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Deriving Syntactic Representations in Finnish

A Dissertation Presented
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ABSTRACT
DERIVING SYNTACTIC REPRESENTATIONS IN FINNISH
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A comprehensive, coordinated analysis of Finnish syntax is attempted in this dissertation. The following areas receive special attention: word order, grammatical case marking, null subjects, binding, and non-finite constructions. The basic framework used is the Government-Binding Theory, but a number of revisions are introduced in order to account for the Finnish data.

The theory of levels of representation is enriched by allowing for postcyclic operations in syntax. A theory of structural default case is developed which includes a level of postcyclic genitive case percolation. The current theory of movement is modified so as to allow for a postcyclic movement operation (following WH-movement and Topicalization); this modification also involves revising Trace Theory.
It is argued that Finnish has fixed syntactic positions which need to be licensed at specific points during the derivation. This requirement has the effect of producing instances of obligatory movement in order to fill a syntactic position, giving rise to word order variation. A strong form of the notion of Structure Preservation is supported by the data.

The theory of default case that is developed in this dissertation provides a way of studying the interaction between morphological case assignment, subcategorization, syntactic positions, and movement. Developing this theory involves reducing the theory of Abstract Case into aspects of the other components of the grammar.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>v</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>xii</td>
</tr>
<tr>
<td>Chapter</td>
<td></td>
</tr>
<tr>
<td>1 INTRODUCTION</td>
<td></td>
</tr>
<tr>
<td>1.1 General background</td>
<td>1</td>
</tr>
<tr>
<td>1.2 The theoretical framework</td>
<td>4</td>
</tr>
<tr>
<td>1.2.1 Movement and the levels of representation</td>
<td>4</td>
</tr>
<tr>
<td>1.2.1.1Introducing M-Structure</td>
<td>4</td>
</tr>
<tr>
<td>1.2.1.2Base-generation of phrases and sentences</td>
<td>7</td>
</tr>
<tr>
<td>1.2.1.3Syntactic positions need to be licensed</td>
<td>12</td>
</tr>
<tr>
<td>1.2.2The other components of the grammar</td>
<td>15</td>
</tr>
<tr>
<td>1.3 Generative grammar and Finnish</td>
<td>19</td>
</tr>
<tr>
<td>NOTES</td>
<td>21</td>
</tr>
<tr>
<td>2 WORD ORDER VARIATION AS A RESULT OF FILLING POSITIONS</td>
<td>24</td>
</tr>
<tr>
<td>2.1 Introduction</td>
<td>24</td>
</tr>
<tr>
<td>2.2 Introducing &quot;pro-drop&quot; as anaphoric binding</td>
<td>25</td>
</tr>
<tr>
<td>2.3 Word order in tensed clauses</td>
<td>32</td>
</tr>
<tr>
<td>2.3.1 Two sentence-initial positions: Spec(IP) and COMP</td>
<td>33</td>
</tr>
<tr>
<td>2.3.1.1 The six logical possibilities of a three-word sentence</td>
<td>35</td>
</tr>
<tr>
<td>2.3.1.2 Determining which NP is in COMP</td>
<td>40</td>
</tr>
<tr>
<td>2.3.1.2.1 Special stress</td>
<td>41</td>
</tr>
<tr>
<td>2.3.1.2.2 Adverbs cannot precede the element in COMP</td>
<td>41</td>
</tr>
<tr>
<td>2.3.1.2.3 Sentential clitics</td>
<td>43</td>
</tr>
<tr>
<td>vii</td>
<td></td>
</tr>
</tbody>
</table>
3.2.3 The representation of cases .............. 144
3.3 The two objective cases in Finnish ............. 151

3.3.1 Accusative versus partitive ................. 151
3.3.2 The fate of an unrealized genitive feature ......... 157

3.3.2.1 Nominative case is not a case ....... 158
3.3.2.2 Subjects are base-generated in the Spec(VP) .... 159
3.3.2.3 Agreement features are base-generated in the Spec(IP) position .... 160
3.3.2.4 Percolation of the genitive feature .... 163

3.3.2.4.1 Simple active sentences .... 164
3.3.2.4.2 Impersonal passive sentences .... 166
3.3.2.4.3 Imperative sentences .......... 169
3.3.2.4.4 Sentences with täytyy 'must' .... 170

3.3.2.5 The mechanism .......... 173
3.3.2.6 Plural NPs and the genitive feature .... 176

NOTES ................. 180

4 PRO-DROP AS ANAPHORIC BINDING ................. 184

4.1 Introduction: pro-drop and functional explanations .... 184
4.2 Pro-drop in NPs ................. 190

4.2.1 The 3rd person possessive suffix is an anaphor .... 193
4.2.2 Are the 1st and 2nd person Px's also anaphors? ...... 199

4.2.2.1 Binding without an overt binder .... 199
4.2.2.2 Syntactic position of the implicit binder ........ 201

4.2.3 The structure of a possessive NP .... 204
4.2.4 The structure of an anaphoric NP .... 213
4.2.5 Possessive suffix pro-drop in Colloquial Finnish .... 216

4.3 Pro-drop in tensed sentences ................. 224

4.3.1 Basic analysis for Standard Finnish .... 224
4.3.2 Pro-drop in the Colloquial Finnish sentences ........ 226
4.3.3 Variation in pro-drop and its acquisition 229
4.4 Raising vs. not raising a subject ........ 232
4.4.1 Spec(VP) and the missing person
construction .................. 232
4.4.2 Remaining in the Spec(VP) position ... 236

NOTES ........................................ 239

5 INFINITIVAL ARGUMENTS AND ADJUNCTS ........ 243
5.1 Introduction .............................. 243
5.2 The non-clausal infinitivals ............ 249
5.2.1 The MA-infinitive ...................... 249
  5.2.1.1 MA-infinitivals are locative PPs 249
  5.2.1.2 Objective case in
         the MA-construction ......... 253
  5.2.1.3 Moving a MA-phrase to COMP .... 256
  5.2.1.4 MA-infinitival predicated of
         the matrix object .......... 261
    5.2.1.4.1 Basic data ............... 261
    5.2.1.4.2 Two objects with four case
            combinations .......... 265
    5.2.1.4.3 Relevant binding data ... 269
  5.2.1.5 Summary of the MA-construction .. 272
5.2.2 The TA-infinitive ...................... 272
  5.2.2.1 The TA-infinitive without
         an overt subject ........... 272
  5.2.2.2 Modals ......................... 279
  5.2.2.3 The TA-infinitive with
         an overt subject .......... 283
5.2.3 Brief summary of the two non-clausal
     constructions ...................... 287
5.3 The clausal infinitivals .................. 288
5.3.1 Temporal adjunct ...................... 289
  5.3.1.1 Basic data ...................... 289
  5.3.1.2 The structure of the temporal
         adjunct .................... 292
  5.3.1.3 Passive form of the temporal adjunct 296
5.3.2 The clausal complement construction 299
  5.3.2.1 Overview of the data 299
  5.3.2.2 The structure of the clausal complement 305
  5.3.2.3 Passive form of the clausal complement 307
5.3.3 Summarizing the two clausal infinitivals 308
5.4 The rationale clause adjunct
  5.4.1 Comparing the temporal adjunct and the rationale clause adjunct 309
  5.4.2 Binding the Px in the rationale adjunct 314
5.5 Conclusion 316
NOTES 318
APPENDICES 321
  I 321
  II 331
BIBLIOGRAPHY 333
LIST OF TABLES

Chapter 2:

TABLE 2.1. Structure of the six word order possibilities. . . . . . . . . . . . . 36

TABLE 2.2. Characteristics of the two complementizer types. . . . . . . . . 89

Chapter 3:

TABLE 3.1. Default cases of basic categories. . . . . . . . . . . . . . . . 144

TABLE 3.2. Singular and plural genitive suffixes. . . . . . . . . . . . . . . 179

Chapter 4:

TABLE 4.1. Present tense paradigm of 'istua'. . . . . . . . . . . . . . . . 185

TABLE 4.2. Paradigm of 'istua' in Colloquial Finnish. . . . . . . . . . . . 188

TABLE 4.3. Verbal suffixes and pro-drop in SF and CF. . . . . . . . . . . . 189

TABLE 4.4. Possessive suffixes and pro-drop in SF and CF. . . . . . . . . . 192

TABLE 4.5. Summarizing the distribution of Px's. . . . . . . . . . . . . . . 220

Chapter 5:

TABLE 5.1. Participles as adjectives. . . . . . . . . . . . . . . . . . . . . . . . . 245

TABLE 5.2. Five infinitival constructions. . . . . . . . . . . . . . . . . . . . . . . 246

TABLE 5.3. Px's in infinitivals and in NPs. . . . . . . . . . . . . . . . . . . . . . . 301

TABLE 5.4. Genitive percolation in infinitivals. . . . . . . . . . . . . . . . . . . . 305

TABLE 5.5. Px's in infinitivals and in NPs, with rationale clause. . . . . . . . . 310
CHAPTER 1
INTRODUCTION

1.1 General background

The goal of this dissertation is to provide a detailed and coordinated analysis of various central phenomena in Finnish syntax. It is the first attempt at providing an analysis from the generative point of view. As is usual in generative linguistics, there is a larger goal behind the subgoal concerning a particular language—namely, to shed light on the general theory of syntax.

Finnish is a member of the Finno-Ugric language family, which also contains Estonian, Saami (=Lappish), and Hungarian. An additional number of distantly related languages are found in the Soviet Union (e.g. Cheremis, Mordvin, and the Samoyed languages; cf. Austerlitz's survey in Comrie (1987:569-576)). Estonian is closely related to Finnish, especially to the Southwestern Turku (=Åbo) dialect; Finnish and Estonian are close to being mutually intelligible.\(^1\) Saami and Finnish, on the other hand, are mutually unintelligible, although even non-trained speakers can spot common words in the two languages. Hungarian and Finnish are even more remotely related; their relationship
is perhaps comparable to the relationship between (the Indo-European languages of) English and Russian.

The genetic relationship between Finnish and the above-named languages has been firmly established based on the common Proto-Finno-Ugric vocabulary. In addition, these languages share many morpho-syntactic, morphological, and phonological features. They all have extensive oblique case systems (cf. Appendix II on the Finnish case system). Most (or all) of the morphological operations consist of suffixation; these languages are highly agglutinative. In phonology, vowel harmony is a prominent feature.²

Although interesting generative work in Hungarian syntax has been pursued by e.g. Kiss (1981), (1987) and Horvath (1985), a syntactic comparison between the Finno-Ugric languages has not been possible due to the scarcity of (even descriptive) work in Finnish, Estonian, and Saami syntax. I hope that this work can serve as a partial basis for such a comparison.

Traditional work (and much of the recent work) on Finnish has concentrated on morphosyntax and phonology. For an important example of traditional work on Finnish see L.Hakulinen (the first edition of which was published 1941–1946; L.Hakulinen (1979) refers to the fourth Finnish-
language edition that I use; an English translation was published in 1961).

Within syntax the only existing comprehensive work is A. Hakulinen & F. Karlsson’s (1979; Finnish-language) grammar of Finnish, in which modern and traditional ideas from various theories are discussed with respect to Finnish syntax. This book has been an unending source of information and ideas for me throughout my career. An important recent work covering a number of issues is Vilkuna’s (1989; English-language) dissertation on word order, in which a discourse approach oriented towards generative syntax is used. Comparing Vilkuna’s ideas to my own has been very exciting.

Finnish differs (at least superficially) from the well-known European languages in the following ways (each of which will be discussed in the chapter indicated in parentheses): lack of personal passive, and the odd behavior of the impersonal passive (Ch.2); two objective cases (Ch.3); the existence of anaphoric suffixes (Ch.4); the possibility of omitting the subject in the 1st and 2nd person, but not in the 3rd person (Ch.4); the rich system of non-finite constructions (Ch.5); and the word order possibilities of the object, which appear to depend on the position of the subject (Ch.2).
The approach used in this thesis reveals similarities between Finnish and other languages that run deeper than the differences just listed. On the other hand, the Finnish data provide the theoretical linguist with new material to be taken into account in developing and modifying a universal theory of syntax.

1.2 The theoretical framework
1.2.1 Movement and the levels of representation
1.2.1.1 Introducing M-Structure

In this dissertation, the basic methodology of the generative approach to syntax is presupposed. Chomsky (1975[1955]) and (1957) argued that syntactic theory is greatly simplified if, rather than having just one level of representation consisting of constituent structures (i.e. phrase structure trees), we are allowed to have more than one level of representation for a given sentence. Two levels were originally proposed, the levels of "deep structure" (later "D-structure") and "surface structure" (later "S-Structure").

The levels of representation are ordered, and the mapping between the levels involves a component of syntactic movement ("transformations", later "Move-Alpha"). The mapping from a more basic level (D-Structure) to a more
complex level (S-Structure) is referred to as (a part of) a "derivation".

In more recent work, Chomsky (1981:90-91) discusses the possibility of not having the level of D-Structure in the grammar. He points out that all of the information conveyed by the two original syntactic levels--D-Structure and S-Structure--can be read off S-Structure. This is a consequence of the introduction of "Trace Theory" (e.g. Chomsky (1977)), according to which any movement taking place before S-Structure leaves a trace which is present at S-Structure. That is, the trace at S-Structure tells us where the moved element was at D-Structure (and, by means of an indexing procedure, which positions it may have moved through).

Chomsky concludes that distinguishing the "representational" approach (having only one level, SS) from the "derivational" approach (having both DS and SS, connected via movement) may be impossible, since they may be notational variants of each other.³ He continues to maintain the derivational point of view, which is also adopted in this thesis. Thus, the two levels originally argued for by Chomsky will be used here (D-Structure and S-Structure).
Van Riemsdijk and Williams (1981) and (1986:337-342) argue for the existence of an additional level of representation between D-Structure and S-Structure, what they call "NP-Structure". They argue that NP-movement (i.e. movement into argument positions, or A-positions) occurs before this level, and that WH-movement (i.e. movement into non-argument positions) occurs after this level. Following van Riemsdijk and Williams, I will be advocating the idea of such an intermediate level in this thesis. Rather than NP-Structure, however, I will call it "Middle Structure" or "M-Structure".

We shall see that movement that is related to affixation occurs between D-Structure and the intermediate level of M-Structure. This includes the affixation of case suffixes, verb agreement suffixes and possessive suffixes, as well as movement of NPs motivated by affixation (such as the nominative subject). Affix-based movement will be the topic of Ch.3.

Movement occurring between M-Structure and S-Structure includes the traditional kind of long-distance movement (i.e. non-argument or "A-Bar" movement): WH-movement, Focus, and Topicalization. In addition, it will be argued in Chapter 2 that there is a late movement process in Finnish that involves movement into argument positions, and that this process has to occur after S-
Structure, since it is "fed" by WH-movement and 
Topicalization.

The "derivational path" from the lexicon to the S-
Structure level is given in (1):\(^6\)

1) \[
\begin{array}{c}
\text{LEXICON} \\
\text{D-STRUCTURE} \\
\text{M-STRUCTURE} \\
\text{S-STRUCTURE}
\end{array}
\]

Trees are base-generated (with lexical insertion) at D-
Structure. Move-Alpha maps D-Structure onto M-Structure, 
and M-Structure onto S-Structure.

1.2.1.2 Base-generation of phrases and sentences

The grammar needs to include specifications of how 
syntactic trees are base-generated. In the earlier forms 
of transformational grammar, this was accomplished with 
category-specific "Phrase Structure" (PS) rules which 
produced D-Structure trees (e.g. VP \(\rightarrow\) V (NP) (PP); or, a 
VP consists of a verb optionally followed by an NP and a 
PP). Since Stowell (1981), who argued that PS rules were 
redundant and could be reduced to other components of the
grammar (using "X-Bar Theory", or the theory of how lexical heads are projected into phrases), the role of PS rules has diminished.

Given X-Bar Theory, let us consider how phrases with lexical heads (i.e., not sentences) are base-generated. I will assume the following formulation of X-Bar Theory (based on Chomsky (1986); cf. also Jackendoff (1977)):

2) X-Bar Theory:
   (i) $X' = X \text{ XP}^*$
   (ii) $\text{XP} [=X''] = \text{XP}^* X'$

According to (i) a head $X$ can take any number (including zero) of $\text{XP}$ complements to its right, to form an $X'$ (e.g. in the case of a V head, the complements may consist of an NP object and a PP locative complement). As stated in (ii), an $X'$ can take any number (although only one in English and Finnish) to its left, to form an $\text{XP}$ (e.g. $X''$).

Assuming that the lexicon specifies what kind of complements and specifiers each lexical category can take (and that often only one of the two is possible), the two "rules" in (2) produce at least the following types of phrases:
3a) a VP with an NP-complement, and with an NP in the Spec(VP) position (the subject);

b) an NP with a specifier;

c) an AP with a specifier;

d) a PP with an object NP (also, for the Finnish postpositions, a PP with a specifier).

We will shortly return to the question of base-generating sentences.

There is an interesting relationship between the three syntactic levels (D-Structure, M-Structure, and S-Structure) and the phrase structure trees. Consider the basic tree that will be adopted for Finnish (cf. e.g. Pesetsky (1982) and Chomsky (1986)):

```
4)          CP
         / \      
        Spec C'
         / \     
        COMP IP
         / \     
        Spec I'
         / \     
        INFL VP
         / \     
        Spec V'
         / \     
        V NP
```

This tree has three "layers" that are very similar to each other: VP, IP and CP. Each of these nodes consists of a head (V, INFL, and COMP), a specifier position, and a complement (NP, VP, and IP, respectively).
Each of the three layers (VP, IP, and CP) corresponds to one of the three levels of representation as follows ("VP-material" refers to material base-generated in VP):

5a) at D-Structure only the VP may contain VP-material;

b) at M-Structure, VP and IP may contain VP-material;

c) at S-Structure, VP, IP, and CP may contain VP-material.

That is, the verb and its arguments and adjuncts (including the subject) are generated in the VP at D-Structure; the positions in the VP are the only positions in which "lexical" or "open class" elements can be base-generated (as opposed to "functional" or "closed class" elements, some of which can be base-generated in the positions of IP and CP, such as auxiliaries and complementizers).

During affix-based movement (before M-Structure), elements from the VP may raise to the two IP positions (INFL and Spec(IP)), as stated in (5b). During phrase-based movement (before S-Structure), elements that have been base-generated in the VP may raise to the two CP positions (COMP and Spec(CP))--(5c).

This correspondence between layers in the basic tree and the levels of representation supports the idea of M-Structure.
Let us now return to the question of PS-rules for sentences. Chomsky (1981:52) assumes the following sentence-producing PS rules:

6a) $S \rightarrow NP \text{INFL} \ VP$

$b) \ S' \rightarrow \text{COMP} \ S$

The corresponding PS rules for the tree in (4) look as follows (cf. Chomsky (1986)):

7a) $IP \rightarrow \text{Spec(IP)} \ \text{INFL} \ VP$

b) $CP \rightarrow \text{Spec(CP)} \ \text{COMP} \ IP$

Much of the information in these PS rules follows from X-Bar Theory, as stated in (2) above. As with the lexical heads, the functional heads INFL and COMP take a complement on the right (giving I' or C') and a specifier to the left (giving I''/IP or C''/CP).

The only non-redundant information that the PS-rules in (7) bear concerns the nature of the complements. Although the lexicon may specify the kinds of complements and specifiers that each lexical head may have, it is not so obvious that the lexicon specifies that INFL takes a VP and that COMP takes an IP. It may be that something corresponding to the PS-rules in (7) is required outside of the lexicon in order for this information to be specified.
1.2.1.3 Syntactic positions need to be licensed

The Finnish data suggests that in order for a position to be syntactically realized, base-generation of a position is not sufficient. We can account for some interesting word order patterns in Finnish (and, it appears, in other languages) if we assume that positions need to be "licensed" at some level. "Licensing" consists of a syntactic position being "filled" at an appropriate level of representation.

The Spec(VP) position and the NP object position in the VP (and possibly other postverbal positions) are licensed at D-Structure, if a phrase is base-generated in these positions.

The two positions in IP--Spec(IP) and INFL--can be licensed in one of two ways.

First, material can be base-generated in one of these positions at D-Structure (e.g. an auxiliary verb in INFL). Secondly, an IP position (unoccupied at D-Structure) can be licensed at M-Structure by having VP-material move into the position in IP (e.g. the nominative subject raises from the Spec(VP) to the Spec(IP), or a verb raises to INFL).
The requirement for licensing the Spec(IP) position gives us the fact that in Finnish (and in English) the Spec(IP) (or "subject") position has to be filled. The requirement for licensing the INFL position gives us verb raising. That is; Chomsky's (1986) "Extended Projection Principle" (which requires the subject position to be filled) turns out to be an instance of a more general requirement of licensing positions.

