenmerken kunnen we congruentie in het Romaans omschrijven als pronominaal (alle kenmerken hebben een waard) en die in het Germaans als anaforisch (niet alle kenmerken hebben een waarde). In het laatste geval zal aanwezigheid van een DP-subject vereist zijn voor het invullen van ontbrekende waardes.

In hoofdstuk 3 wordt een 'trigger' voor V naar C gepostuleerd. Betoogd wordt dat deze operatie een manier is om te voldoen aan een conditie op tijdskenmerken ('Tense'). Hoewel tijdskenmerken als morfologische markering op het werkwoord zitten, vormen ze geen semantische eenheid met V. Tijd is een eigenschap van een propositie en maakt geen deel uit van de denotatie van het werkwoord. Wat in dit hoofdstuk wordt voorgesteld is dat deze semantische discontinuïteit van V en Tense syntactisch geëncodeerd is: Tense moet bereik hebben over het subject en het predikaat. V naar C is een manier om aan deze conditie te voldoen. Omdat de conditie op Tense universeel is en alle besproken talen tijdskenmerken op V uitdrukken, is de taak vervolgens om een verklaring te bieden voor die contexten waar V naar C niet plaatsvindt. De stelling is dat het in principe mogelijk is om de tijdskenmerken van het werkwoord zichtbaar te maken op hogere hoofdposities die de de specificatie [± Tense] bevatten. De aanwezigheid van zulke voor [± Tense] gemarkeerde hoofden zal dan onafhankelijk gemotiveerd moeten worden, zodat afwezigheid van V naar C gerelateerd kan worden aan taalspecifieke factoren.

Zo heeft het Engels geen V naar C in declaratieve zinnen omdat deze taal een leeg hoofd in haar lexicon heeft dat gemarkeerd is voor Tense. Dit hoofd is onafhankelijk gemotiveerd door het Engelse *do*-support paradigma. Aanwezigheid van de negatiemarkeerder *not* heeft als gevolg dat er een finiet hoofd in een hogere positie gerealiseerd moet worden. De standaardverklaring hiervoor is dat negatie een relatie blokkeert tussen V en een functioneel hoofd buiten de VP. Omdat in de afwezigheid van negatie zo'n relatie kennelijk wel tot stand gebracht kan worden, moeten we concluderen dat dit VP-externe hoofd zonder PF-realisatie kan blijven. De hypothese die wordt voorgesteld is dat het lege element een semantisch vacueuze modaal is. Afgaande op die elementen die met deze modaal in complementaire distributie zijn is de minimale specificatie [±Tense]. Door dit hoofd in een positie te inserteren die overeenkomt met I in de boom hierboven kan aan de conditie op Tense voldaan worden door een afhankelijkheidsrelatie tot stand te brengen met tijdskenmerken op het werkwoord. Werkwoordsverplaatsing wordt overbodig.

In talen als het Zweeds is V naar C in bijzinnen onnodig vanwege de aanwezigheid van een complementeerder. Dit voor Tense gemarkeerd hoofd kan een afhankelijkheidsrelatie aangaan met tijdskenmerken op V. Een dergelijke relatie kan

niet tot stand worden gebracht in talen met rijke subjectscongruentie omdat de onafhankelijk gemotiveerde aanwezigheid van een AgrP dat blokkeert. Daardoor zien we in talen als het IJslands en het Jiddisch V naar C zowel in hoofd- als bijzinnen optreden.

In het Romaans tenslotte is V naar C overbodig omdat subjectscongruentie pronominaal is. Het voorstel is dat AgrP alleen geprojecteerd hoeft te worden als een taal anaforische congruentie heeft. In dat geval moet een spec-head configuratie ervoor zorgen dat DP ontbrekende waardes kan toekennen aan Agr. Omdat dit niet hoeft in talen met pronominale flexie wordt het mogelijk om de condities op Tense en Agreement te satisfiëren door één werkwoordsverplaatsing die niet alleen Tense bereik geeft over het subject en het predikaat maar tegelijkertijd Agr in het predikatiedomein brengt.