In addition to the tensed sentence domain, we find a process in the non-finite domain that is parallel to licensing the IP positions by movement from the VP (at M-Structure). It will be argued in Chapter 5 that some of the Finnish infinitival constructions consist of a VP (licensed at D-Structure by base-generation, just as in the finite type) embedded under an NP. This NP is exactly parallel to a tensed IP, and its positions are licensed via affix-based movement (at M-Structure).

As with IP, the two positions in CP can be licensed in one of two ways: either by base-generation at D-Structure (e.g. a complementizer in COMP), or by movement at S-Structure (e.g. WH-movement into COMP). The requirement for licensing the COMP position may account for the obli- toriness of WH-movement in true questions (for languages such as English and Finnish that have "obligatory" WH-movement).
The requirement of licensing all syntactic positions at some level of representation has the effect of producing obligatory movement, since a tree with a base-generated position that has not been licensed by the end of the derivation is not a well-formed tree.

In addition to the type of obligatory movement due to the licensing requirement, Finnish has a word order phenomenon that involves optional movement. In addition to being optional, this type of movement has the following properties: it does not respect strict cyclicity (according to which rules operate in smaller domains before more inclusive domains, and a rule cannot "return" to a smaller domain); it is fed by phrase-based movement (e.g. WH-movement); and it does not register the presence of a trace (left by e.g. a WH-moved phrase). In short, this type of movement seems to be a late (possibly postcyclic) process that is blind to certain features of the syntax—comparable, say, to liaison in phonology. I will refer to this type of movement as "secondary movement" (as opposed the obligatory, "primary" movement).

I would like to suggest that this optional process of movement may be a language-specific feature of Finnish, and that it consists of a tendency to not only license positions at the levels corresponding to those positions
as described above), but also to "re-license" positions at S-Structure. This process will be discussed in Chapter 2.

1.2.2 The other components of the grammar

Chomsky (1981:5) lists the following subsystems of the grammar:

8) (i) bounding theory
   (ii) government theory
   (iii) theta-theory
   (iv) binding theory
   (v) Case theory
   (vi) control theory

Of these, the forms of theta-theory and binding theory as defined there will be assumed in this dissertation, largely without modification.

Theta-theory is concerned with semantic roles ("theta-roles") being assigned to the arguments of a head. This process serves to create a relationship between a head (typically V) and its arguments, and it licenses the positions in the VP, as suggested in the previous section. It will be assumed that each argument in a sentence is only assigned one theta-role, and that each theta-role has to be assigned to an argument ("Theta-Criterion", Chomsky (1981:36))—that is, there is a one-to-one relationship between arguments and theta-roles.
The binding theory defines the distribution of pronominal elements, stating whether an element needs to be "bound" (i.e. have an antecedent within a local domain) or "free" (the opposite of "bound"). According to Condition A, "anaphors" (reflexives and reciprocals) have to be locally bound. Conversely, "pronouns" (personal pronouns) have to be free in the local domain (Condition B). It will be argued that the local domain for Finnish is IP. We will also see that in Finnish at least binding of anaphors (Condition A) is accomplished at D-Structure.

For several reasons, Case Theory (in the form proposed in the GB theory for English and other languages) will specifically not be adopted. First, Case Theory does not account for the distribution of morphological cases in Finnish. Secondly, Abstract Case assignment and Theta-role assignment appear not to diverge in Finnish; i.e. Finnish has no ECM ("Exceptional Case Marking") constructions. Thirdly, whenever in English it has been suggested that an NP moves in order to get Case (in Passive and Raising), the comparable Finnish NP clearly has case (or Case), yet its movement pattern is quite similar to the "Case-seeking" NP in English; that is, a theory of Passive and Raising is required for Finnish that is not based on any notion of case/Case.
A theory of morphological case will be developed in Chapter 3. The remainder of the functions of the Case Theory will be covered by Theta-Theory and the theory of movement outlined above and further developed in Chapter 2.

Of the subsystems, the bounding theory will be assumed in some form. This component of the system poses locality constraints on movement, and possibly binding (although Chomsky argues in (1980) and (1981) that only movement is subject to the bounding theory, while binding and control are not constrained in this way). The node that defines the local domain in Finnish for the purposes of binding, case assignment, control, and WH-extraction is the IP node. That is, anaphors have to be bound (and pronouns free) within the tensed sentence; a verb has no effect on case assignment or control relationships beyond its tensed sentence; and extraction out of a tensed sentence seems to be impossible.12

Control Theory has to do with the interpretation of the abstract element PRO, typically posited as the subject of an infinitive (or a gerund). The existence of PRO in Finnish will be challenged by the data in Chapter 5. The data clearly pose a problem for the theory of PRO, since the Finnish infinitives can have subjects (alternating with not having a subject). The subject position of the infinitives has to be a "governed, Case-marked" position,
since a lexical NP with genitive case can occur in that position; a PRO would not be expected. Furthermore, Finnish only appears to have constructions corresponding to "Obligatory Control" in English (i.e. infinitival complements), while there are very few, if any, examples of "Non-Obligatory Control" (where there may be more arguments for the presence of PRO than with obligatory control). Thus, it appears that it is more fruitful to analyze the Finnish infinitival complements as not having a PRO, but rather being comparable to nominal complements (NPs and PPs).

As already mentioned, there is a problem with Trace Theory with respect to the optional (secondary) movement process, in that this process appears to ignore traces. A modification of Trace Theory will be proposed in Chapter 2.

Given the fact that the notions of Abstract Case and of PRO seem not to be relevant for Finnish the notion of "government" does not remain very substantial. It basically reduces to the relationship between a head and its arguments, i.e. Theta-Role assignment (which we might say corresponds to "theta-government" (Chomsky 1986)). As we shall see, government (more specifically, "antecedent-government") is not needed for the definition of binding (or other local) domains, since the only relevant opacity
domain appears to be IP. On the other hand, the structural
notion of "c-command" (to be defined) is sufficient in this
work.

1.3 Generative grammar and Finnish

Using the general approach just outlined, Finnish
turns out not to be very "exotic". The following familiar
points emerge (to be discussed in the chapter in
parentheses): the VP-IP-CP tree works very well as
representing the basic structure of Finnish (Ch.2); verbs
raise to INFL (Ch.2); COMP and Spec(CP) are the usual
positions for WH-phrases (Ch.2); word order is more fixed
than commonly believed (Ch.2); despite the large number of
morphological cases, the grammatical case system of Finnish
is not very different from e.g. English (Ch.3); anaphors
and pronouns behave in predictable ways (Ch.4); and,
Finnish has strict locality conditions on movement and
binding (all chapters).

In the following I will outline some of the questions
about Finnish that have not yet received satisfactory
answers (some of the questions have not even been
formulated before), and that I will attempt to provide
answers for in this dissertation (in the chapter indicated
in parentheses).
Although the object normally follows the V, why does the object sometimes precede the V? What is the connection of this phenomenon to WH-movement and Topicalization? (Ch.2)

Why do the word order possibilities differ between 'that'-clauses and 'if/when'-clauses? Why can the object precede the verb in 'if/when'-clauses, but not in 'that'-clauses? Why can the subject precede the complementizer in 'if/when'-clauses, but not in 'that'-clauses? (Ch.2)

Why does an accusative object have a genitive suffix if and only if the verb agrees with the subject? (Ch.3)

Why do negative sentences typically have a partitive object? Why do prepositions typically take a partitive NP? (Ch.3)

Why does Finnish omit subject pronouns ("pro-drop" property) only in the 1st and 2nd persons, but not in the 3rd person? (Ch.4)

What are the binding domains in Finnish? (Ch.4)

What is the distribution of the different non-finite constructions? Why do non-finite verbal forms behave as if
they were verbs with respect to their complements, but otherwise as if they were nouns? (Ch.5)

Why is the form of the accusative object dependent on the matrix verb for some non-finite constructions, but not for others? (Ch.5)

NOTES

1) Estonian speakers tend to find Finnish fairly intelligible, probably due to exposure to Finnish radio and television. Finnish speakers have more difficulty with Estonian, unless the Estonian speaker deliberately uses words and constructions also found in Finnish. The situation is roughly analogous to that holding between Swedish and Danish.

2) Turkish (and other Turkic languages) also have these properties. However, since Turkish and the Finno-Ugric languages do not "share" enough basic vocabulary, a relationship between the Finno-Ugric languages and Turkish has not been firmly established.

3) Lebeaux (1989) points out that if we can show that some information is available at one syntactic level and not available at another syntactic level, then we can distinguish between the representational and the derivational approaches. For example, if information present at S-Structure were not available at D-Structure, we would have an argument for keeping the two levels, and the derivational approach would be supported. Lebeaux argues that data from relative clauses in English show that the relative clauses are not present at D-Structure, but are inserted during the derivation—in the spirit of Chomsky's early idea of a 'generalized transformation' (Chomsky 1975[1955]) and (1957)) (cf. the revision of the idea as a 'generalized Phrase-marker' in Chomsky (1965)).
The argument involves the following contrast (Anti-Reconstruction facts noted by Williams & vanRiemsdijk (1981); cf. also Lakoff (1968)):

a) *[Which pictures of John-i does he-i like?]
b) [Which pictures that John-i took] does he-i like?

The D-Structure forms of these sentences would look as follows:

a') he-i like(s) [which pictures of John-i]
b') he-i like(s) [which pictures that John-i took]

Question (a) above violates the Binding Theory (Condition C is violated, since (in (a')) John is c-commanded by he). However, exactly the same violation is expected in (b) (since he again c-commands John in (b')). Yet, (b) is fine.

Lebeaux suggests that the reason (b') is not ruled out at D-Structure is that the relative clause is not present yet (the relative clause is base-generated as a separate sub-tree); that is, the D-Structure representation of (b) is (b''):

b'') he-i like(s) [which pictures]

The Binding Theory is not violated, since the NP John is not present at D-Structure. This gives us the distinction between (a) and (b), and provides an argument for relative clauses being inserted into the structure after D-Structure, which in turn supports the derivational view (since a level of representation is needed for the Binding Theory, where relative clauses do not occur).

4) There is no "Affix-Hopping" taking place at the level of Phonetic Form (PF) in this analysis.

5) Following the spirit of Emonds (1970), I will assume that phrase-based movement is "structure-preserving": landing sites of movement have a particular syntactic category, and only constituents of that category (although possibly with different bar levels) can move into such a position.

6) The two other levels assumed in Chomsky (1981), PF (Phonetic Form) and LF (Logical Form) will also be assumed in this work, but not crucially. I will not have anything to contribute to the theory of these levels.
7) VP at D-Structure (and IP at S-Structure) is very similar to the earlier notion of S (while CP corresponds to S').

8) Where a null subject ("pro-drop" subject) counts as filling a position (cf. Ch.4).

9) The idea of non-finite constructions consisting of a VP embedded under an NP goes back to (at least) Chomsky (1975[1955]:237) -- although his NP at this time did not have an N head. In Chomsky (1965:185) the NP has an N head, which in effect converts the V into an N.

10) Moving a WH-phrase to COMP violates Chomsky's (1986) proposal that only heads can move into head-positions; given this constraint, we expect WH-phrases to move to Spec(CP) rather than COMP. Bayer (1989) argues that WH-movement in German moves a WH-phrase into COMP. In order to avoid violating the head movement constraint, he suggests that the feature [+WH] is treated as a head, and therefore a WH-phrase can move into COMP.

In Chapter 2 an analysis of WH-movement and Topicalization will be presented according to which WH-phrases and topicalized elements move into COMP in Finnish. I will not attempt to determine whether these elements can be treated as heads, or whether the head movement constraint needs to be modified.

11) Although I am not assuming Case Theory, I will use the traditional notion of "abstract case", i.e. an NP that may not bear any overt case can still be said to bear a case (e.g. full NP accusative objects in English).

12) I will not discuss long-distance WH-extraction in this thesis. It is my superficial impression that in my dialect extraction out of a tensed sentence is impossible, except perhaps for some cases with bridge verbs.
CHAPTER 2

WORD ORDER VARIATION AS A RESULT OF FILLING POSITIONS

2.1 Introduction

In this chapter, a movement-based analysis of Finnish word order will be developed. It will be argued that the Spec(IP) position (i.e. the "subject" position) and the INFL position are "licensed" (i.e. obligatorily filled; cf. Ch.1) at M-Structure. Similarly, it will be argued that COMP is obligatorily filled under certain circumstances (when a COMP position has been base-generated), at S-Structure. In addition, we will see that Spec(IP), COMP, and other syntactic positions tend to be filled at S-Structure (due to optional, "secondary" movement), if the element that licenses the position has been moved out.

In Section 2.2, an analysis of "pro-drop" (i.e. null subjects) as anaphoric binding will be introduced (to be expanded in Chapter 4); this analysis will be needed for the discussion in the remainder of the chapter.

In Section 2.3, the analysis of word order in tensed clauses will be developed, with reference to specific syntactic positions. Section 2.3.1 will cover the Spec(IP)
and the COMP positions, and Section 2.3.2 the INFL position
--with some general discussion on the VP, and on the
distribution of adverbs. In Section 2.3.3 we will briefly
look at embedded clauses, drawing a distinction between two
types of conjunctions depending on whether they occur in
COMP or Spec(CP).

Section 2.4 argues for the existence of optional,
"secondary" movement--that is, movement of an element to a
position vacated due to obligatory, "primary" movement
(e.g. WH-movement). In Section 2.4.1 we find that if the
subject is moved out of the Spec(IP) position, then some
other argument of the verb optionally moves into the
Spec(IP) position. Section 2.4.3 shows that non-subject
positions in the VP are also filled if the original
occupant is moved out, and section 2.4.4 covers instances
where COMP seems to be filled due to secondary movement.

2.2 Introducing "pro-drop" as anaphoric binding

As a background for the word order discussion, I will
briefly go over some anaphoric binding data, and then
sketch an analysis of the pro-drop facts using a version of
the Binding Theory (e.g. Chomsky (1981)). The pro-drop
data will be more thoroughly covered and the analysis will
be argued for in Chapter 4, where the binding facts will also be elaborated on.

Consider the following examples of reflexive binding constructions:

1a) Minä näin itseni peilistä.
   I-NOM saw-1SG self-1SGPx mirror-ELA
   'I saw myself in (lit. 'from') the mirror'

b) Hän näki itsensä peilistä.
   he/she-NOM saw-3SG self-3Px mirror-ELA
   'He/she saw himself/herself in the mirror'

c) Te näitte itsenne peilistä.
   you(pl)-NOM saw-2PL self-2PLPx mirror-ELA
   'You(pl.) saw yourselves in the mirror'

d) He näkivät itsensä peilistä.
   They saw-3PL self-3Px mirror-ELA
   'They saw themselves in the mirror'

The anaphoric element in these examples is itse- 'self', which occurs with a suffix. This suffix is traditionally called the "possessive suffix"; I will follow Kanerva's (1987) terminology and refer to this suffix as "Px". The Px agrees in person and in number (in the 1st and 2nd person) with the binder: in (1a), we get the 1st person singular suffix -ni, which agrees with the 1st person singular binder minä. Similarly, in (1c), we get the 2nd person plural suffix -nne, agreeing with the binder te.
In (1b) and (d), we have a 3rd person singular and a third person plural subject, respectively; the suffix for all 3rd person binders is -nsa, which is what we get in (b) and (d).²

Now consider some examples of the reciprocal (‘each other’) construction:

2a) Me näämme toinen toisemme peilistä.
   we saw-1PL each-other-1PLPx mirror-ELA
   ‘We saw each other in the mirror’

b) Te näitte toinen toisenne peilistä.
   you(pl) saw-2PL each-other-2PLPx
   ‘You(pl.) saw each other in the mirror’

c) He näkivät toinen toisensa peilistä.
   they saw-3PL each-other-3Px
   ‘They saw each other in the mirror’

In these examples we again find the Px’s: in (2a), the 1st person plural Px -mme agrees with the 1st person plural subject binder. Similarly, in (2b) and (c), we get a different Px depending on the person/number of the binder. The stem toinen toise- ‘each other’ is impossible without one of these suffixes.

The elements itse+Px ‘-self’ and toinen toise-+Px ‘each other’ are clearly anaphoric in the sense of Condition A of the Binding Theory. I would like to suggest
that the stems itse- and toinen toise- are not anaphoric by themselves, but it is precisely the Px required by each that makes them anaphors. I will henceforth pursue the idea that the Px's are anaphors, and their distribution is subject to Condition A of the Binding Theory.

Let us now turn to the pro-drop data. Finnish is pro-drop in the first and second persons, but not in the third person; this is true in all tenses. That is, first and second person subjects can be omitted, but in the third person an overt NP is required as the subject. Consider the following present tense paradigm for the verb juoda 'to drink' (the parentheses indicate optionality):

<table>
<thead>
<tr>
<th></th>
<th>1SG</th>
<th>2SG</th>
<th>3SG</th>
<th>1PL</th>
<th>2PL</th>
<th>3PL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(minä) juon</td>
<td>(sinä) juot</td>
<td>hän juo</td>
<td>(me) juomme</td>
<td>(te) juotte</td>
<td>he juovat</td>
</tr>
<tr>
<td></td>
<td>'I drink'</td>
<td>'you (sg.) drink'</td>
<td>'he/she drinks'</td>
<td>'we drink'</td>
<td>'you (pl.) drink'</td>
<td>'they drink'</td>
</tr>
</tbody>
</table>

The analysis (to be developed in Chapter 4) of these data that will be assumed here is the following: the inflectional suffixes, like the Px's, are anaphors. Due to their syntactic location, the only position in which a binder of the inflectional suffix anaphor can be located is the subject position.
In this view, the 3rd person behaves as expected: an overt NP binder--the subject--is required for the anaphoric 3rd person inflectional suffix (note that this in some sense is the reverse of the Chomsky (1981) treatment of pro-drop, where "AGR" binds the subject--we will encounter problems with Chomsky's analysis, when extended to Finnish).

The 1st and 2nd persons are unexpected, since they seem not to require a binder (since 1st and 2nd person are pro-drop). We can argue, however, that in the 1st and 2nd person we have an implicit binder, corresponding to the speaker (in the 1st person) or the hearer (in the 2nd person). This abstract binder would be located in the subject position, when there is no overt 1st or 2nd person subject (cf. Chapter 4 on the exact location of the abstract binder).

Since there is no such abstract binder in the 3rd person⁴, an overt binder is required--and we get non-pro-drop in the 3rd person.

Let us now return to Px's and consider their behavior in NPs. In possessive constructions we find a Px on the "possessed" N:
4a) (minun) kirjani
   my book-1SGPx ‘my book’

b) hänens kirjansa
   his/her book-3Px ‘his/her book’

c) (teidän) kirjanne
   your(pl.) book-2PLPx ‘your(pl.) book’

d) heidän kirjansa
   their book-3Px ‘their book’

As these examples show, there is an exact parallel between the pro-drop data and the possessive NP data. The genitive-marked possessor NP is optional in 1st and 2nd person, but not in the 3rd. However, the genitive NP is also optional in the 3rd person under conditions determined by the Binding Theory, as we shall see.

In order to maintain the generalization that Px’s are anaphors—whether they occur in the prototypical anaphoric constructions, or in NPs—we need an explanation for why the 1st and 2nd person Px’s seem not to have a binder in the following examples:

5a) Pekka luki kirjaani.
    NOM read book-PAR-1SGPx
    ‘Pekka (was) reading my book’

b) Kävelytitkä koiraasi?
   walk-2SG-Q dog-PAR-2SGPx
   ‘(Were) you walking your dog?’

Given the suggestion that we can have an implicit binder for the 1st and 2nd person inflectional suffix—resulting
in pro-drop—we can use those implicit speaker/hearer binders in these examples.\textsuperscript{5} In (5a), we would have an implicit 1st person genitive binder (located in Spec(NP)), binding the Px \textit{ni}. In (5b), we need a 2nd person implicit binder to bind the verbal suffix, and this abstract element also binds the Px.

What do we expect to occur in the 3rd person? Since NP does not block anaphoric binding, we would expect to be able to bind the 3rd person Px from outside of an NP, if anaphora is what is at issue. This is of course what we find:

6a) Hän kävelytti koiraansa.  
\begin{quote}
He/she walked-3SG dog-PAR-3Px
\end{quote}

\begin{quote}
'He/she walked his/her dog'
\end{quote}

b) *Minä kävelytin koiraansa.  
\begin{quote}
I walked-1SG dog-PAR-3Px
\end{quote}

\begin{quote}
'\textit{I walked his/her dog}'
\end{quote}

c) Minä kävelytin hänen koiraansa.  
\begin{quote}
I walked-1SG his/her dog-PAR-3Px
\end{quote}

\begin{quote}
'I walked his/her dog'
\end{quote}

In (6a), the Px is bound by the subject NP. Sentence (6b) is ungrammatical, because the Px has no binder (but compare this to the earlier grammatical example (5a) with a 1st person Px without an overt binder). Inserting a binder makes the sentence grammatical, as shown in (6c).\textsuperscript{6}
We now have an analysis of pro-drop which unifies agreement suffixes on the verb and the Px's in the possessive construction. All of these suffixes are subject to Condition A of the Binding Theory in that they have to be bound in their tensed sentence (in IP).

1st and 2nd person suffixes can be bound by the non-overt binders "speaker-NP" and "hearer-NP". This results in optional nominative subjects (=pro-drop) and optional genitive specifiers in the 1st and 2nd person.

In the 3rd person no such abstract discourse-based binder is available, and the 3rd person suffixes have to be bound by an overt NP. This results in non-pro-drop in the 3rd person. In the Px domain the Px behaves as an anaphor should: there has to be an overt binder, either in the NP or outside of the NP (but within a tensed S).

With an analysis of the pro-drop facts, we are now armed to deal with word order, including the behavior of the Spec(IP) position with respect to word order.

2.3 Word order in tensed clauses

In the remainder of the chapter, the basic phrase structure of Finnish will be explored. The existence of
fixed syntactic positions will be justified by the fact that if a position exists, some element will occur in it, if at all possible. Since in a typical S-Structure tree there are more syntactic positions than there are lexical phrases, not all positions can be filled. It appears that in Finnish empty positions are filled from left to right; this results in movement to the left.

2.3.1 Two sentence-initial positions: Spec(IP) and COMP

Vilkuna (1989) argues for the existence of two positions at the beginning of the Finnish tensed sentence. Her analysis is motivated by discourse considerations (based on L. Carlson's work, e.g. Carlson (1983)), but she ends up saying that each of these positions is also a syntactic position, since the elements in these positions are not interpreted solely based on discourse (i.e. in terms of notions such as "thematic" and "rhematic").

The first position is one in which contrasted elements occur (she calls it "K" for "Contrast"); this corresponds to the COMP position in syntax, which is what I will call it (cf. tree in Chapter 1). In addition to contrasted (or topicalized) elements, this position houses interrogative phrases and relative pronouns, adverbs, certain conjunctions, and the "hosts" of the sentential
clitics -ko (question particle), -han and -pa (emphatic sentential particles).

The second position is one for the "Theme" or "Topic" of the sentence--"T" in Vilkuna's terminology. This is the location for nominative subjects; this position corresponds to my Spec(IP) position. If there is no nominative subject in the sentence (or, in the event that the nominative subject has been dislocated), the Spec(IP) position is preferably filled by another argument of the verb: a non-nominative logical subject, an object, or a locative phrase. Especially in colloquial speech, the Spec(IP) position can also be filled with the pleonastic *sita*.  

Thus, Vilkuna's "K" corresponds to be the COMP position and her "T" to be the Spec(IP) position in the following tree (cf. Ch.1):

```
7)    CP
     / \   
    Spec C'
     / \   
      COMP IP
     / \   
    Spec I'
     / \   
   INFL VP
     / \   
   Spec V'
     / \   
    V   NP
```

Using this tree I will now attempt to account for certain word order facts in Finnish.
2.3.1.1 The six logical possibilities of a three-word sentence

Tensed sentences containing a transitive V, a subject and an object allow all of the six logically possible word orders (underlining indicates special stress) (cf. L. Hakulinen (1979:497-499) for a comparable exercise in the Finnish word order possibilities):

8a) Seija tapasi Mervin.
    NOM met ACC
    'Seija met Mervi'

b) Tapasi Seija Mervin.
    met NOM ACC
    'Seija did meet Mervi'

c) Mervin Seija tapasi.
    ACC NOM met
    'It was Mervi that Seija met'

d) Seija Mervin tapasi.
    NOM ACC met
    'It was Seija that met Mervi'

e) Mervin tapasi Seija.
    ACC met NOM
    'Mervi was met by Seija'

f) Tapasi Mervin Seija.
    met ACC NOM
    'Mervi was indeed met by Seija'
Table 2.1 provides the (M-Structure) representation for each of these sentences.

<table>
<thead>
<tr>
<th>COMP</th>
<th>Spec(IP)</th>
<th>INFL</th>
<th>Spec(VP)</th>
<th>V</th>
<th>NP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(&quot;subject&quot;)</td>
<td></td>
<td></td>
<td></td>
<td>(&quot;object&quot;)</td>
</tr>
<tr>
<td>a) (Seija)</td>
<td>(Seija)</td>
<td>tapasi</td>
<td>[]</td>
<td>[]</td>
<td>Mervin</td>
</tr>
<tr>
<td>b) tapasi</td>
<td>Seija</td>
<td>[]</td>
<td>[]</td>
<td>[]</td>
<td>Mervin</td>
</tr>
<tr>
<td>c) Mervin</td>
<td>Seija</td>
<td>tapasi</td>
<td>[]</td>
<td>[]</td>
<td></td>
</tr>
<tr>
<td>d) Seija</td>
<td>Mervin</td>
<td>tapasi</td>
<td>[]</td>
<td>[]</td>
<td></td>
</tr>
<tr>
<td>e) (Mervin)</td>
<td>(Mervin)</td>
<td>tapasi</td>
<td>Seija</td>
<td>[]</td>
<td>[]</td>
</tr>
<tr>
<td>f) tapasi</td>
<td>Mervin</td>
<td>[]</td>
<td>Seija</td>
<td>[]</td>
<td>[]</td>
</tr>
</tbody>
</table>

Line (a) in the table (corresponding to sentence (8a) above) gives the basic word order; the subject NP may occur in the Spec(IP) position, or it can be topicalized to COMP (as indicated by the parentheses), in which case the NP bears special stress.

I would like to suggest that all of the other five orders are derived via movement from the D-Structure of sentence (a). I will argue in Chapter 3 that the nominative subjects in Finnish originate in Spec(VP), and in the next section that the verb originates in V and is raised to INFL. Thus, the D-Structure representation for all of the six sentences would look as follows (with the CP
"layer" suppressed):

9)       IP
     /  
Spec  I'
     /  
INFL  VP
     /  
     Spec V'
     /  
     Seija V  NP
         tapasi Mervin

(8a), then, is derived from this tree by moving Seija to Spec(IP) and tapasi to INFL. As suggested in Chapter 1, both of these instances of movement are motivated by the requirement of licensing the positions in IP (at M-Structure).

In (8b), the subject has again moved from Spec(VP) to Spec(IP). The focused verb has been fronted to COMP. In (8c), rather than the verb, the object NP Mervin has been topicalized.

In (8d) we find an example of a phenomenon that I have called "object fronting" (Vainikka 1989): the object (and other complements) precede the verb under certain conditions. In (8d) the subject NP has been topicalized and moved to COMP. Apparently as a consequence of the subject occurring in COMP the object may precede the verb. Object fronting data will be discussed in more detail in
Section 2.4, where it will be argued that in cases such as (8d) the object has moved to the Spec(IP) position via secondary movement, in order to fill that position at S-Structure.

In general, the Spec(IP) position in Finnish has to be filled. This is of course what has often been observed for English and other languages, and what Chomsky (1981:41) considers to be a universal requirement (resulting in positing an abstract subject whenever there is no overt one). The reason for this requirement, be it universal or not, is not obvious. In my analysis, this requirement is one instance of filling positions due to the licensing requirement. The Spec(IP) position is not unique in this respect, but the INFL position—and under certain conditions the COMP position—also need to be filled.

What is unusual about Finnish is that although the Spec(IP) position is licensed and filled at M-Structure, if the "licensing" NP later moves out of the Spec(IP) position, there is a strong tendency to fill the Spec(IP) position also at S-Structure (apparently ignoring the trace left by the earlier occupant). Again, this tendency is not unique to the Spec(IP) position, but seems to hold for all positions.
In (8e) and (f), the subject is displaced, and it follows the verb. The exact location of these subjects is difficult to determine, since the data is not very clear; this construction is not comparable to postposed subject constructions in e.g. Italian, where postposed subjects are quite unmarked. See Vilkuna (1989:178-187) for a more detailed discussion of this construction.

Vilkuna (1989:261 fn.8) reports that there are 117 instances of these OVS sentences in the "HKV" corpus (cf. A.Hakulinen et.al.(1980)). All but 9 of the 117 consist only of an object, a verb, and a subject. The remaining 9 examples contain either of a complex, idiomatic verb (verb and idiomatic locative phrase) or a verb followed by a predicative adverbial (presumably preceding the postposed subject). Given these data, I would like to suggest that the "postposed" subject in this construction remains in its base-generated Spec(VP) position, and no lowering rule is required.

Since the subject does not occupy the Spec(IP) position in (8e) and (f), the object will raise to the Spec(IP) position instead, to license that position. In (8f), the verb is focused, occupying the COMP position. In (8e), the object can be topicalized (and stressed), as indicated by the parentheses.
There is one obvious exception to the generalization of filling the Spec(IP) position. Sentences without an overt 1st or 2nd person subject do not seem to have anything in the Spec(IP) position. Recalling the analysis of these sentences in Section 2.2, we can still maintain the generalization. Sentences with a "missing" 1st or 2nd person subject have an abstract binder in the subject position, as suggested. All we have to say is that this binder counts as actually filling and licensing the Spec(IP) position at M-Structure. That is, the generalization is not one about the Spec(IP) having to be filled with lexical material, but rather syntactic material in general, including (at least some) abstract elements.

In the following, I will provide diagnostics for determining which NPs are located in COMP, and which in Spec(IP).

2.3.1.2 Determining which NP is in COMP

The elements shown in COMP in Table 1 (repeated below) behave similarly in the following ways:

10) (i) they bear special stress
    (ii) they may not be preceded by an adverb
    (iii) they can act as hosts of sentential clitics
2.3.1.2.1 Special stress

Each of the elements in COMP is stressed—the verb tapasi in (8b) and (f), the object-NP in (8c) and the subject-NP in (8d). The parentheses in (8a) and (e) indicate that the NP can occur either in COMP or in the Spec(IP) position: if the NP is in COMP, it is stressed; if it is in the Spec(IP) position, it bears no special stress. Table 2.1 is repeated here:

TABLE 2.1. Structure of the six word order possibilities.

<table>
<thead>
<tr>
<th>COMP</th>
<th>Spec(IP)</th>
<th>INFL (&quot;subject&quot;)</th>
<th>Spec(VP)</th>
<th>V</th>
<th>NP (&quot;object&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) (Seija) (Seija) tapasi</td>
<td></td>
<td>[ ]</td>
<td>[ ]</td>
<td>Mervin</td>
<td></td>
</tr>
<tr>
<td>b) tapasi Seija</td>
<td></td>
<td>[ ]</td>
<td>[ ]</td>
<td>Mervin</td>
<td></td>
</tr>
<tr>
<td>c) Mervin Seija tapasi</td>
<td></td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td></td>
</tr>
<tr>
<td>d) Seija Mervin tapasi</td>
<td></td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td></td>
</tr>
<tr>
<td>e) (Mervin) (Mervin) tapasi</td>
<td></td>
<td>Seija</td>
<td>[ ]</td>
<td>[ ]</td>
<td></td>
</tr>
<tr>
<td>f) tapasi Mervin</td>
<td></td>
<td>[ ]</td>
<td>Seija</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

2.3.1.2.2 Adverbs cannot precede the element in COMP

Nothing seems to be able to precede the element in COMP; attempting to insert an adverb at the beginning of the sentence results in an ungrammatical sentence in each of the cases:
It seems that a sentence-initial adverb has to occur in COMP, and when COMP is filled by something else, an adverb is not possible. When COMP is empty, an adverb is perfectly fine at the beginning of the sentence. If we destress the first NP in (8a') and (8e'), we get the following grammatical sentences:

\[ 8a'' \] Eilen Seija tapasi Mervin. yesterday NOM met ACC

\[ e'' \] Eilen Mervin tapasi Seija. yesterday ACC met NOM

Attempting to destress the first stressed element in the other examples produces ungrammatical sentences for (8b), (d) and (f), as expected:

\[ 8b'' \] ?Eilen tapasi Seija Mervin. yesterday met NOM ACC

\[ c'' \] ?Eilen Mervin Seija tapasi.

\[ f'' \] ??Eilen tapasi Mervin Seija.

Having the adverb in COMP leaves no room for the verb in
(8b''') and (f'') or for the object NP in (8c'''), between COMP and the subject position.10

A non-stressed version of (8d) with an initial adverb is unexpectedly good, especially when the adverb is stressed:

8d''') Eilen Seija Mervin tapasi.
yesterday NOM ACC met

'It was yesterday that Seija met Mervi'

Since the adverb is stressed, this suggests that the adverb is located in COMP. Seija is located in Spec(IP) in the unmarked case, and presumably also here. Mervin would have to be located in the Spec(VP), given the available positions. We will return to the interaction of the Spec(VP) and the object in Chapter 3.

2.3.1.2.3 Sentential clitics

The third property that the elements in COMP share is that they can act as hosts of one of the sentential clitics—presumably this means that the sentential clitics are located in COMP. The following provides an example with the question particle -ko11:
11a) Seijako tapasi Mervin?
   NOM-Q met ACC

   'Was it Seija that met Mervi?'

b) Tapasiko Seija Mervin?
   met-Q NOM ACC

   'Did Seija meet Mervi?'

c) Mervinkö Seija tapasi?
   ACC-Q NOM met

   'Was it Mervi that Seija met?'

d) Seijako Mervin tapasi?
   NOM-Q ACC met

   'Was it Seija that met Mervi?'

e) Mervinkö tapasi Seija?
   ACC-Q met NOM

   'Was it Mervi that was met by Seija?'

f) Tapasiko Mervin Seija?
   met-Q ACC NOM

   'Was Mervi met by Seija?'

(11b) and (f) are examples of typical yes/no-questions; the
verb has been fronted, and -ko suffixes on it. In the
other examples, the fronted NP is questioned. (Note that
although (11e) and (f) have been glossed as passives, they
are active sentences.)

Having suggested three diagnostics for the COMP
position—special stress indicating focus or
topicalization, impossibility of adverbs preceding an
element in COMP, and the distribution of the sentential clitics—let me now turn to diagnostics for the Spec(IP) position.

2.3.1.3 The Spec(IP) position
2.3.1.3.1 No adverbs between COMP and the Spec(IP)

Vilkuna (1989) points out that nothing seems to be able to intervene between COMP (her "K") and the Spec(IP) position (her "T"). Consider the following attempt to insert luultavasti 'probably' between the elements in COMP and what I have proposed occurs in the Spec(IP) position for the sentences in (8) (the judgments hold whether the initial element is stressed or not):

12b) ?*Tapasi luultavasti Seija Mervin.  
    met probably NOM ACC
    ('Seija probably did meet Mervi')

c) ?*Mervin luultavasti Seija tapasi.  
    ('It was probably Mervi that Seija met')

d) ??Seija luultavasti Mervin tapasi.  
    ('It was probably Seija that met Mervi')

f) ?*Tapasi luultavasti Mervin Seija.  
    ('Mervi was indeed probably met by Seija')

In contrast with the above, inserting luultavasti between
the first two elements in (8a) and (e) is perfectly fine:

12a) Seija luultavasti tapasi Mervin.
     NOM  probably  met  ACC
     'Seija probably met Mervi'

e) Mervin luultavasti tapasi Seija.
     'Mervi was probably met by Seija'

(12a) and (e) are best when the initial element is stressed. This suggests that the initial element is in COMP if the adverb is present. This can be explained if we assume that the adverb occupies the Spec(IP) position.12

It is perfectly fine to have luultavasti occurring in the sentence initial position when the subject occurs in the Spec(IP) position (i.e. the non-stressed counterpart of (12a) and (e))—especially if the adverb is stressed, suggesting that it is located in COMP:

12a’) Luultavasti Seija tapasi Mervin.
     probably  NOM  met  ACC
     'Probably Seija met Mervi'

e’) Luultavasti Mervin tapasi Seija.
     probably  ACC  met  NOM
     'Probably Mervi was met by Seija'

We have reason to think, then, that the nominative subject in (8b) and (c) has to be located in the Spec(IP) position, since nothing can intervene between COMP and the
nominative subjects. By the same token, we have reason to believe that the accusative object in (8d) and (f) is also located in the Spec(IP) position. In (8f), the object NP presumably licenses the Spec(IP) position at M-Structure, while in (8d) the object occupies the Spec(IP) position due to secondary movement (since the subject has been topicalized and moved to COMP).

2.3.1.3.2 Impersonal passive

We will now look at some further data which show that the Spec(IP) position indeed has to be filled. Consider the following examples of the impersonal passive:\(^{13}\):

13a) ??Annettiin Maijalle palkankorotus.  
   gave-PASS Maija-ALL raise-ACC
   ('Maija was given a raise')

   b) Maijalle annettiin palkankorotus.  
      Maija-ALL gave-PASS raise-ACC
      'Maija was given a raise'

   c) Palkankorotus annettiin Maijalle.  
      raise-ACC gave-PASS Maija-ALL
      'The raise was given to Maija'

In these examples of the impersonal passive, either the indirect object, as in (13b), or the direct object (in (13c)) can precede the passive verb. A "logical subject"
cannot be expressed in this construction (corresponding to the English by-phrase). If neither one of the objects precedes the verb, the result is clumsy, as in (13a).^{14}

Note that the Finnish impersonal passive provides a counterexample to "Burzio's Generalization" (Burzio (1981)), since the passive verb assigns objective case to its object, although no theta-role is assigned to a subject. As noted in Chapter 1, this fact also prevents us from using an explanation for the movement of the fronted NP in (13c) that is based on Case Theory: since the object NP bears accusative case^{15}, it should not need to move in order to get Case.

Sentences (13b) and (c) above allow the adverb \textit{luultavasti} 'probably' to precede the initial element:

\begin{verbatim}
13b') Luultavasti Maijalle annettiin palkankorotus.  probably Maija-ALL gave-PASS raise-ACC

'Maija was probably given a raise'

\end{verbatim}

\begin{verbatim}
c') Luultavasti palkankorotus annettiin Maijalle.  probably raise-ACC gave-PASS Maija-ALL

'The raise was probably given to Maija'
\end{verbatim}

If the preverbal NPs in these examples were located in COMP, we would expect the above examples to be ungrammatical, since elements in COMP cannot be preceded by an adverb (recall Section 2.3.1.2.2.). The grammaticality

48
of these examples suggests that the preverbal NP is indeed located in the Spec(IP) position.

Sentence (13a) improves if the verb annettiin is stressed; it can then be analyzed as occurring in COMP, and Maijalle occupies the Spec(IP) position. If the passive verb is a compound verb (one consisting of an auxiliary and a main verb), we find evidence for this hypothesis:

14a) ??Oli annettu Maijalle palkankorotus.
was given-PASS ALL raise-ACC

('Maija had been given a raise')

b) Oli Maijalle annettu palkankorotus.
was ALL given-PASS raise-ACC

'Maija had indeed been given a raise'

c) Oli palkankorotus annettu Maijalle.
was raise-ACC given-PASS ALL

'The raise had indeed been given to Maija'

(14b) and (c) are fine, if the initial auxiliary verb is stressed, while (14a) is not (whether the verb is stressed or not). These data follow if the preverbal NP is analyzed as being in the Spec(IP) position, and the auxiliary verb has been focused by being moved to COMP.16

As expected, the postverbal NP in the earlier examples (13b) and (c) can be topicalized (i.e. moved to COMP), since the preverbal NP is located in Spec(IP), and
the COMP position is empty--just as the COMP position could be filled with the adverb luultavasti above. The topicalized NP is stressed:

13b′′) *Palkankorotus Maijalle annettiin.*
raise-ACC Maija-ALL gave-PASS

'It was a raise that Maija was given'

c′′) *Maijalle palkankorotus annettiin.*
Maija-ALL raise-ACC gave-PASS

'It was to Maija that the raise was given'

The first NP in these example is stressed and topicalized, occurring in COMP. The second NP occurs in Spec(IP).

In the impersonal passive construction, then, there is no nominative subject that can license the Spec(IP) position. In order for the Spec(IP) position to be licensed, one of the complements of the verb raises to Spec(IP) from the VP. Since this movement is obligatory, I will assume that it takes place by M-Structure (i.e. at the same point that a nominative subject would raise to the Spec(IP)).