De theorie van werkwoordsverplaatsing heeft als consequentie dat talen verschillen in het aantal projecties dat actief is in de overte syntaxis. Hoofdstuk 4 biedt onafhankelijke evidentie voor deze stelling op basis van expletieven. Sommige talen, zoals het IJslands, Jiddisch en Duits staan expletiefconstructies voor met transitieve predikaten. Deze constructies zijn ongrammaticaal in talen als het Zweeds en het Deens. Betoogd wordt dat deze distributie volgt uit de theorie van werkwoordsverplaatsing. Alleen in talen waarin VP gedomineerd wordt door twee functionele projecties is het mogelijk zowel een subject als een expletief te genereren in één structuur. Dit is in essentie een herformulering van Vikners (1995) generalisatie die stelt dat transitieve expletiefconstructies alleen mogelijk zijn in talen met V naar I en V naar C. Als verklaring hiervoor wordt een economieconditie voorgesteld die stelt dat geen element mag verplaatsen naar een positie waar het gegenereerd kan worden. Als in een taal VP gedomineerd wordt door één functionele projectie, zoals in het Zweeds en Deens, ligt de specificeerderpositie van deze projectie binnen het predikatiedomein van VP. Subjecten kunnen hier dus een externe thetarol ontvangen. Als de positie gevuld wordt door een expletief en het subject bevindt zich lager in het predikatiedomein, dan wordt de coverte verplaatsing van dit subject naar de expletief verboden door de voorgestelde economieconditie. Als echter in een taal VP gedomineerd wordt door twee functionele projecties, dan bevindt de hoogste specificeerderpositie zich buiten het predicatiedomein. Een subject kan in dat geval nooit in deze positie worden basisgegenereerd omdat het daar geen externe thetarol kan ontvangen. Dit betekent dat het expletief in de hoogste specificeerderpositie gegenereerd kan worden. Als het subject zich in de onderste bevindt en in coverte syntax verplaatst naar de expletief dan zal de voorgestelde economieconditie dat niet verbieden. De hypothese dat subjecten geen verplaatsing kunnen maken binnen het predicatiedomein van VP biedt in andere woorden een verklaring voor Vikners generalisatie.

De theorie laat zien dat het Nederlands een uitzonderlijk geval is, omdat het

een patroon heeft dat met geen enkele andere taal overeenkomt. Omdat incorporatie van Nederlands binnen de theorie de consequentie heeft dat geen van de gemaakte generalisaties nog houdbaar is, wordt betoogd het zogenaamde Nederlandse expletief *er* op te vatten als een adverbiaal element in plaats van als een semantisch leeg subject, een hypothese die teruggaat op Bennis (1986). Met name door een parallel te trekken met het Duitse *da* wordt onafhankelijke evidentie aangedragen voor deze stelling.

       Hoofdstuk 5 tenslotte bevat een overzicht van de belangrijkste stellingen uit de dissertatie en maakt nogmaals duidelijk wat de voordelen zijn van het voorstel ten opzichte van de standaardbenadering. Wat duidelijk gemaakt wordt is dat het specifieke model van werkwoordsverplaatsing en de 'triggers' voor verplaatsing logisch onafhankelijk van elkaar zijn maar dat het de combinatie van de twee is die een aantal van de voorgestelde oplossingen mogelijk maakt.

Curriculum vitae

Olaf Koeneman was born in Dongen on October 22nd. He attended the Sint Oelbert Gymnasium in Oosterhout and received his diploma in 1989. From 1989 until 1995 he studied at Utrecht University, where he obtained a degree in English Language and Literature. In 1996 he was employed as a Ph. D student at the Utrecht Institute of Linguistics, where he carried out research that resulted in the present study.