2.3.1.3.3 The missing person construction

We have seen in the impersonal passive construction that the Spec(IP) position has to be filled, due to the licensing requirement. A similar pattern is found in the
so-called "Missing Person" construction (Hakulinen & Karttunen (1973)), which also has no overt subject. The verb of this construction occurs in the 3rd person singular form, not agreeing with any NP. This construction often has a generic interpretation:

15a) ?*Voi anoa lainaa pankista.
can-3SG apply loan-PAR bank-ELA
b) Pankista voi anoa lainaa.
bank-ELA can-3SG apply loan-PAR
'One can apply to a bank for a loan'
c) Lainaa voi anoa pankista.
loan-PAR can-3SG apply bank-ELA
'(? )A loan can be applied for from the bank'

Again, we find that the subject position has to be filled: in (15b), it is filled by a locative phrase, and in (15c), by the direct object. The verb-initial (15a) is quite bad (even if the verb is stressed). If the initial verb is stressed, we get the following grammatical possibilities:

16a) Voi pankista anoa lainaa.
can-3SG bank-ELA apply loan-PAR
'One can apply to a bank for a loan'
b) Voi lainaa anoa pankista.
can-3SG loan-PAR apply bank-ELA
'(? )A loan can be applied for from the bank'

If the (modal) verb is focused, it will occupy COMP (and it could bear one of the sentential clitics). The Spec(IP) position then needs to be filled by one of the NPs: by the
locative phrase in (16a), and by the direct object in (16b). If the `Spec(IP) position is not filled by one of these NPs (i.e., if no NP occurred between the focused modal and the main verb) the result is ungrammatical, as we saw above in (15a).

As in the impersonal passive construction, there is no nominative subject in the missing person construction. Again, the Spec(IP) has to be licensed by some other NP, one of the complements of the verb.

2.3.1.3.4 The existential construction

The third construction that behaves the same way as the impersonal passive and the missing person construction is the existential construction (cf. a comprehensive study of the Finnish existential sentences by Vähämäki (1984)). Consider these examples:

17a) Huoneessa oli ollut lapsia.
    room-INE had-3SG been children-PAR
    'There had been children in the room'

    b) (?)Lapsia ollut huoneessa.
       children-PAR had-3SG been room-INE
       'There had been children in the room'

    c) ?*Oli ollut huoneessa lapsia.

    d) ?*Oli ollut lapsia huoneessa.
Again, the Spec(IP) position can be filled either by a locative phrase (as in (17a)), or by the non-locative NP, as in (17b) (the locative phrase is the unmarked "filler" of the Spec(IP) position in the existential construction). Not having one of the these two phrases in the Spec(IP) position results in the ungrammatical (17c) and (d).

As with the passive and the missing person constructions, if the first verb is focused, an NP has to immediately follow it:

18a) \textit{Oli} huoneessa ollut lapsia. \\
\textit{had-3SG room-INE been children-PAR} \\
'There had indeed some children in the room'

b) \textit{Oli} lapsia ollut huoneessa. \\
\textit{had-3SG children-PAR been room-INE} \\
'There had indeed been children in the room'

c) \textit{?Oli} ollut huoneessa lapsia. \\
\textit{had-3SG been room-INE children-PAR} \\
d) \textit{?Oli} ollut lapsia huoneessa. \\
\textit{had-3SG been children-PAR room-INE}

In these examples, the focused verb occupies COMP. As the ungrammaticality of (18c) and (d) shows, the Spec(IP) position has to be filled—just as in the other two constructions. As before, this is a consequence of the licensing requirement at M-Structure.
We have seen that a direct object, an indirect object, or a locative phrase can raise to the Spec(IP) position if there is no nominative subject occupying that position. It is clear in the existential construction (as in other languages) that a locative phrase is the unmarked element occurring in the Spec(IP). Interestingly, a locative phrase may be the unmarked choice in the missing person construction and the passive construction, as well; a locative phrase preceding the passive verb or the verb in the missing person construction is certainly very natural, if the sentence contains one. Compare the following to (17a) and (b):

19a) Koulussa opetetaan lapsia.
    school-INE teach-PASS children-PAR

b) (? )Lapsia opetetaan koulussa.
    children-PAR teach-PASS school-INE

'Children are taught at school'

20a) Yliopistolla tapaa opiskelijoita.
    university-ADE meet-3SG students-PAR

b) (? )Opiskelijoita tapaa yliopistolla.
    students-PAR meet-3SG university-ADE

'(One) meets students at the university'

It is not clear where in the grammar it is stated that a locative phrase is definitely preferred as the "filler" of the Spec(IP) position in the existential construction, and that there may be such a preference in the other two constructions as well.
Let us now turn to a brief discussion of a construction that bears some resemblance to the ones covered so far, namely the raising verb construction.

2.3.1.3.5 Raising verbs

Finnish has (at least) the following raising verbs: näyttää 'seem', näkyä 'seem', vaikuttaa 'appear', kuulua 'sound', and tuntua 'feel'. As in English, these verbs do not assign a theta-role to the NP in the Spec(IP) position (while the embedded verb does). We can say, then, that the three constructions discussed so far and the raising construction have in common that a theta-role is not assigned to a subject.

In the impersonal passive, missing person, and existential constructions an element that receives its theta-role and its case as a complement of the verb ends up in the Spec(IP) position. The raising construction differs from the other three constructions in that although no subject theta-role is assigned by the matrix verb, the construction does have the possibility of having a nominative NP in the Spec(IP) position, and the raising verb agrees with the nominative subject (as is typical of raising verbs cross-linguistically). Non-nominative subjects may also occur in the Spec(IP), however. Consider
the following examples:

21a) He näyttävät syövän suklaata.
    they-NOM seem-JPL eat-INF chocolate-PAR

    'They seem to (be) eat(ing) chocolate'

b) Sinulla tuntuu olevan monia salaisuuksia.
    you-ADE feel-3SG be-INF many-PAR secrets-PAR

    'You seem to have many secrets'

c) Pekalle näkyy annetun palkankorotus.
    ALL seem-3SG give-PASS-INF raise-ACC

    'Pekka seems to have been given a raise'

d) Tästä pankista vaikuttaa voivan anoa lainaa.
    this bank-ELA appear-3SG can-INF apply loan-PAR

    'This bank appears (to be one at which) one can apply for a loan'

e) Yliopistolta näyttää tulleen postia.
    university-ABL seem-3SG come-INF mail-PAR

    'There seems to be some mail from the university'

(21a) is a typical example with a nominative subject, where
the matrix (raising) verb agrees with the subject.
However, as already mentioned, the nominative NP gets its
theta-role from the embedded verb syödä 'eat'; he 'they' is
the "logical subject" of the embedded verb.

It seems that any NP that can occur in the Spec(IP)
position of a sentence can be raised to the Spec(IP)
position of a raising verb. In (21b), the "subject" of the
raising verb, sinulla is the normal subject form of the
embedded possessive sentence. In (21c), the initial NP is the indirect object of the embedded verb, i.e. the NP that would occur in the Spec(IP) position in the corresponding passive sentence (without a raising verb). Similarly, in (21d) and (e), the locative phrase of the embedded missing person construction in (d) and the existential sentence in (e) occurs in the matrix Spec(IP).

As with the impersonal passive construction, movement cannot be motivated using Case Theory in the Finnish raising construction. The examples in (21) clearly show that the raised NP does not raise because it needs to get "Case", since each of the NPs bears overt morphological case. Even in the example with nominative case, (21a), it can be argued that the nominative NP would have received genitive case if it had not raised (as we shall see in Chapter 5, in discussing the infinitival construction of these examples).

Thus, we need an analysis of movement that is not based on "Case" for the raising construction. As with the other constructions, we can invoke the requirement for licensing the Spec(IP) position. Again, since filling the Spec(IP) position in this construction is obligatory, the movement presumably takes place before M-Structure. I will
return to the question of nominative case assignment in Chapter 3.

In sum, then, the Spec(IP) position is one which has to be filled by syntactic material (either lexical or abstract, as in the pro-drop sentences), due to the licensing requirement at M-Structure. We have seen that in the three constructions discussed (passive, missing person, and existential) that do not have a nominative subject, the Spec(IP) position is filled by some other NP, one of the complements of the verb. In the raising construction, the Spec(IP) position of the matrix verb is filled by an argument of the embedded verb.

We will now turn to the material that follows the Spec(IP) position in a sentence, namely INFL and the VP.

2.3.2 The location of verbal material in the sentence

Before discussing the syntactic positions available for verbal material, let me take a little detour into the debate on the existence of VP, and its relevance to word order.
2.3.2.1 Does Finnish have a VP?

In generative grammar, the existence of a VP has been taken to be a characteristic of a "configurational" language (language with a fairly fixed word order), while a lack of a VP has signified a "non-configurational" language (with "free" word order) (Hale 1983). That is, having a VP is a sign of having hierarchical structure. Not having a VP in a language—and hence, possibly having sentences consisting a flat tree—would presumably affect word order.¹⁷

Van Steenbergen (1987) argues for the existence of a VP in Finnish, and thus configurationality, based on subject-object asymmetries in binding. Vilkuna (1989:25-27) argues against the existence of a VP—and thus for non-configurationality—using arguments from Hakulinen & Karlsson (1979:224-229), who themselves remain agnostic about the Finnish VP. Vilkuna follows Kiss (1987) in dismissing the subject-object asymmetries as evidence for a VP; Kiss provides an analysis of Hungarian with an initial flat structure (without a VP), in which later adjunction operations provide hierarchy—the binding asymmetries arise from this later hierarchy.

The present work is founded on the assumption that Finnish is configurational; I am also assuming the
existence of a VP, whether it is a diagnostic for configurationality or not. I will briefly go over the Hakulinen & Karlsson arguments, showing that they do not argue against a VP.

There are basically three arguments: first, the best position for an adverb with a simple (=non-compound) V is between the V and its complement; second, Finnish does not have pronominal elements referring to a VP; third, there is no VP-fronting.

If there is a VP-constituent, we might not expect that an adverb could intervene in the constituent formed by the V and its object, at least assuming that adverbs that are located in the VP are VP-initial:\(^{18}\):

\[
\begin{align*}
22a) \text{ ?Pekka aina syö suklaata.} \\
\text{NOM always eats chocolate}
\end{align*}
\]

\[
\begin{align*}
b) \text{ Pekka syö aina suklaata.} \\
\text{NOM eats always chocolate}
\text{’Pekka always eats chocolate’}
\end{align*}
\]

We find that the sentence is better if the adverb intervenes between the tensed V and the object, as in (22b). Holmberg (1989) (following much work on Germanic V-raising, e.g. Platzack (1986)) has suggested that (22b) is an instance of V-to-I raising: the adverb precedes the V at an early level, and the V is raised to a position in front of the adverb--to INFL. The V-raising analysis makes sense of
the data with compound verbs (cf. Platzack (1986:211ff)):

23a) ?Pekka aina on syönyt suklaata.
NOM always has eaten chocolate

b) Pekka on aina syönyt suklaata.
NOM has always eaten chocolate

c) ?Pekka on syönyt aina suklaata.
NOM has eaten always chocolate

'Pekka has always eaten chocolate'

The best position for the adverb in this example is between the tensed verb form on and the past participle syönyt. This can be accounted for by saying that the tensed V is raised to the INFL position preceding the adverb, just as in the example with a simple V. If, on the other hand, the best position for an adverb were really between a V and its complement, we would expect (23c) to be the best alternative here.

We see, then, that the argument against a VP based on adverb placement does not hold; rather, the facts suggest that V-raising is taking place in Finnish. I will return to the details of V-to-I raising in Section 2.3.2.2.

As for the second argument against a VP—that Finnish does not have a pronominal form of a VP—I think Finnish does have such a form, as exemplified in (24). Hakulinen & Karlsson (1979:225) consider this construction as a possible instance of VP-deletion. However, they dismiss

61
it, considering it to be an instance of "substitution of a psychological predicate", due to the fact that in this construction the "subject" does not need to be a nominative NP. This, of course, is not a sufficient reason for ruling out this construction as a candidate of VP-deletion, since we have seen that the Spec(IP) position is not restricted to nominative subjects.

24a) A: Pekka syö aina pinaattinsa.  
   NOM eats always spinach-3Px  
   'Pekka always eats his spinach'

B: Niin minäkin.  
   so I(NOM)-also 'So do I'

b) A: Mervi on yhtäkkiä ruvennut näkemään näkyjä.  
   NOM has suddenly started see-INF sights  
   'Mervi has suddenly started to see things'

B: Niin (olen) minäkin. /Niin (on) Pekkakin.  
   So have I(NOM)-also/So has Pekka-also  
   'So have I./So has Pekka'

c) A: Seija ei ole koskaan uskonut kummituksiin.  
   NOM not has never believed ghosts-ILL  
   'Seija has never believed in ghosts'

B: En minäkään.  
   not I(NOM)-also 'Neither have I'

In (24a), we have niin 'so' followed by the subject NP with the clitic -kin 'also'. In (24b), there is also an optional auxiliary verb. In negative sentences, such as in

62
(24c), we have the negative verb followed by the subject NP with the negative polarity form of -kin, -kaan.19

In B's replies, it seems that niin 'so' and en (the 1st person singular form of the negative verb) are referring to the VP in the previous sentences uttered by A. The optional auxiliary elements in (24b) would be located in INFL. A more detailed analysis will be provided in Section 2.3.2.2.

The third argument against a VP is that there is no VP-fronting (or other types of VP-movement). The status of this argument is unclear. The restrictions on movement might have to do with the positions into which movement is attempted: only a single V--and not a VP--can be moved into the COMP position. This may well be a restriction in the part of COMP. On the other hand, certain types of VPs may be able to move; I will return to this in Chapter 5.

Thus, none of these are clear arguments against the existence of VP, while the first one (adverb placement) turns out to be an argument for V-raising. I will now turn to a more detailed discussion of V-raising.
2.3.2.2 The structure of INFL

2.3.2.2.1 A survey of adverbs

Before attempting to analyze the verbal material in a tensed sentence, let us consider the word order possibilities of different adverbs (in the manner of Jackendoff 1972); cf. also recent work on verb raising and adverbial placement by Pollock (1989) and Chomsky (1988)). The distribution of certain adverbs sheds some light on the structure of INFL, as we have already seen (in the argument for V-to-I raising).

Manner adverbs, such as nopeasti 'quickly', hyvin 'well' and huonesti 'poorly' have the least varied distribution—they appear to occur only postverbally:

25a) ??Nopeasti/hyvin Pekka on lukenut kirjaan.
   fast well NOM has read book-PAR

   ('Pekka has been reading the book quickly/well')

b) ??Pekka nopeasti/hyvin on lukenut kirjaan.

c) ??Pekka on nopeasti/hyvin lukenut kirjaan.

d) ??Pekka on lukenut nopeasti/hyvin kirjaan.

e) Pekka on lukenut kirjaan nopeasti/hyvin.
   NOM has read book-PAR quickly well

   ('Pekka has been reading the book quickly/well')

Without special stress, only (25e) is grammatical, where the manner adverbial follows the object (its exact location in the VP is not relevant for our purposes here).
Sentence (25a) is grammatical if the adverb is stressed and/or bears a sentential clitic, i.e. the adverb occurs in COMP:

25a’) Nopeastiko/hyvinkö Pekka on lukenut kirjaa?
    fast-Q well-Q NOM has read book-PAR

    'Was it fast/well that Pekka has been reading a book?'

Similarly, sentence (25b) is grammatical if the initial phrase is in COMP, in which case the manner adverb occurs in the Spec(IP) position^{20}:

25b’) Pekkako nopeasti/hyvin on lukenut kirjaa?
    NOM-Q fast well has read book-PAR

    'Was it Pekka that has been reading the book fast/well?'

For the purposes of finding out about the structure of INFL, the manner adverbs are not useful, since they only occur at the end of the VP.

The two categories of adverbs that turn out to be useful for deciphering the structure of INFL are sentential adverbs and time adverbs. We have already seen that sentential adverbs such as *luultavasti* 'probably' may occur either in COMP or in the Spec(IP) (if e.g. the subject is in COMP). In addition to these two possibilities, sentential adverbs can follow some verbal material. Consider the following examples:
26a) Jukka on luultavasti/varmaan lukenut sen kirjan.
   NOM has probably surely read that book

   'Jukka has probably/surely read that book'

b) Jukka ei luultavasti/varmaankaan ole...
   NOM not-3SG probably surely-CLIT have

   ...lukenut sitä kirjaa.
   read that book-PAR

   'Jukka has probably/surely not read that book'

In (26a), the adverb follows the auxiliary verb olla 'be', and in (26b), the adverb follows the negative verb (unlike in English) and precedes the auxiliary olla. The structure of INFL needs to be such that we can define a position in which these adverbs occur. This position may be the position in which sentential adverbs originate, since it seems to be the unmarked position.  

If sentential adverbs are base-generated in/near INFL, then the two other possible locations would be the result of the usual kind of movement, namely raising (to an empty Spec(IP) or COMP position). These three positions--COMP, Spec(IP) and the as-of-yet undefined position in or near INFL--seem to be the only possible locations for sentential adverbs.

Before we attempt to determine the exact location for the sentential adverbs, let us consider time adverbials:  

66
27a) ?*Usein Pekka on tavannut Jukan.  
          often NOM    has met     ACC  
         ('Pekka has often met Jukka')  

b)  ?*Pekka usein on tavannut Jukan.  
c)    Pekka on usein tavannut Jukan.  
d) ??Pekka on tavannut usein Jukan.  
e)    Pekka on tavannut Jukan usein.  

As with the manner adverbs, these time adverbs occur VP-finally, as in (27e). Having the adverb intervening between the verb and the object is not very good, also as with the manner adverbs--(27d). And as with manner adverbs, (27a) and (b) are improved if the initial element is in COMP.

However, unlike manner adverbs, and as sentential adverbs, time adverbs easily occur in/near INFL; cf. example (27c) above. This may be the unmarked position for time adverbials, although the VP-final position might be equally unmarked.23

Sentential adverbs and time adverbs differ with respect to negative sentences. We saw that a sentential adverb preferred to follow the negative verb and precede the auxiliary olla. However, a time adverbial prefers to follow the auxiliary olla:
28a) Pekka ei ole koskaan tavannut Jukkaa.
     NOM not-3SG have ever met PAR

     'Pekka has never met Jukka'

b)*Pekka ei koskaan ole tavannut Jukkaa.
     NOM not-3SG ever have met PAR

Sentence (28a) gives what is probably the unmarked order for the time adverb koskaan '(n)ever'. Recall that the order exhibited in (28b) was the preferred order for sentential adverbs.

In an affirmative sentence (even with a compound verb), the two adverb positions are not distinguished, and we might think that a sentential adverb and a time adverb occur in the same position (although their mutual word order is fairly fixed: the sentential adverb prefers to precede the time adverb). In a negative sentence, however, where we can have up to three verbal elements, the two adverb types are distinguished:

29a) Pekka on varmaan joskus tavannut Jukan.
     NOM has surely sometimes met ACC

     'Pekka has surely sometimes met Jukka'

b) Pekka ei varmaan ole koskaan tavannut Jukkaa.
     NOM not-3SG surely have never met PAR

     'Pekka has surely never met Jukka'

In (29b), the sentential adverb occurs between the negative verb and the auxiliary verb, while the time adverb occurs between the auxiliary verb and the main verb.
The generalization concerning the occurrence of sentential adverbs seems to be the following: the sentential adverb follows the verbal element that bears the agreement morphology. Consider the following exhaustive set of examples, for the four tenses in Finnish:\textsuperscript{24}

30a) Maija ostaa/osti varmaan väärrää lajia.  
   NOM buys bought surely wrong kind-PAR

   'Maija (will) surely buy/bought the wrong kind'

b) Maija on/oli varmaan ostanut väärrää lajia.  
   NOM has/had surely bought wrong kind-PAR

   'Maija has/had surely bought the wrong kind'

c) Maija ei varmaan osta/ostanut väärrää lajia.  
   NOM not-3SG surely buy bought wrong kind

   'Maija surely (will) not/did not buy the wrong kind'

d) Maija ei varmaan ole/ollut ostanut väärrää lajia.  
   NOM not-3SG surely has/had bought wrong kind

   'Maija surely has/had not bought the wrong kind'

In (30c) and (d), the sentential adverb follows the negative verb, which agrees with the subject. In (30b), the adverb follows the auxiliary \textit{olla} 'be/have', which also agrees with the subject. In (30a), the adverb follows the main verb \textit{osta} 'buy', which agrees with the subject.

The generalization for the time adverb (at least of the type discussed) seems to be the following: these adverbs follow the verbal element that bears the tense
information. In affirmative sentences, the agreement and tense information are contained in the same element (auxiliary *olla* for compound verbs, main verb for simple verbs); thus, a sentential adverb and a time adverb would appear to occur in the same position, as we saw in example (29a). Consider the following set of examples:

31a) Pekka lukee /luki usein matkakertomuksia.  
NOM read-PRES/PAST-3SG often travel-stories

'Pekka often reads/read travel stories'

b) Pekka on /oli usein lukenut Faulkneria.  
NOM has/had-3SG often read PAR

'Pekka has/had often read Faulkner'

c) Pekka ei lue/lukenut koskaan matkakertomuksia.  
NOM not read-PRES/PAST never travel-stories

'Pekka never reads/read travel stories'

d) Pekka ei ole/ollut koskaan lukenut Faulkneria.  
NOM not have-PRES/PAST never read PAR

'Pekka has/had never read Faulkner'

Sentences (31a) and (b) behave superficially identically with respect to the two types of adverb. (31c) and (d), however, reveal the difference: the time adverb *koskaan* '(n)ever' follows the second verbal element, while a sentential adverb would precede this element.

The Finnish negative verb *e-* has a defective verbal paradigm: it only has a present tense form (although it has
a complete agreement paradigm). The element that follows the negative verb indicates the tense in question in the following manner:

32a) no suffix\(^{25}\) on a non-auxiliary $\rightarrow$ present tense
b) suffix $-\text{nut}$ on a non-auxiliary $\rightarrow$ past tense
c) no suffix\(^{25}\) on auxiliary $\rightarrow$ present perfect
d) suffix $-\text{nut}$ on auxiliary $\rightarrow$ past perfect

Sentences (31c) and (d) above give an example of each of these possibilities.

At least on the surface, then, a sentential adverb follows an element bearing an agreement suffix, and a time adverb follows an element bearing tense information. Let us now consider the implications of these generalizations for the structure of INFL, and its relationship to VP.

2.3.2.2.2 INFL and VP

I would first like to suggest that the negative verb $e-$ is base-generated in INFL. This suggestion is consistent with the fact that the negative verb has no forms other than the six person/number forms of verb agreement.
Similarly, the assumption that the only auxiliary element in Finnish, olla 'be', is also base-generated in INFL will get us some interesting results. Unlike the negative verb, however, this auxiliary has a full verbal paradigm. I will return to the exact structure of INFL with respect to the auxiliary verb and the negative verb.

Before looking at the adverb data presented in the previous section, we might have thought that all adverbs occurring somewhere in the vicinity of INFL were located in the VP—say, in the Spec(VP). We might still hold this view of the time adverbs, but it seems clear that we need to allow for the sentential adverbs to actually occur in INFL itself (since the auxiliary olla follows the sentential adverb in the negative sentences).

If this is correct, we have strong evidence for verbs raising to INFL. Assuming that the sentential adverbs occur in INFL (or at least no lower than INFL), anything preceding such an adverb would also have to occur in INFL (or higher). That is, the main verb in (33a) would have raised to INFL, while it has remained in the VP in (33b) (some of our earlier examples are repeated here):
33a) Maija osti varmaankin väärrää lajia.
   NOM bought surely wrong kind-PAR
   'Maija surely bought the wrong kind'

b) Maija on varmaankin ostanut väärrää lajia.
   NOM has surely bought wrong kind-PAR
   'Maija has surely bought the wrong kind'

The examples with time adverbs used by Holmberg (that we saw in Section 2.3.2.1.) show that the verb has raised somewhere from the VP, but they do not provide as clear evidence for raising to INFL as the sentential adverb examples.

In order to be able to state the generalizations concerning the distribution of the sentential adverbs and some time adverbs, I would like to suggest the following. In an affirmative sentence in Finnish INFL has just one branch, and the tense features are base-generated in INFL. In a negative sentence, INFL consists of two branches, NEG and TNS. The negative verb is base-generated in the NEG node, and the tense features are base-generated in TNS. We might say that INFL is forced to have two branches in a negative sentence due to the deficient paradigm of the negative verb. Since the tense features cannot be realized on the negative verb, a separate node is base-generated for the tense features.
It will be argued in Chapters 3 and 4 that agreement features are base-generated in the Spec(IP) position. During affix-based movement (before M-Structure; cf. Ch.1) the features move to the head of the phrase, INFL. They end up attaching to whatever is in INFL in an affirmative sentence (either an auxiliary verb or the raised main verb), and whatever is in NEG in a negative sentence (the negative verb). (34a) provides the D-Structure tree for the IP of an affirmative sentence, and (34b) of a negative sentence:

34a)                                      
  IP                                      
  \                                 /  
  Spec I'        
  /                /  \  
  [AGR] INFL VP  
  /    \        
  [tense features]

b)                                        
  IP                                      
  \                                 /  
  Spec I'        
  /                /  \  
  [AGR] INFL VP  
  /    \        
  NEG TNS        
  \        
  [neg.V] [tense features]

At M-Structure, then, the agreement features occur in INFL, attached to the first element in INFL.

Thus, the generalizations concerning adverbs in the negative sentences can be stated as follows: the sentential adverbs are adjoined to the end of NEG, while time adverbs
are adjoined to the end of TNS. In order to extend the generalizations to the affirmative sentences, we would need something like the following: sentential adverbs are adjoined to the end of the first branch of INFL (or, possibly, the head of INFL; that is, NEG in negative sentences and INFL in affirmative sentences); and, time adverbs are adjoined at the end of INFL.

In negative sentences, then, the negative verb is base-generated in NEG, where it ends up getting the agreement features from the Spec(IP). If no negative verb (and no NEG) is base-generated in INFL, then the auxiliary verb (base-generated in INFL) will end up with the agreement features. If there is neither a negative verb nor an auxiliary verb, then the (main) verb from the VP will raise to INFL, getting the agreement features.

As was the case with the Spec(IP) position, we see that the INFL position has to be filled. If it is not filled either by a negative verb or by an auxiliary verb, then something needs to raise to INFL in order to license the position at M-Structure.

In a negative sentence, the negative verb is followed by a verbal element that bears the tense information: either the auxiliary olla (if we have a compound tense) or
the matrix verb. This element is located in the TNS branch of INFL, and precedes certain time adverbs (as we saw in the previous section). Consider the following version of the tree in (34b) above:

35)    IP
     /\ 
    Spec I'
    / \ 
   [AGR] INFL VP
   / \ 
  NEG TNS
     / \ 
e- olla

The auxiliary olla is base-generated in the TNS node. If there is no auxiliary verb in the sentence (i.e. if the tense is simple present or simple past), then the main verb from VP raises to TNS. The time adverbs discussed would then follow the element in TNS, whether base-generated or raised.

Thus, in an affirmative sentence, INFL has just one branch which is licensed by one of two ways: (i) the auxiliary olla is base-generated in INFL; or, (ii) the main verb raises to INFL. In negative sentences, the NEG branch is always occupied by the negative verb (and thereby licensed). The TNS branch of a negative INFL behaves the same way as the single branch of an affirmative INFL: both need to be licensed. Again, the TNS position can be licensed either by base-generating the auxiliary verb in
this position (as in the tree in (35) above), or by having the main verb raise to it.

The tense features in INFL for an affirmative sentence consist of the following (for the four tenses):

36a) no suffix\(^{25}\) on a non-auxiliary verb $\rightarrow$ present tense
b) suffix $-i$ on a non-auxiliary verb $\rightarrow$ past tense
c) no suffix\(^{25}\) on an auxiliary verb $\rightarrow$ present perfect
d) suffix $-i$ on an auxiliary verb $\rightarrow$ past perfect

The comparable "tense chart" for the negative INFL (the TNS node) is repeated here:

32a) no suffix\(^{25}\) on a non-auxiliary $\rightarrow$ present tense
b) suffix $-nut$ on a non-auxiliary $\rightarrow$ past tense
c) no suffix\(^{25}\) on auxiliary $\rightarrow$ present perfect
d) suffix $-nut$ on auxiliary $\rightarrow$ past perfect

We see that the tense information is identical regardless of the exact position of the tense information, except for the difference in the past tense suffix.

To summarize what we have discovered about the structure of INFL: in affirmative sentences, INFL consists of one branch. This branch is either filled by the auxiliary *olla* (which is base-generated in this position) or with the raised main verb. In negative sentences, INFL
is split into two: NEG and TNS. NEG is filled by the negative verb (which is base-generated in this position). Just like INFL in affirmative sentences, TNS in negative sentences is either filled by the base-generated auxiliary, or by a raised main verb.

Sentential adverbs and certain time adverbs can be adjoined to INFL. Time adverbs are adjoined to the end of INFL, and sentential adverbs are adjoined to the first (or only) branch of INFL (possibly, to the head of INFL; the position that agreement features end up in). Since in affirmative sentences, the two locations happen to be the same, the two types of adverbs appear to occur in the same position (except for their mutual order, since the sentential adverbs prefer to precede the time adverbs). The distinction in position shows up clearly in the negative sentences.

2.3.2.2.3 INFL and VP-deletion

We are now in a position to attempt an analysis of the VP-ellipsis data (or, more accurately for the present model, V'-ellipsis), repeated below as (37):
37a) A: Pekka syö aina pinaattinsa. 
   NOM eats always spinach-3Pz
   'Pekka always eats his spinach'

   B: Niin minäkin.
   so I(NOM)-also 'So do I'

b) A: Mervi on yhtäkkiä ruvunnut näkemään näkyjä. 
   NOM has suddenly started see-INF sights
   'Mervi has suddenly started to see things'

   B: Niin (olen) minäkin. /Niin (on) Pekkakin. 
   So have I(NOM)-also/So has Pekka-also
   'So have I./So has Pekka'

c) A: Seija ei ole koskaan uskonut kummituksiin. 
   NOM not has never believed ghosts-ILL
   'Seija has never believed in ghosts'

   B: En minäkään.
   not I(NOM)-also 'Neither have I'

In the construction used by speaker B, where is the initial element located? Let us consider the possibility of this element occurring in COMP (as suggested to me by R.Higgins). If niin fills up the COMP position in (37a), we would have an explanation for why repeating the main verb is impossible:

37a') B: *Niin syön minäkin.
   so eat-1SG I(NOM)-also ('So do I')

Assuming that the subject occurs in its typical position, Spec(IP), there would be no position for the verb to occur in—-if niin occupies COMP.
Similarly, in (37c), only the negative verb can occur in COMP, not the auxiliary following the negative verb:

37c') B: ??En ole minäkään.
not-1SG have I(NOM)-also
('Neither have I')

This would follow from the general restriction on having more than one verbal element in COMP (mentioned in Section 2.3.2.1.). Independent of this construction, we need some way of blocking the combination of the negative verb and the auxiliary from occurring in COMP (I will return to this in Chapter 5).

Case (37b) is interesting. It appears that the auxiliary *olla* is optional, occurring together with *niin*. I would like to suggest the following: the syntactic positions available for this elliptical construction at S-Structure are COMP and Spec(IP). However, at D-Structure, INFL must also be present (otherwise we would not be able to base-generate the negative verb or the auxiliary). Similarly, the Spec(VP) position would have to be present at D-Structure, in order for the subject to be base-generated in it (as will be argued for in Chapter 3).

Since the auxiliary *olla* is base-generated in INFL, it will be base-generated at D-Structure in this construction. There is now a dilemma. Raising the
auxiliary to COMP will create a problem in that COMP will contain two elements. Not raising the element to COMP will involve deleting the auxiliary. Both options are problematic. In my judgement both having the auxiliary and not having it in (37b) is indeed slightly clumsy (although maybe better than expected).

Thus, the analysis of INFL developed in the previous section provides some insight into this elliptical construction. Furthermore, if the analysis just outlined is approximately correct, this construction would indeed exemplify VP-deletion (or, V’-deletion in the terms of this discussion), contra Hakulinen & Karlsson’s (1979:225) and Vilkuna’s (1989:26) assumption that Finnish has no VP-deletion.

2.3.2.2.4 INFL in different matrix sentence types

Let us now briefly consider INFL in different types of sentences. Adverb placement suggests that the structure of INFL is identical in active, impersonal passive, the missing person construction, existential sentences, and the raising construction. In the following, I give examples of these types with a sentential adverb and a time adverb (material in INFL indicated by brackets):
38) ACTIVE:

a) Pekka [on onneksi usein] käynyt Ranskassa.
   NOM has fortunately often visited INE
   'Pekka has fortunately often been to France'

b) Pekka [ei onneksi ole koskaan] käynyt Ranskassa.
   NOM not fortunately has never visited INE
   'Pekka has fortunately never been to France'

39) IMPERSONAL PASSIVE:

a) Maijalle [on varmaankin jo] annettu palkankorotus.
   ALL has surely already give-PASS raise-ACC
   'Maija has surely already been given a raise'

b) Maijalle [ei varmaankaan ole vielä] annettu...
   ALL not-JSG surely be yet give-PASS ...
   raise-PAR
   'Maija has surely not yet been given a raise'

40) MISSING PERSON CONSTRUCTION:

a) Pankista [voi kai aina] anoa lainaa.
   bank-ELA can surely always apply loan-PAR
   'One can surely always apply to a bank for a loan'

b) Pankista [ei kai voi yleensä] anoa lainaa.
   bank-ELA not surely can generally apply loan-PAR
   'One surely cannot generally apply to a bank
    for a loan'
41) EXISTENTIAL CONSTRUCTION:

a) Kalliolta [putosi varmaan yhtäkkiä] kivia. 
   rock-ABL dropped probably suddenly rocks-PAR
   'Probably there suddenly fell rocks from the
    mountain'

b) Kalliolta [ei varmaan pudonnut koskaan] kivia. 
   rock-ABL not probably dropped never rocks-PAR
   'Probably there never fell rocks from the mountain'

42) RAISING CONSTRUCTION:

a) Jukalla [näyttää kai aina] olevan rahaa. 
   ADE seems surely always have-INF money
   'Surely Jukka always seems to have money'

b) Jukalla [ei kai näytä milloinkaan] olevan rahaa. 
   ADE not surely seem never have money
   'Surely Jukka never seems to have money'

As expected, INFL in all of these sentences behaves the same way. A sentential adverb may follow the (first) element in INFL, and a time adverb may follow the (last) element in INFL. Since the negative (b) sentences have two elements in INFL, the sentential adverb follows the first one, and the time adverb follows the second one.

The data on INFL in the different sentence types is consistent with the assumption that the Spec(IP) position and the INFL position are licensed (filled) at M-Structure not just in active sentences with nominative subjects, but also in the other sentences with non-nominative "subjects".
Having studied the Spec(IP) and INFL positions (i.e. the "IP layer" of our tree), let us now take a closer look at COMP, and introduce the Spec(CP) node.

2.3.3 Two types of complementizers

The complementizers in Finnish seem to fall into two categories, each characterized by a number of syntactic phenomena. I will call them the 'etta'-type and the 'jos'-type. The only clear example of the 'etta'-type is the complementizer *etta* 'that' (*mutta* 'but' may also be one). The clear members of the 'jos'-class are *jos* 'if' and *kun* 'when; because' (possibly also *vaikka* 'although'). I will not attempt to classify the other complementizers, but will only deal with the clear cases here.

In general, the basic word order in subordinate clauses in Finnish is identical to that of matrix clauses. There are interesting subtle differences in the range of possible word orders between matrix and subordinate clauses.

I would like to argue the following for the two classes of complementizers in Finnish: a complementizer of the 'jos'-class is base-generated (and remains) in the COMP position, but a complementizer of the 'etta'-class is base-
generated (and remains) in the Spec(CP) position. Let me now provide some evidence.

If a complementizer of the 'että'-class occurs in the Spec(CP) position, we would expect WH-movement and Topicalization to be possible, which is what we find (cf. Ch.1, fn.10 on the Head Movement Constraint):

43a) Jukka halusi tietää, (että) kuinka me olimme...
   NOM wanted know-INF that how we had
   ...korjanneet pyörän.
   fixed bike-ACC
   'Jukka wanted to know how we had fixed the bike'

b) Maija kysyi, (että) mitä Pekka oli syönyt.
   NOM asked that what NOM had eaten
   'Maija asked what Pekka had eaten'

c) Leena kysyi, että Jukkako hattunsä oli hukkanut.
   NOM asked that NOM-Q hat-ACC-3Px had lost
   'Leena asked whether it was Jukka that had lost his hat'

As indicated by the parentheses in (43a) and (b), having the complementizer with an indirect question is optional. However, since the WH-phrase presumably occurs in COMP (as it does in matrix questions), we are forced to analyze the complementizer as occurring in the Spec(CP) position.

In (43c), the subject NP has been raised to COMP since it is being questioned. The NP Jukkako occurs in
COMP, since it bears a sentential clitic (the question clitic -ko), and since it is followed by material in the Spec(IP) position (the object—we will return to this in the next section). Why the complementizer seems to be obligatory in (43c) is unclear.

In contrast with the 'että'-type, the 'jos'-type does not allow WH-phrases following it. This can be accounted for by analyzing the 'jos'-type as occurring in COMP, thereby blocking movement of anything else to COMP.

The complementizer että can also precede one of the 'jos'-type complementizers, while the reverse seems impossible:

44a) Pekka sanoi, että jos tulemme ajoissa,
NOM said that if come-1PL time-INE

...voimme saunoa.
can-1PL sauna-INF

'Pekka said that if we come on time, we can go to the sauna'

b) ...*jos että...
if that

Again, this pattern follows if että occurs in Spec(CP) and jos occurs in COMP.

There is an interesting (although rare) word order possibility available for the 'jos'-type that is not
possible with the 'että'-type:

45a) Jukka jos saisi autonsa kuntoon,
    NOM if get-COND car-ACC shape-ILL
    ...voisimme lähteä.
    can-COND-1PL leave-INF
    'If (only) Jukka could get his car in shape,
     we could leave'

b) Liisa väsyi katselemaan, me kun emme...
   NOM tire-3SG watch-INF we because not-1PL
   ...oleet erityisen huvittavia.
   were especially funny
   'Liisa got tired of watching, since we were not
    very funny'

c) Maijalle kun antaa lahjan, ei saa...
   ALL when give-3SG gift-ACC not-3SG get
   ...kiitoksen sanaa vastineeksi.
   thank-GEN word-PAR reply-TRA
   'When (one) gives a gift to Maija, (one) does not...
    ...receive (even) a word of thanks in reply'

If each of these examples, the element that would typically occur in the Spec(IP) position precedes the complementizer. In (45a), this is a regular nominative subject, while in (45c) we have an argument of the verb of the missing person construction. (45b) shows that this word order is not limited to the utterance-initial position.

We might analyze this construction as some sort of topicalization (the fronted elements do tend to be stressed in this construction). However, these elements seem not to
allow sentential clitics, which is unexpected if they actually occur in the COMP position.

I would like to suggest that in this construction an NP is indeed topicalized, but since the COMP position is occupied, the NP raises to the Spec(CP) position. This allows us to maintain the generalization that the sentential clitics occur on elements in COMP, but not in Spec(CP). It also explains why this construction is not possible with the 'etta'-type complementizers, assuming that the fronted elements occupy the Spec(CP) position in this construction.

Finally, the 'jos'-type complementizers allow sentential clitics, while the 'että'-type do not:

46a) Voimme lähteä, kunhan Jukka tulee kotiin.  
can-1PL leave when-CLIT NOM comes home  
'We can leave when/as soon as Jukka gets home'

b) Jospa sataisi!  
If-CLIT rain-3SG-COND  
'If only it would rain!'

47) *ettähän/ *ettäpä/ *ettäkö  
that-CLIT that-CLIT that-Q

Again, if the 'jos'-type complementizers occur in COMP, we expect them to occur with sentential clitics, which is what
we find in (46). On the other hand, sentential clitics seem not to be possible with the 'että'-type. Table 2.2 summarizes the two types of complementizers.

TABLE 2.2. Characteristics of the two complementizer types

<table>
<thead>
<tr>
<th>characteristic feature:</th>
<th>'että'-type</th>
<th>'jos'-type</th>
</tr>
</thead>
<tbody>
<tr>
<td>precedes WH-phrases</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>can be preceded by</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>&quot;topicalized&quot; NP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>precedes other</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>complementizers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>takes sentential</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>clitics</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The distribution of the characteristics in Table 2.2 can be accounted for, if the 'että'-type occupies the Spec(CP) position, and the 'jos'-type occupies the COMP position.

Do the two positions in CP need to be licensed? In the case of the 'jos'-type complementizers, the complementizer occupies and licenses the COMP position. The Spec(CP) position presumably only exists if it is licensed by a "topicalized" NP exemplified in (45) above, moving into the Spec(CP) position during phrase-based movement (before S-Structure).
With the 'että'-type complements, the situation is not so straightforward. I have argued that the 'että'-type complementizers occur in the Spec(CP) position. When the Spec(CP) position is filled by a complementizer, we have an available COMP position. We have seen that the COMP position can be filled by e.g. a WH-phrase; but must the position be filled? The COMP position clearly does not have to filled, since we have common sentences of the following type:

48) Leena väitti, että Pekka oli syönyt suklaan.  
   NOM claimed that NOM had eaten chocolate-ACC
   'Leena claimed that Pekka had eaten the chocolate'

In (48) the Spec(CP) position is filled by 'että', and the Spec(CP) position by 'Pekka'; the COMP position seems to be empty.

On the other hand, we will see in the next section that filling the COMP position is typical with certain WH-phrases, where it can be argued that the WH-phrase occupies the Spec(CP) position.

2.4 Primary and secondary movement

We saw in Section 2.3.1.3 that the Spec(IP) position had to be filled with either (i) an overt nominative
subject, (ii) an abstract (nominative) subject (in the 1st and 2nd person), or, if there was no nominative subject or if the nominative subject was "displaced", (iii) by a complement of the verb, such as a direct object, indirect object, or locative phrase. We will now look in more detail at how a subject can be moved from Spec(IP), and what the consequences of this movement are.

2.4.1 Moving a subject

2.4.1.1 Moving a matrix subject

Consider the following example:

49a) Kuka on hukannut silmälasinsa?
    who-NOM has lost glasses-3PSTx

    'Who has lost his/her glasses?'

b) [Kuka] [silmälasinsa] on hukannut?

If the WH-phrase kuka 'who' were to stay in the Spec(IP) position in (49) only the word order in (a) should be possible (the basic word order). However, the word order in (49b) is also possible, and very natural. (49b) can be accounted for by saying that the WH-phrase has moved to COMP, and the object NP is occupying the Spec(IP) position. This is what I would like to propose.
In order to avoid violating Trace Theory, we might assume that the subject WH-phrase has moved directly from the Spec(VP) position to the COMP position. This way, there would be no trace left behind in the Spec(IP) position, and the object could move into that position. It seems, however, that there are other cases where we cannot avoid violating the standard trace theory; we will return to this.

We find the fronted object in the Spec(IP) position also with constructions that do not have a nominative subject:

50a) Missä voi lukea sanomalehtiä?
   where can-3SG read-INF newspapers-FAR
   'Where can one read newspapers?'

In (50), we have an example of the Missing Person construction. Recall that the Spec(IP) position had to be filled by a complement of the verb, or by a locative phrase, since there is no nominative subject. In (50b), we see that the WH-phrase corresponding to a locative phrase can occur in COMP, and the direct object occurs in the Spec(IP) position.

The following sentences provide evidence for the fronted object occurring in the Spec(IP) position:
51a) Missä voimme lukea sanomalehtiä?
where can-1PL read-INF newspapers
'Where can we read newspapers?'

b)*Missä sanomalehtiä voimme lukea?

52a) Missä Jukka voi lukea sanomalehtiä?
where NOM can-3SG read-INF newspapers-PAR
'Where can Jukka read newspapers?'

b)*Missä sanomalehtiä Jukka voi lukea?

In (51), we have a construction with a regular, agreeing verb and with a null subject (1st person singular verb). The interpretation of (50a) and (51a) is very similar. However, in (51b), unlike in (50b), the object cannot precede the verb, with a locative WH-phrase. We can still assume that the WH-phrase is in COMP. The ungrammaticality of (51b) can be accounted for using the analysis of pro-drop sentences outlined in Section 2.2. The Spec(IP) position is filled by the abstract binder of the agreement suffix, and the occurrence of any other element in the Spec(IP) is blocked.

Similarly, in (52), the overt nominative subject prevents the object from occurring in the Spec(IP) position, as shown by the ungrammaticality of (52b).

Now consider a further example where fronting the object to the Spec(IP) position seems not to be possible:
53a) Kuka haluaa jäätelöä?
    who-NOM wants icecream-PAR

'Who wants icecream?'

b) ??[Kuka] [jäätelöä] haluaa?

We can account for this example by supposing that the WH-phrase stays in Spec(IP), thus preventing any other NP from moving into that position. But why should the subject WH-phrase move to COMP in (49), but not here?

There is a difference in presupposition between the two examples. Example (49b) with a fronted object is uttered in a situation where the speaker presupposes that someone has lost his/her glasses, i.e. when the speaker finds an unfamiliar pair of glasses. Similarly, (50b) is a natural question in a situation where the speaker knows that there is a place where he can read newspapers, but he's forgotten what that place is.

On the other hand, example (53b) without a fronted object is naturally uttered in a situation where the speaker does not presuppose that anyone necessarily wants icecream; (53a) is equivalent to the question 'Would anyone like icecream?', while the object fronted (49b) does not have such a yes/no counterpart (‡'Has anyone lost his/her glasses?').

94
We can modify the icecream situation in (53) in such a way that object fronting becomes possible. If the speaker knows that someone wants icecream, but he has forgotten who that person was, he can ask the following question:

53b’) Kuka [jäätelö] halusikaan?
who-NOM icecream-PAR wanted-also

'Who was it that wanted icecream?'

Here it is presupposed that someone wants icecream, and having the object precede the verb is perfect.

There is a correspondence, then, between "presupposition" (cf. fn. 27) with respect to the WH-subject, and the occurrence of object fronting (or, more precisely, "complement fronting"). It appears that moving a complement to a preverbal position is possible only if the subject is "presupposed". In the current system, this means that the WH-subject occurs in COMP (i.e. we have vacuous WH-movement) when it is "presupposed", and the WH-subject stays in the Spec(IP) when it is not "presupposed".

When the WH-subject stays in the Spec(IP) position (or when any other subject occupies the Spec(IP) position), no complement fronting can occur. When the WH-subject occurs in COMP, a complement of the V can move to Spec(IP) to fill that position (via secondary movement). Since the
Spec(IP) position has already been licensed at M-Structure by having the nominative subject raise to the Spec(IP), it does not have to be licensed again. However, there is a tendency to have the position be filled at S-Structure (as discussed in Chapter 1), and this gives rise to secondary movement. Consider another example of the "presupposed" type:

54a) Kuka syötti eilen kissalle koiranruokaa?  
    who-NOM fed yesterday cat-ALL dogfood-FAR  
    'Who fed the cat dogfood yesterday?'

b) Kuka [eilen] syötti [] kissalle koiranruokaa?  
c) Kuka [kissalle] syötti eilen [] koiranruokaa?  
d) Kuka [koiranruokaa] syötti eilen kissalle []?  
    'Who was it that fed the cat dogfood yesterday?'

(54a) provides the basic word order for this question; (54b)-(d) illustrate how different complements can fill the Spec(IP) position (including an adverb in (54b)). (54b)-(d) are fine without any special intonation on the fronted element, in which case all three of them have the same interpretation. If the fronted element is stressed, we get a focus reading for that element (e.g. for (54b), 'Who was it that yesterday fed the cat dogfood?').

So far we have only seen complement fronting into the Spec(IP) position, when the nominative subject (or another element from the Spec(IP) position) occurs in the sentence-
initial COMP position. The same phenomena can be found with embedded subjects of infinitives.

2.4.1.2 Moving a subject of a non-finite verb

Consider the following example of an infinitival with the basic word order:

55a) Jukka väitti Pekan rikkoneen minun tietokoneeni. 
   NOM claimed GEN break-INF my computer-1SGP
   'Jukka claimed Pekka broke my computer'

b)??Jukka väitti Pekan [minun tietokoneeni] 
   rikkoneen.

c) *Jukka väitti [minun tietokoneeni] Pekan 
   rikkoneen.

As shown in (55a), the embedded non-finite construction has a genitive subject followed by the infinitival verb, which is followed by the object (cf. Chapter 5 on a more detailed discussion of this non-finite construction). (55b) and (c) show that having both the subject and the object precede the verb is not very good.

However, if the subject is an extracted WH-phrase, having the object precede the verb is perfectly fine:
56a) Kenen Jukka väätti rikkoneen minun tietokoneeni?
who-GEN NOM claimed break-INF my computer-1SGPx

'Who did Jukka claim broke my computer?'

b) Kenen Jukka väätti minun tietokoneeni rikkoneen?

I will argue in Chapter 5 that the genitive subjects of infinitival verbs occur in the Spec(VP) position of those verbs. In (56b), then, the genitive subject of the embedded verb has been extracted. This makes it possible for the embedded object to raise to the vacated Spec(VP) position, which was impossible when the subject had not been extracted, in (55b) and (c) above. Note that in this example we really have a problem with the trace of the moved subject, since the object is moving into the position that the subject was base-generated in. I will return to this shortly.

Examples such as (56) suggest that a movement-based explanation of object fronting with matrix WH-subjects is on the right track. Unlike with the matrix clause example (49) above, where movement was vacuous, the moved element is physically separated from its clause here in (56), and secondary movement behaves the same way in both instances.

The following example suggests that the fronted complement occurs within its own clause, since it is impossible to have an adverb modifying the matrix clause.
following the fronted complement:

57a) Kenen Jukka uskoi-i vakaasti-i  
who-GEN NOM believed-i certainly

...[minun tietokoneeni] varastaneen?
my computer-1SGPx steal-INF

'Who does Jukka certainly-i believe-i
to have stolen the computer?'

b) *Kenen Jukka uskoi-i [minun tietokoneeni]  
...vakaasti-i varastaneen?

With the reading where the adverbial phrase vakaasti
'certainly' modifies the matrix verb 'believe' (as indicated by the indices), sentence (57b) is not grammatical. If it were grammatical, we would have to assume that the fronted element has moved to the matrix clause. This data is compatible with the analysis according to which the embedded object raises to the Spec(VP) position of its verb, once the embedded subject has moved out of that position.

As we have seen, both nominative subjects and genitive subjects of non-finite verbs seem to block complement-fronting. Only when the subject has moved out of its position, does it seem to be possible for another NP to occur in that position. Let us now turn to the ramifications of this generalization to Trace Theory.
2.4.2 Revising Trace Theory: Pointer Theory

The non-finite examples seem to violate Trace Theory, unless we assume that the fronted complement does not move to Spec(VP)—where the genitive subject would have left a trace—but to some other position. Otherwise, the trace of the subject should prevent a complement from fronting, just as effectively as an overt lexical NP (or the abstract null subject) does. If we say that there are two preverbal positions, one being the Spec(VP) in which the trace of the moved WH-subject occurs, and one which houses the fronted complement, we would need an explanation for why complement fronting (to some other position) is only possible if the Spec(VP) position contains a trace (rather than a lexical NP).

Consider a further example of the trace problem:

58a) Kuka väitti Jukan syöneen meidän suklaamme?
who-NOM claimed GEN eat-INF our chocolate-1PLP2

'Who claimed (that) Jukka ate our chocolate?'

b) ?Kuka [Jukan] väitti [] syöneen meidän suklaamme?

Kuka [Jukan] väitti [meidän suklaamme]
syöneen []?

c) Kuka [Jukan] väitti [meidän suklaamme]
syöneen []?

d) *Kuka [meidän suklaamme] väitti Jukan syöneen []?

(58a) gives the basic word order for this sentence. If we WH-move the matrix subject, we expect something to

100
(optionally) occur in the higher Spec(IP). Something can indeed occur there: the subject of the non-finite verb, as shown in (58b), although this example is slightly clumsy. The sentence becomes perfectly fine if the complement of the lower verb is also fronted, as in (58c). (58d) shows that these movements are subject to some locality constraints, since fronting the complement of the lower verb to the front of the matrix verb is not possible.29

The existence of traces guarantees that the subcategorization requirements of a verb are satisfied at S-Structure, since any moved phrase is represented as a trace in the original position. The Projection Principle requires that the subcategorization requirements of each verb are met at each syntactic level (cf. e.g. Chomsky (1981:29-30)).

The problematic data discussed has to do with the fact that a trace in a syntactic position blocks movement into that syntactic position, according to the current views on Trace Theory (cf. Freidin (1978)). However, earlier versions of Trace Theory allowed movement into a position with a trace: the object NP in passive moved into the subject position, from which the subject had been "lowered" to a by-phrase, leaving a trace into the subject position (e.g. Chomsky (1977:82)).
We might be able to restrict the problematic data to a certain point in the derivation. In addition to a problem with traces, sentences such as (58c) show that we are confronting a phenomenon that does not respect strict cyclicity; e.g. in (58c) the subject of the embedded verb precedes the matrix verb. We might be able to treat what I have been calling "secondary movement" as an instance of a late movement operation such as "stylistic movement" or "scrambling". Thus, secondary movement can be thought of as a "postcyclic" process that is oblivious to cyclicity (cf. discussion in Chapter 1). This operation might take place between S-Structure (or "Shallow Structure", the result of WH-movement) and a later level of representation, the "surface structure", or the "surface string".

Even assuming that secondary movement is a late process, it seems desirable to maintain a view according to which this process pays attention to traces in some form. I would like to propose an alternative characterization of what traces are, which enables me to maintain the Projection Principle, while letting elements move into syntactic positions vacated by other elements.

We can think of the relationship between a moved NP and its coindexed trace as follows: if we are looking at the moved NP, its index will tell us which syntactic position the NP moved out of (and through, in the case of
cyclic movement). If we are looking at the trace, its index will tell us where the element that moved out of it is now located. Using a programming analogue of pointers, the index on the trace points to the moved NP, and the index on the moved NP points to the trace. That is, we have a bi-directional pointer. If an element is moved into a position that contains a coindexed trace, the coindexation relationship of that trace is disturbed.

It seems to me that for the purposes of the Projection Principle a uni-directional pointer will suffice, namely one that points from the moved element to the trace. The syntactic position perhaps does not need to know which element used to occupy it, but in order to interpret a sentence we need to know where an element used to be. If the "trace" consisted of a uni-directional pointer, an element would be able to move into a position with such a "trace".

The relationship between a syntactic position and a moved element can be then represented as an "index" on the moved NP that refers to its original position (or, as a set of references to positions in the case of intermediate "traces"). This is reminiscent of Chomsky's earlier view: "the moved phrase and the original position have the same index" (1977:84).
From now on, then, I will assume the "Pointer Theory", which involves the possibility of moving elements into existing syntactic positions that have been vacated by other elements at an earlier stage in the derivation. Note that this analysis of secondary movement in Finnish supports a strong form of structure preservation (Emonds (1970)), since the process does not involve adjunction. Rather, positions that have been base-generated at D-Structure are being "used" as landing sites at various points in the derivation.

In the next two sections, we will look at a number of examples of secondary movement, including many moved non-subjects.

2.4.3 Secondary movement into non-subject positions

So far we have basically only seen secondary movement into subject positions--into Spec(IP) in tensed clauses, and into Spec(VP) in infinitival clauses. It is difficult to test whether secondary movement (i.e. complement fronting) occurs into positions other than the two subject positions, since it is not obvious what the basic order of the complements of a verb is (i.e. whether an indirect object precedes or follows a direct object, etc.). There is one type of case where we can test a non-subject
position: extracting a non-subject out of a matrix clause, and seeing whether complements of an embedded infinitival can move into the vacated position. We need a verb which takes an NP complement and an embedded infinitival. Consider the following example:

59a) Jukka kertoi Pekalle Maijan myyneen asuntonsa.
   NOM told ALL GEN sell-INF apartment-3Px
   'Jukka told Pekka (that) Maija had sold her apartment'

b)?*Jukka kertoi Pekalle Maijan asuntonsa myyneen.

Here we have an example with the verb 'tell', which allows an indirect object and an infinitival complement. (59a) gives the basic order. (59b) shows, as we have seen before, that fronting the object of the infinitival (here asuntonsa) into the Spec(VP) position is not possible, when the Spec(VP) position is occupied by the subject of the infinitival, Maijan.

Now consider what happens when the matrix indirect object is WH-moved:

60a) Kenelle Jukka kertoi [ ] Maijan myyneen asuntonsa?
   who-ALL NOM told GEN sell-INF apartment-3Px
   'Who did Jukka tell (that) Maija had sold her apartment?'

b)*Kenelle Jukka kertoi [asuntonsa] Maijan myyneen?

c)?Kenelle Jukka kertoi [Maijan] [asuntonsa] myyneen?
At first glance, (60b) suggests that secondary movement into the vacated matrix indirect object position is impossible, since (60b) is ungrammatical. However, (60c) suggests that (60b) is ruled out by some sort of a constraint on moving over a subject; I will return to locality constraints on secondary movement.

(60c) here is definitely better than (59b) above. The constrast is not expected, unless the WH-movement of the matrix indirect object makes available a position into which another element can move. (60c) can be analyzed as follows: the subject of the embedded infinitival, Maijan, moves to the matrix indirect object position; the object of the embedded infinitival moves to the vacated Spec(VP) position. The fact that (60c) is slightly odd might be due to the infinitival subject moving to a non-c-commanding\textsuperscript{30} position.

The data is somewhat clearer when we have an infinitival form without an overt genitive subject (to be discussed in detail in Chapter 5):

61a) Jukka kertoi Pekalle myyneensä asuntonsa.
NOM told ALL sold-INF-3Px apartment-3Px
‘Jukka told Pekka (that) he had sold
his apartment’

b)?*Jukka kertoi Pekalle [asuntonsa] myyneensä.
In (61a), the subject of the infinitival is expressed as the 3rd person Px -nssa suffixed on the infinitival verb. Recall that we have a theory of Px's according to which they are anaphors, subject to BT(a). As expected, the Px both on the infinitival verb and on the object of the infinitive (61a) have to be bound by Jukka; Pekalle cannot bind either of the two instances of -nssa here, which suggests that the indirect object does not c-command the suffix (cf. fn.30).

I will be suggesting in Chapter 5 that the infinitival form in (61a) has a Spec(VP) position, in which the abstract binder of the Px is located. However, it is not crucial here whether the infinitival verb has a Spec(VP) position in (61a); if there is a position, it is filled by the abstract binder, and thus not available for secondary movement; if there is no position, then secondary movement cannot take place either.

(61b) shows that fronting the object of the embedded infinitival is not possible in this example without primary movement. Consider the following example with a WH-moved matrix indirect object:

62a) Kenelle Jukka kertoi [] myyneensä asuntonsa? who-ALL NOM told sell-INF-3Px apartment-3Px

'Who did Jukka tell that he had sold his apartment?'

b) Kenelle Jukka kertoi [asuntonsa] myyneensä?
Again, complement fronting is better here in (62b) than in
the example without WH-movement above in (61b). That is,
primary movement is again feeding secondary movement—and a
non-subject position can act as a landing site for
secondary movement, although not quite as easily as a c-
commanding subject position can.

Above I alluded to possible locality constraints on
study of what she calls "splitting of verb chains",
discusses a number of examples of secondary movement,
including examples with more than one layer of embedding.
She states the following two generalizations
(1989:236;80/81):

63) Crossing dependencies are preferred in the V-
field [=INFL and VP] for old material.

64) Except for K [=COMP], prefer a nominal order
which reflects the order of the verbs.

Vilkuna shows that the relationship between an
infinitival verb and its arguments is similar to that in
Dutch, in that crossing dependencies (i.e. NP1 NP2 NP3 V1
V2 V3) are preferred to intersecting dependencies (i.e. NP1
NP2 NP3 V3 V2 V1), as stated in (63) and (64).

Recall the example which suggested that some type of
locality constraints are imposed on secondary movement,

108
repeated here:

65)*Kenelle Jukka kertoi [asuntonsa] Maijan myyneen?
   who-ALL NOM told apartment-3Px GEN sell-INF
   ('Who did Jukka tell (that) Maija had sold his
    apartment?')

As we saw, it appears that the presence of the infinitival
subject Maijan prevents the infinitival object from moving
into the vacated matrix indirect object position. We can
show, however, that this blocking effect is not unique to
subjects:

66a) Kuka kertoi Pekalle Maijan myyneen asuntonsa?
   who-NOM told ALL GEN sell-INF apartment-3Px
   'Who told Pekka (that) Maija had sold
    her apartment?'

66b)*Kuka [Maijan] kertoi Pekalle [] myyneen
   [ ] asuntonsa?

c) Kuka [Pekalle] kertoi Maijan myyneen asuntonsa?

When the WH-subject is presupposed, we expect to move an
element into the Spec(IP) position (since the subject is in
COMP). This is fine in this example, as shown in (66c),
where the indirect object occurs in the Spec(IP) position.
However, attempting to move the infinitival subject into
the matrix Spec(IP) is impossible, as shown in (66b) (where
Pekalle is interpreted as the matrix indirect object; the
sentence is fine, as expected, if Pekalle is the indirect
object of the embedded clause).
Now consider the same example, but without the matrix indirect object:

67a) Kuka kertoiväitti Maijan myyneen asuntonsa?
    who-NOM told/claimed GEN sell-INF apartment-3Px
    'Who told/claimed (that) Maija had sold her apartment?'

b) Kuka [Maijan] kertoiväitti [] myyneen asuntonsa?

Sentence (66b) above and (67b) here are identical, except that (66b) contains a matrix indirect object (and except for the addition of the verb 'claim'; 'tell' without an indirect object is slightly odd). (66b) is ungrammatical, while (67b) is good (with the "presupposed" reading of the WH-subject).

Thus, the constraint on secondary movement seems to have to do with NPs in general, not just subjects. The generalization seems to be the following: the process of secondary movement cannot move an NP over another NP. Recall Vilkuna's generalizations, repeated here:

63) Crossing dependencies are preferred in the V-field [=INFL and VP] for old material.

64) Except for K [=COMP], prefer a nominal order which reflects the order of the verbs.

These generalizations follow from the generalization that NPs cannot move over NPs. If the verbs do not move, and if the NPs do not cross over each other, then the order of the
NPs will reflect the order of the verbs (i.e. (64)); the exception clause for "K" involves topicalization.
Similarly, if the verbs do not move, and the NPs move far enough from the verbs but do not cross over each other, the result involves crossing dependencies.

Furthermore, Vilkuna's generalizations do not capture all of the data, since they only refer to order of NPs relative to verbs. The ungrammaticality of examples such as (65) above is not explained, where an NP has crossed over another NP, but both NPs are arguments of the same verb. However, the simple constraint of not moving over another NP captures both these type of examples and Vilkuna's generalizations.

The constraint of not moving over NPs (during secondary movement) provides some insight into the mechanisms involved in secondary movement, assuming the following tentative idea. We can build the constraint into this process by saying that secondary movement operates from left to right. That is, going from left to right (after WH-movement and other instances of primary movement), the first NP encountered is moved to the first empty syntactic position (to the left of the NP), the second NP to the second position etc. Running the process in this fashion, the constraint would follow, since to cross over an NP we would have had to skip that NP.
In the next section we will take a brief look at the behavior of different WH-words. It appears that we can use secondary movement to determine whether a WH-phrase has moved into COMP or to the Spec(CP).

2.4.4 The landing site(s) of WH-phrase

If a WH-object is moved, there is no change in the word order of the sentence:

68a) Mitä Jukka antoi Pekalle?
    what-PAR NOM gave ALL
    'What did Jukka give to Pekka?'

b) Mitä Jukka uskoi Pekan antaneen Lasselle?
   what-PAR NOM believed GEN give-INF ALL
   'What did Jukka believe (that) Pekka gave Lasse?'

If we continue to assume that WH-phrases move to COMP, we do not expect any change in word order; the object mitä occupies the matrix COMP, and the (matrix) subject Jukka occupies the Spec(IP) position.

Similarly, as expected, moving an indirect object WH-phrase to COMP (from the embedded clause) does not affect the word order:

112
69a) Kenelle Jukka antoi syntymäpäivälahjan?
   who-ALL NOM gave birthday-present-ACC
   'Who did Jukka give a birthday present?'

b) Kenelle Jukka váitchi Pekan antaneen
   who-ALL NOM claimed GEN give-INF
   ...syntymäpäivälahjan?
   birthday-present-ACC
   'Who did Jukka claim (that) Pekka gave
   a birthday present (to)?'

Again, the indirect object kenelle (extracted from the
lower clause in (69b)) occupies COMP, and there is no
change in word order, since the Spec(IP) remains occupied
by the NOM subject.

The adjunct-type WH-phrases missä (in different
locative case forms) 'where', miten (and variant kuinka)
'how' and milloin (and variant koska) 'when' also behave as
expected, apparently occupying the COMP position:

70a) Missä Jukka säilyttää ruokailuväliteitänsä?
    where-INE NOM stores utensils-ACC
    'Where does Jukka keep his utensils?'

b) Mistä Liisa váitchi Seijan ostaneen sen puseron?
    where-ELA NOM claimed GEN buy-INF that blouse
    'Where (lit. 'from where') did Liisa claim (that)
    Seija bought that blouse?'

113
71a) Miten Veijo saa lattiansa näin puhtaaksi?
   how   NOM   gets   floor-3Px   so   clean-TRA
   'How does Veijo get his floor so clean?'

   b) Kuinka Maija sanoi Seijan korjanneen autonsa?
       how   NOM   said   GEN   fix-INF   car-3Px
       'How did Maija say (that) Seija fixed her car?'

72a) Koska Jukka on ostanut tätän sohvan?
       when   NOM   has   bought   this   sofa
       'When has Jukka bought this couch?'

   b) Milloin Pekka uskoi Maijan ottaneen kuvan?
       when   NOM   believed   GEN   take-INF   picture-ACC
       'When did Pekka believe (that) Maija took a picture?'

If we assume that all of these WH-phrases occur in COMP, we
do not expect any effect on word order in any of the (a)
examples, since the vacated position is either not followed
by other NPs, or we cannot tell if any secondary movement
is taking place. In the (b) sentences, similarly no change
is expected if the WH-phrase is extracted out of the
embedded clause. As we have already seen, we do get an
effect on word order if a WH-phrase is extracted out of the
matrix clause, since elements from the embedded clause can
raise to the vacated position in the matrix clause.

As with the WH-subjects, if the WH-phrase is of a
special kind (such as a request for specific, forgotten
information), we do seem to get an effect on the word
order, especially if the WH-phrase is stressed (moved elements in brackets):

73a) [Mitä][Jukka] [Pekan] uskoi [Lasselle] antaneen?

what-PAR NOM GEN believed ALL give-INF

'What was it that Jukka believed (that) Pekka had given to Lasse?'

b) [Kenelle] [Jukka] [Pekan] väitti

who-ALL NOM GEN claimed

...syntymäpäivälahjan antaneen?
birthday-present-ACC give-INF

'Who was it that Jukka claimed (that) Pekka had given a birthday present to?'

c) [Mistä][Liisa][Seijan] väitti [puseron] ostaneen?

where-ELA NOM GEN claimed blouse-ACC buy-INF

'Where was it that Liisa claimed (that) Seija had bought a blouse?'

In all of these examples (and corresponding ones for the WH-phrases milloin/koska 'when' and miten/kuinka 'how'), all of the NPs have basically moved one position to the left. This suggests that a position has somehow been made available in the beginning of the sentence.

Recall that in Section 2.3.3. it was argued that Finnish has a Spec(CP) position in which the 'että'-type ('that') complementizers occur. I would like to suggest that in the examples in (73), the WH-phrase actually occurs in the Spec(CP) position.
To draw a parallel with the subject-WH cases (while maintaining a difference), we might say that the "unmarked" position of a non-subject WH-phrase is the COMP position, but the WH-phrase can be raised to Spec(CP) for the special, "presupposed" reading. With the subject WH-phrases, the "unmarked" position is the Spec(IP) position, and they are raised to COMP for the special reading.

When the WH-phrases raise to Spec(CP) from COMP, they vacate the COMP position, which then tends to be filled with another element, due to secondary movement. This sets off a "domino effect" in the rest of the sentence, resulting in the word orders found in (73).

The WH-phrase miksi 'why' behaves slightly differently from the others discussed so far. It seems to prefer the Spec(CP) position, even without being stressed (although the basic word order is also possible):

74a) Miksi Liisa kirjansa on hukannut?
why NOM book-3Px has lost

'Why has Liisa lost her book?'

b) Miksi Pekka Maijan uskoi hänensä päiväkirjansa
why NOM GEN believed his diary-3Px

...lukeneen?
read-INF

'Why did Pekka think (that) Maija read his diary?'

116
Interestingly, we can also get something like a 'why'-reading in 'how'-questions with a fronted complement:

75a) Miten Jukka hukkasi hattunsa?
    how NOM lost hat-3Px

    'How (=in what manner) did Jukka lose his hat?'

b) Miten Jukka hattunsa hukkasi?
    how NOM hat-3Px lost

    'How is it that (=why) Jukka lost his hat?'

When the WH-word miten is not stressed, and complement fronting occurs, as in (75b), the reading we get is similar in meaning to 'why' (cf. also the English gloss)\(^{31}\). If miten is stressed, and the word order is the basic one, we get the "regular" interpretation of 'how': 'In what manner was it that Jukka lost his hat?'

To account for the word order facts, both miksi 'why' and the odd reading of miten 'how' would have to be located in Spec(CP). This would give rise to secondary movement, whereby the subject would move from the Spec(IP) to COMP, and the object would move to the Spec(IP), as in (75b).

A WH-phrase then occurs in the Spec(CP) if it occurs in a "presupposed" question. This is a marked position for WH-phrases other than 'why', for which it may be the unmarked position.
2.5 Summary

In this chapter we have seen arguments for the existence of the following fixed positions in Finnish: Spec(CP), COMP, Spec(IP), and INFL.

The INFL position in affirmative sentences consists of just one branch. The auxiliary verb olla is base-generated in INFL (in which case the main verb remains in the VP). If no auxiliary verb is base-generated, then the main verb raises to INFL. In either case INFL ends up being licensed (filled) by M-Structure.

In negative sentences INFL has two branches, NEG and TNS. The negative verb is base-generated in NEG. The TNS node behaves the same way as the single node of INFL in affirmative sentences (i.e. it ends up containing either the auxiliary verb or the main verb).

The Spec(IP) position is also licensed by M-Structure. If the sentence contains a nominative subject, this NP raises from the Spec(VP) position to the Spec(IP) position—unless we have the construction discussed in Section 2.3.1.1. with the "late" subject in the Spec(VP) position. If the sentence contains no nominative subject (or if the nominative subject remains in the Spec(VP) position), one of the complements of the verb raises to the
Spec(IP) position (or one of the complements of a complement of the verb, as with raising verbs). Especially in the existential sentences, a locative phrase is the unmarked complement in the Spec(IP) position (possibly also in the impersonal passive construction and in the missing person construction). A direct object or an indirect object may also raise to the Spec(IP) position (instead of a locative phrase).

The COMP position is licensed by S-Structure. Either a complementizer of the 'jos'-class ('if') is base-generated in COMP, or a WH-phrase or a topicalized phrase moves to COMP during phrase-based movement. If the COMP position is base-generated but not licensed, the result of the derivation is an ill-formed tree.

Like COMP, the Spec(CP) position is licensed by S-Structure. Complementizers of the 'etta'-class ('that') are base-generated in this position. If the COMP position is filled by a complementizer (of the 'jos'-class) it appears that topicalization into the Spec(CP) position can occur (presumably during phrase-based movement).

"Primary movement" refers to all of the instances of movement that involve licensing (i.e. all the types of movement just reviewed), whether at M-Structure or at S-
Structure. Since all base-generated positions need to be licensed, primary movement is obligatory. However, if no COMP or Spec(CP) is base-generated, no phrase-based movement occurs, and we have a perfectly good IP. If no INFL or Spec(IP) is base-generated (and, as a result, no affix-based movement occurs) we end up with a VP (which, as we shall see in Chapter 5, results in an infinitival structure).

Unlike primary movement, "secondary movement" is an optional movement process that does not obey cyclicity. It is fed by phrase-based movement (WH-movement or Topicalization), in that it involves movement into a position that has been vacated during phrase-based movement. It obeys a locality constraint according to which an NP cannot move "over" another NP. The properties of secondary movement can be accounted for by assuming that it is a postcyclic process (say, occurring between S-Structure and "surface structure") that operates linearly from left to right, (optionally) filling any vacated position that is encountered. In order to maintain the spirit of trace theory even at the level that secondary movement operates, a revision is required whereby traces do not block movement into a position ("Pointer Theory").
NOTES

1) Throughout this thesis, I will use the terms "subject" and "object" as shorthand for the structural definitions of these terms; as is usual in the transformational approach, they are not taken here to be primitives. "Subject" refers to content of the Spec(IP) position, and "object" to the content of the (adjacent) complement position of a head.

2) A complete paradigm of Px’s is provided in Appendix II.

3) Finnish has no gender distinctions; there is an human/non-human distinction in the 3rd person singular and plural.

4) The lack of an abstract binder in the 3rd person is presumably fundamentally due to the fact that a 3rd person entity is not unconditionally available in normal conversation, as opposed to "speaker" (1st person) and "hearer" (2nd person).

5) We will return in Chapter 4 to the question of exactly where the binders are located in examples such as (5a); for now, I will assume that the speaker/hearer binder is located in the Spec(NP) in a possessive NP, and it has an unspecified link to discourse.

6) Since hän nen 'his' in (6c) is a pronoun, it is subject to Condition B of the Binding Theory, and has to be disjoint from the subject (since NP is not a binding domain).

7) Vilkuna attributes this analysis of sita to A. Hakulinen (1975).

8) There is a problem in getting nominative case to the subject in this position; I will return to this question in Chapter 3. The nominative subjects in this construction are not the only ones that seem to occur in the Spec(VP) position. Vilkuna (1989:43) mentions that indefinite quantifiers (such as joku 'someone' and kukaan 'anyone') tend to occur late in a sentence (later than the Spec(IP) position), whether they are nominative subjects or not. I
would like to suggest that when they are nominative subjects, they remain in the Spec(VP) position (in which they are base-generated).

9) The traditional GB-analysis of pro-drop as consisting of an abstract element 'pro' in the Spec(IP) position would also take care of filling the Spec(IP) position; however, the 'pro'-analysis would need to be modified in order to make the required distinction between 1st and 2nd person vs. 3rd person.

10) To the extent that (8f'') is better than the others, I think it can marginally be given a structure where the adverb occupies the Spec(IP) position; more about atypical subjects later.

11) Finnish is a vowel harmony language, and many suffixes have a front and a back vowel variant. The reader should not be surprised to find a suffix in an example that is slightly different from the variant given in the text; I will give the back vowel variants in the text.

12) The adverb need not be base-generated in the Spec(IP) position, but it may have to move to Spec(IP) via secondary movement in order to fill that position at S-Structure. I will return to the location of adverbs in Section 2.3.2.2.1.

13) "Impersonal" here refers to a verb form which does not agree with any NP; Finnish does not have a "personal", agreeing passive such as the English passive.

14) As we shall see in Chapter 4, the passive verb form is also used as the 1st person plural personal form; to the extent that pro-drop is possible with this form (impossible in my dialect), (13a) could be interpreted as a 1st person plural example.

15) The accusative case has three different surface forms, as we shall see in Chapter 3. The form used in passive happens to look identical to nominative, for full NPs--with pronouns, it is clear that accusative case is assigned in the passive.

122
16) Vilkuna points out that at most one verbal element can be focused by moving to COMP in Finnish, which is why \((14a)\) could not be analyzed as having two verbal elements in COMP. I will return to this restriction in Chapter 5. Note that a constraint based on the idea of "head-to-head" movement would not work, since NPs can move to COMP (assuming my analysis). Furthermore, certain types of VPs seem to be able to occur in COMP, as we shall see in Ch.5.

17) Given recent developments in syntax, the question of whether a language has a VP would have to be rephrased, since it can be argued that subjects also originate in the VP (as I will argue for Finnish, in Chapter 3); the question would have to be whether the VP has internal hierarchical structure or not.

18) In Section 2.3.2.2.1., I will suggest that time adverbs occur in INFL; the argument here holds regardless of the exact position of such adverbs.

19) \(-kin\), unlike the sentential clitics mentioned earlier, can be affixed on elements in any syntactic position.

20) Cf. fn. (12) on having adverbs in the Spec(IP) position.

21) I will argue in Chapter 5 that Finnish infinitival constructions do not have an IP. Since sentential adverbs are possible in infinitival constructions, I will need to be able to base-generate them independently of the IP.

22) The time adverbs discussed here--\(\text{usein 'often', joskus 'sometimes', koskaan '(n)ever', aina 'always' etc.}--\) seem to have a different distribution from time adverbs such as \(\text{eilen 'yesterday', tänään 'today', maanantaisin 'on Mondays' etc.} \). The latter type (not to be considered here in more detail) seems not to be able to occur easily in the vicinity of INFL, while it does occur in COMP (as in the examples with \(\text{eilen 'yesterday' in Section 2.3.1.2.} \)). The distribution of the two types of time adverbs is similar to Finnish also in English, as pointed out to me by F.R.Higgins.

23) We would need to be able to base-generate time adverbials either VP-finally or in/near INFL, so that we would not be forced to have a lowering rule (moving the
adverb from INFL to VP)—unless there are more than one possible base-generated position for each adverb.

24) As English, Finnish has four tenses: the simple tenses of present and past, and the compound tenses (formed with the auxiliary olla ‘be’) of present perfect and past perfect. Cf. Appendix II for example paradigms.

25) The verb form that follows the agreement element in the present tense does have some sort of suffix (as pointed out to me by J. Cathey), although this is not obvious with many verbs. For example, with the verb ostaa ‘buy’, the present tense form is identical to the stem. With the verb lukea ‘read’, there must be some sort of an abstract suffix which gives rise to consonant gradation, since the result is luga. The present tense form is identical to the singular imperative form.

26) We would expect that the vacated Spec(IP) position can be filled (to be elaborated on in Section 2.4.). This is indeed possible, e.g. in (45a) the object autona ‘his car’ can follow the complementizer lop (without special stress), occurring in the Spec(IP) position at S-Structure.

27) The term “presupposition” is used here to refer to a vague notion that is related to the traditional notion of presupposition. I have not been able to precisely characterize the relevant notion.

28) For some reason the suffix -kaan (which is the negative polarity form of -kin) is very natural in these "presupposed" questions. In isolation, -kin/-kaan means ‘also’. This suffix has an odd distribution; it also occurs on the second WH-phrase in multiple WH-questions.

29) We can tell that the overt genitive subject is the culprit, since fronting the infinitival object is fine if there is no such subject (cf. also Section 2.4.3):

Kuka [meidän suklaamme] väätti syöneensä [ ]?  
who our chocolate claimed eat-INF-3Px

‘Who—he claimed that he—i had eaten our chocolate?’

I will return to a discussion of a locality constraint that will account for the distinction between this sentence (which is perfectly grammatical) and the ungrammatical (58d).
CHAPTER 3
REPRESENTATION OF DEFAULT CASE

3.1 Abstractness in case assignment

When talking about case assignment in natural language, one is often forced to adopt some level of abstractness in order to capture generalizations. The Finnish objective case is a case in point. Traditionally Finnish is taken to have two objective cases, partitive and accusative. Accusative is used to denote completed action:

1) Jukka söi omenan.
   NOM ate apple-ACC
   'Jukka ate an apple'

The partitive case is used elsewhere, e.g. when denoting incompleted action:

2) Jukka söi omenaa.
   NOM ate apple-PAR
   'Jukka was eating an apple'

Both cases are assigned to objects of transitive verbs, and we may wish to be able to refer to "objective case" in Finnish, which would encompass both accusative and
partitive. Such an objective case would be an abstract entity in Finnish, without any morphological reflex.

On the other hand, we may wish to refrain from abstractness by studying the behavior of "concrete" case, namely partitive and accusative. However, by doing this we cannot escape abstractness: the accusative case is in itself an abstract (syntactic) entity. There is no single morphological form that all NPs with accusative case share. Accusative in Finnish has three "concrete" forms: accusative -t, nominative Ø, and genitive -n. Any time accusative case is called for, one of these forms occurs depending on the type of NP and the type of sentence the NP occurs in.

In this chapter, an analysis of the concrete forms of the Finnish accusative case is provided. Human pronouns---the only elements that have a unique (overt) accusative form---can be used as a diagnostic for whether an element is really an accusative form or not; that is, an element is in accusative case if it occurs in a syntactic position where it could be replaced with a pronoun in accusative case. Henceforth, the human pronoun -t suffix will be called "ACC", the objective -n suffix will be called "ACC/GEN" (i.e. an accusative element with genitive form), and objects without a suffix will be referred to as occurring
in "ACC/NOM" case (i.e. an accusative element with nominative form).

Although all of the three accusative suffixes are considered to be syntactically "accusative", the theory to be outlined here actually accounts for the genitive suffix in ACC/GEN using a general theory of genitive case, and for the nominative "suffix" (actually, no suffix) in ACC/NOM using a theory of nominative case. We will find interesting interactions between the suffix on the accusative object and the structure and derivation of VP and IP.

Most of the modern work that has been done on Finnish syntax concentrates on the accusative case. The ACC/NOM has been taken an instance of nominative case by Timberlake (1975), Gilligan (1984), Milsark (1984), van Nes-Felius (1984) and Taraldsen (1986). In these works, the ACC/NOM forms have basically been analyzed as nominative subjects, especially in the passive. We shall see that the passive ACC/NOM NPs are clearly objects (as well as all other occurrences of ACC/NOM, such as objects of imperative verbs), and there seems to be no reason to suppose that they are subjects. A theory of nominative case which is not strictly associated with the subject position is needed, and will be developed in this chapter.
We can now conceptualize various degrees of abstractness with respect to case morphology: "objective case" is more abstract than "accusative case" (since "objective" includes accusative and partitive), but "accusative" is more abstract than "ACC/GEN" and "ACC/NOM". For objective case, the syntactic position is relevant, whereas the concrete morphology is not. For accusative case, the morphology is relevant for distinguishing accusative and partitive for the purposes of interpreting the aspect of the sentence, but finer details of the morphology are not relevant for this distinction. For ACC/GEN and ACC/NOM, the details of the morphology are relevant.

With these distinctions in mind, let us briefly consider the notion of "abstract Case" used in GB (e.g. Stowell (1981), Chomsky (1981)) and why this notion will not be used in the present work. The relevant distinction made with this concept is between elements that assign Case and elements that do not assign Case. Of the basic categories, V and P assign Case, while N and A do not. In addition, passive verbs and raising verbs in English do not assign Case (which is taken to motivate NP-movement in passive and raising constructions).

At first glance, it seems that it does not matter which case/Case is being assigned, but only that some
case/Case is assigned. Abstract Case would then involve a degree of abstractness more abstract than any of the examples discussed so far. We might then say that Abstract Case does not have to do with case assignment at all, but rather with the relationship between a head and its arguments—that is, theta-role assignment.

There are two types of examples in which Case assignment and theta-role assignment diverge with respect to an NP (e.g. where an NP gets its Case and its theta-role from different heads). First, NPs in the ECM construction get a theta-role from the embedded verb and a Case from the matrix verb (e.g. 'Mary believes me to be a fool'). Second, certain heads cannot assign Case although they assign a theta-role.

Finnish does not have a construction corresponding to the English ECM construction. However, the analysis of the genitive suffix in the accusative NPs (ACC/GEN) to be developed here suggests that an overt case suffix on an NP need not be assigned by the element whose argument the NP is. It will be suggested that the genitive suffix ends up on the accusative NP via percolation from a higher node. Given such a possibility, there is no need to analyze the accusative case on the NP in the ECM construction as having been assigned that accusative case suffix; rather, the accusative feature could be percolating from the matrix.
verb to the NP subject of the embedded infinitive. Since Case Theory in general is not concerned with the exact distribution of morphological case, the ECM construction in English need not be taken as a basis for developing Case Theory.

The notion that certain heads cannot assign "Case" to their arguments is more substantial. In general (if not always), such instances are ones where the head cannot assign accusative Case. However, as we have seen in Ch.2, motivating movement in Finnish based on lack of case/Case does not account for the obligatory movement occurring in passive and raising constructions. Rather, a theory of movement is required that is not based on any notion of case; it was suggested in Ch.2 that the Spec(IP) position has to be filled (licensed), and this is what motivates movement into that position. The requirement that the Spec(IP) position has to be filled seems to account for the obligatory movement in the English passive and raising constructions, as well.

What about the generalization that Vs and Ps assign (accusative) Case, while As and Ns do not (in English)? This is a generalization that can be stated with reference to morphological case; a theory of abstract Case is not required for this purpose. In Finnish, a finer distinction
is required, since only Vs assign accusative case; both Vs and Ps (and to some degree As) assign partitive case, while Ns assign neither accusative nor partitive.

The impossibility of accusative case with certain lexical categories is an interesting problem, comparable to the impossibility of genitive specifiers with the English categories A and P (while genitive is possible with the Finnish categories A and P). These category-specific possibilities may be specified in the lexicon, and they constrain the possible trees that can be base-generated using X-Bar Theory (cf. Ch.1; Vainikka (1985a) discusses the question of why lexical categories differ in their projection possibilities). Thus, in the English nominalizations, the head-N does not assign accusative case to a complement because N cannot take an object position; rather, only a PP-position is available. "of-insertion" in English would then signify an element occurring in a PP-position, rather than in an object position.

In general, then, different degrees of abstractness are relevant for talking about different processes. It is crucial, though, that the degree of abstractness is kept constant throughout a chain of argumentation. Belletti (1988) argues, based on instances of "concrete" partitive case in Finnish, for the existence of an "abstract Partitive" in Italian, English and Finnish (in order to
account for definiteness effects); however, based on her final description of the abstract Partitive, many non-partitive NPs in Finnish will end up being Partitive. That is, the definition of "partitive" with respect to abstractness is not kept constant (cf. Vainikka (1988) for a more detailed reply to Belletti).

In this chapter, various types of case will first be discussed (Section 3.2.), with a concentration on structural default cases. Section 3.3. will then present an analysis of the two objective cases, based on the idea of default case.

3.2 A typology of cases
3.2.1 Semantic, structural, and lexical case

Each occurrence of a case suffix can be roughly categorized as being of one of the following types of case: semantic, structural, or lexical. Prepositions and postpositions (Ps) can be similarly categorized.

"Lexical case" refers to any case marking that has to be specified in the lexicon. This notion corresponds approximately to the notion of "inherent Case" in GB (e.g. Chomsky (1981:170)) which is assumed to be assigned at D-Structure (Chomsky (1981:183)). However, a case only needs
to be specified in the lexicon if its distribution cannot be determined semantically or structurally (while some instances of "inherent Case" turn out not to be "lexical case"). The following are examples of English verbs that specify in the lexicon which preposition they take ("lexical prepositions"): 'rely on', 'substitute for', and 'agree with'.

Lexical case can be thought of as lexicalized "semantic case". As opposed to lexical case, a semantic case suffix (or preposition) has a predictable meaning regardless of the verb that it occurs with. Adjuncts in general bear semantic case. Typical examples are locative phrases and 'with/without'-phrases.

The notion of "structural case" covers the traditional grammatical cases (in Finnish): nominative, partitive, accusative, and genitive. These are cases where the case suffix does not bear a one-to-one correspondence to any theta-role (cf. the English P of). I will argue that all of these are assigned based on the syntactic configuration. The remainder of the chapter will be mostly devoted to structural case.
3.2.2 The structural default cases

One type of structural case is (structural) default case; this term refers to cases which have a one-to-one mapping between a syntactic position and a case suffix. It may be that all instances of structural case are instances of such default cases; we will see that the complicated case system of Finnish can be largely (if not completely) accounted for with structural default cases (and of course, semantic and lexical cases).

3.2.2.1 Structural default case of the Spec(XP) position

All occurrences of genitive case in Finnish can be analyzed as occurring in the Specifier position of some lexical category. The following are examples of genitive in the Spec(NP) position:

3a) Pekan tuoli
   GEN chair
   'Pekka's chair'

b) kuninkaan pettäminen
   king-GEN betrayal
   'the king's betrayal'

We have a typical possessive construction in (3a), where the possessor occurs in genitive case. (3b) gives an example of a nominalization, where (as in English; cf. e.g. Jespersen (1924:170-171)) the genitive NP may be interpreted either as the Theme of the betrayal (someone
betrayed the king) or as the Agent of the betrayal (the kind betrayed someone).

We also find genitive in the Spec position of APs, as modifiers of the head-A: 1

4a) valtavan iso
terrible-GEN big 'terribly big'

b) odottamattoman vaikea
unexpected-GEN difficult
'unexpectedly difficult'

An adjective in genitive case can modify another adjective, as shown in (4).

Certain adjectives in Finnish allow genitive NPs which presumably are arguments of the adjective. As with genitive arguments of N-heads, these arguments can be analyzed as occurring in the Spec(AP) position:

5a) Pekan näköinen
GEN resembling
'resembling Pekka; of Pekka's resemblance'

b) kerrostalon korkuinen
apartment-house high
'the height of/as high as an apartment building'

The single argument of a Finnish preposition typically occurs in PAR case (I will return to this); the
single argument of a postposition usually occurs in GEN case:

6a) Pekan ohi  
   GEN  past  'past/beyond Pekka'

   b) Maijan takia  
       GEN because-of 'because of Maija'

As with Ns and As, we can posit a Specifier position for P, in which a genitive NP (an argument of the P) occurs; the head of such a phrase is the traditional postposition. The only distinction between a preposition and a postposition is whether they take their NP in the Specifier position (postposition) or in a complement position (preposition).

The remaining lexical category, V, also has forms which occur with a genitive NP. When the verb is non-finite, its subject shows up in genitive case (cf. Ch.5 for a detailed discussion of genitive subjects of non-finite verbs):

7a) Jukka uskoo Pekan nähneen sinut.  
    NOM believes GEN INF you-ACC

   'Jukka believes (that) Pekka has seen you'

b) Virpi käski Helenan tulla sisään.  
   NOM ordered ACC/GEN come-INF in

   'Virpi asked Helena to come in'

It is clear that the non-finite verbs in these examples are verbs at least at some level of representation, since they
assign objective case to their complement just like finite verbs do (and nouns do not). It will be argued in Ch.5 that the genitive subjects of non-finite verbs are base-generated in the Spec(VP) position.

We also find a genitive subject in certain finite constructions:

8a) Pekan täytyy lähteä.
    GEN must to-leave 'Pekka has to leave'

b) Lapsen oli nälkä/jano/kuuma.
   child-GEN was hunger/thirst/heat
   'The child was hungry/thirsty/hot'

All such constructions involve a 3rd person singular verb that does not seem to agree with anything (and the genitive subject never seems to bear the theta-role of an Agent). It will be argued shortly that subjects of finite verbs are base-generated in the Spec(VP) position, and this is where subjects of certain verbs get their genitive case marking.

A priori, it is possible that the genitive cases for each of the four lexical categories arise in different fashions. However, there is evidence to suggest that the same structure is involved with each of the categories. The evidence comes from the distribution of possessive suffixes (Px's): for all categories, if the genitive NP is a human pronoun, the head of the XP shows up with a Px that
agrees with the genitive NP. Consider an example of each category:

9a) minun koirani
    my    dog-1SGPx  'my dog'

b) minun nākōiseni
    my    resembling-1SGPx  'resembling me'

c) minun ohitseni
    my    past-1SGPx  'past me'

d) minun lāhdettyāni
    my    leave-INF-1SGPx  'after I left'

In (9a), we have an NP with a 1st person human possessor. In addition to the genitive NP minun 'my', we get the suffix -ni on the possessed noun koira 'dog'. Similarly, in (9b)-(d), the Px suffixes on the head of the phrase: on an adjective in (9b), on a postposition in (9c) and on a verb in (9d).

It is clear, then, that genitive case is associated with the Spec(XP) position, regardless of the nature of the head of the phrase (except for the requirement that the head be lexical). I will try to maintain the view that genitive case provides an unambiguous mapping to the Spec(XP) position (for lexical categories) -- that is, genitive case only arises in a specifier position, and whenever we have a specifier position, genitive case arises. Crucially, it appears that the functional categories INFL and COMP do not "assign" genitive case to their specifier positions.

139
I would like to propose, then, that (at least for Finnish) genitive is the structure default case for the Spec(XP) position. Technically this means that the genitive case feature is base-generated with the Spec(XP) position (although we will find that the genitive feature is not base-generated in the Spec(XP) position).

Next we will consider two structural cases for complement positions.

3.2.2.2 Structural default cases of complement positions

We have found that genitive is the case of the Spec(XP) position for all lexical categories. Is there a comparable case for the complement position? There is not just one; with respect to the complement position, we get a two-way split: V and P have one case, N and A another. In order to maintain the idea that there is a one-to-one relationship between a syntactic position and a particular case, we would be forced to say that the complement position of N and A is a different syntactic position from the object position of V and P (cf. discussion in Section 3.1). I will return to this below.
The complements of nouns and adjectives typically show up in elative case ('from'). Consider the following examples of complements of N:

10a) kirja sodasta  
     book  war-ELA  'book about the war'

b) pusero puuvillasta  
     blouse  cotton-ELA  'blouse (made) of cotton'

c) sakot ylinopeudesta  
     ticket  speeding-ELA  'ticket for speeding'

d) endotus  kokouksen  lopettamisesta  
     suggestion  meeting-GEN  ending-ELA
     'suggestion for ending the meeting'

Complements in other oblique cases are possible with N-heads, but elative seems to be the only one that systematically does not have clear semantic content (cf. the fact that the English Ps in the glosses are different). Compare the following examples to (10):

11a) usko  Jumalaan  
     belief  God-ILL  'belief in God'

b) kyky  opiskeluun  
     aptitude  studying-ILL  'aptitude for studying'

Unlike the examples in (10), the head-Ns here are derived from verbs, and their complements occur in the same lexical case as the complements of the corresponding verbs would (uskoa 'believe' and kyetä 'be able to' both take illative complements; cf. Appendix I for other examples of verbs taking lexical case).
The complements (or adjuncts) of the nouns in the following examples bear semantic case, as opposed to the examples in (10) and (11); all of these nouns are also derived from verbs that could take corresponding complements/adjuncts with semantic case:

12a) keittäminen nuotiolla
    cooking fire-ADE 'cooking on open fire'

b) tulo kaupalta
    arrival store-ABL 'arrival from the store'

c) lähtö asioille
    departure errands-ALL 'departure for errands'

Thus, the elative complements in (10) seem different from the complements of derived nouns in (11) and (12).

Complements of adjectives also bear elative case: 2

13a) kankea kylmästä
    stiff cold-ELA 'stiff with cold'

b) vihreä kateudesta
    green envy-ELA 'green with envy'

c) ylpeä perheestään
    proud family-ELA-3Pf
    'proud of (his/her) family'

If elative were the structural default case for the complement position, we would expect it to show up for all lexical categories, like genitive does for the specifier
position. However, as already mentioned, V and P behave differently from N and A.

Instead of elative case, complements of P occur in partitive, and complements of V occur in accusative or partitive. Since partitive is basically the only possible case for the complement of a preposition, and accusative is never possible with a P, I would like to suggest that partitive is the structural default case for the complement position of P:

14a) ilman sateensuojaa
    without umbrella-PAR 'without an umbrella'

b) ennen aamua
    before morning-PAR 'before morning'

Since partitive is the only common case for objects of Vs and Ps, I would like to suggest that partitive is the default case for the object position of both V and P. I will return to arguments for partitive being the default case of the object position of a verb.

In order to maintain a one-to-one relationship between each structural default case and each syntactic position, I am forced to conclude that the complement position of Ns and As and the complement position of Ps and Vs are two different syntactic positions. I will not be able to pursue this topic here; whether or not the two
complement positions are the same position is not crucial to the analysis of structural case to be presented here.

We now have the following paradigm represented in Table 3.1.

**TABLE 3.1. Default cases of basic categories.**

<table>
<thead>
<tr>
<th>Spec(XP)</th>
<th>complement of X</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>GEN</td>
</tr>
<tr>
<td>A</td>
<td>GEN</td>
</tr>
<tr>
<td>V</td>
<td>GEN</td>
</tr>
<tr>
<td>P</td>
<td>GEN</td>
</tr>
</tbody>
</table>

In the next section, I will try to determine what the structure of phrases with case is, and how structural case "assignment" takes place.

3.2.3 The representation of cases

All of the Finnish case suffixes display "Across-the-Board" behavior: modifiers of a noun (such as adjectives and quantifiers) agree in case (and number) with the head-N. That is, theoretically each suffix may occur in a phrase an infinite number of times (as many times as there are adjectives).
Nikanne (1987) and (1989) has suggested that oblique cases in Finnish form a PP, where the P consists of an oblique case feature. Given such a structure, one can have the P-head serve a multiple function, if necessary. A D-Structure tree might look something like the following (the adessive suffix if -illa ‘on’):

15) PP
    / \ 
P   NP
    |   |
   [ADE] N'
    / \ 
   AP N
    |   |
    A tuoli
    |   |
nariseva

The case feature in P would be a case feature that can "percolate" in some fashion both to the N head and its modifier-Å, giving us the desired result: 

narisevalla tuolilla 'on a squeaky chair’. We might say that a case feature differs from an actual preposition in that the case feature represents a suffix which has to be realized on some element. This is what gives rise to "percolation", while true prepositions do not percolate since they are not suffixes. I will assume (although not crucially) this analysis of the oblique case forms in Finnish.

Similarly, with a demonstrative pronoun⁴ we can posit a Quantifier Phrase with the pronoun as its Q-head (again, the name of this phrase is not crucial):

145
This D-Structure tree gives us *tuolla tuolilla* 'on that chair'. Having both a demonstrative pronoun and an adjective gives us (17):

The case feature percolates to each of the heads, giving us *tuolla narisevalla tuolilla* 'on that squeaky chair'.

Nikanne assumes that the (traditionally) grammatical cases nominative, genitive, partitive, and accusative do not act as a head of a PP. Thus, phrases bearing grammatical case are NPs, while ones with oblique case are PPs. In this view, we can think of the (structural default) elative as being a "dummy" preposition, comparable to the English *of*.
If the grammatical case features do not head PPs, where are they represented? I will argue that nominative is not a case; it is not represented anywhere as a feature. "Nominative" refers to the zero-marked lexical entry form of an element.

Accusative case has a very narrow distribution in Finnish. It only occurs on objects of verbs with the feature [+COMPLETED], as we shall see in the next section. I will return to its representation.

The remaining grammatical cases, genitive and partitive, behave the same way as the oblique cases do with respect to adjectival agreement. We can accomplish this result by representing the case feature as being a feature of the maximal projection, as follows:

```
18)  NP
     [PAR]
     /\ 
    N
   / \ 
  AP  N
 /    |
A tuoli
```

The partitive feature then percolate to each of the heads, giving us narisevaa tuolia 'squeaky chair(PAR)'. The only difference in representation between the oblique phrases and the "grammatical" phrases is that the NP in (18) is
embedded under a PP in the oblique phrases, and the case feature occupies the P position (at D-Structure).

Since partitive and genitive are structural default cases, trees such as (18) are base-generated with the case feature. If the phrase in (18) were an object of a preposition\(^5\), the NP object would get the partitive feature as a result of being base-generated in the object position. (19) gives the D-Structure tree of such a PP:

\[
19) \quad \begin{array}{c}
\text{PP} \\
\text{P} \quad \text{NP} \\
\quad \text{[PAR]} \\
\quad \text{ilman} \\
\quad \text{N'} \\
\quad \text{AP} \\
\quad \text{N} \\
\quad \text{A} \\
\quad \text{tuoli} \\
\quad \text{nariseva}
\end{array}
\]

Again, the partitive feature percolates to the heads in its phrase, resulting in the PP *ilman narisevaa tuolia* 'without a squeaky chair'.

Similarly, a postposition (or any other lexical head) "assigns" the structural default genitive to its specifier position, giving us the following D-Structure tree:\(^6\)
20) PP
   / \ Spec
  [GEN] \ P
      \ alla
 NP
 N'
 / \ AP N
 | | A tuoli
 | | nariseva

Again, the genitive feature percolates from the node that it originates in at D-Structure (whether it is the Spec(PP) or the NP node is not crucial) to the heads in its phrase. The resulting PP is narisevan tuolin(GEN) alla '(lit.)the squeaky chair's under; under the squeaky chair'.

Now consider a phrase with both oblique (semantic) and structural case:

21) PP
   / \ P NP
  | / \ [ADE] Spec N
  | | [GEN] tuoli
  | | NP
  | | Virpi

The head-N tuoli 'chair' takes a specifier (a possessive phrase) with genitive case. The maximal projection of the N is the object of an abstract locative P. The genitive feature percolates to the element within its phrase. The
adessive feature percolates to the its head-N. We end up with the phrase *virpin(GEN) tuolilla(ADE) 'on Virpi's chair'.

Crucially, the adessive feature in (20) does not percolate to the NP inside the Spec(NP). That is, the case percolation process respects strict cyclicity. Consider a more complex example with a quantifier and an adjective:

```
22) PP
    / \ QP
    P / \ Q NP
   [ADE] /
   tuo- / \ Spec N'
   [GEN] / \ AP N
   NP / \ A tuoli
   N / 
   Virpi
```

The "output" of this tree is *tuolla(ADE) Virpin(GEN) narisevalla(ADE) tuolilla(ADE) 'on that squeaky chair of Virpi's'(lit.'on that Virpi's squeaky chair'). Again, respecting cyclicity, the genitive feature in the Spec(NP) position percolates to *Virpi; the adessive feature then percolates to all other heads in its NP. We might say that the adessive feature percolates to the NP inside the Spec(NP) position also, but since that NP already bears a genitive case suffix, adessive cannot be realized.
Let us now turn to the distribution of the grammatical cases, specifically partitive, accusative, and nominative.

3.3 The two objective cases in Finnish

3.3.1 Accusative versus partitive

The object of a verb in Finnish shows up either in partitive case (with the suffix -ta) or in accusative case (with various suffixes). In affirmative clauses, there is a semantic distinction between the two usages. Accusative is used if the verb denotes completed action, and partitive is used if the action is not completed (cf. Appendix I for examples of verbs that take either case, depending on aspect, as well as verbs that take only accusative or only partitive):

23a) Helena kutoi villatakkia.
    NOM knitted sweater-PAR

    'Helena was knitting a sweater'

b) Helena kutoi villatakin.
    NOM knitted sweater-ACC/GEN

    'Helena knitted a sweater'

In (23b), the object occurs in accusative case; this implies that the action was completed, and Helena finished knitting the sweater (the sweater was done when she stopped knitting). On the other hand, the partitive case in (23a)

151
does not imply that the sweater was completed when Helena finished knitting.

In negative sentences the aspectual distinction between accusative and partitive is lost; only partitive is possible:

24a) Helena ei kotonut villatakia.
    NOM    not-3SG knitted sweater-PAR

   'Helena did not knit a sweater'

b) *Helena ei kotonut villatakkin.
   NOM    not-3SG knitted sweater-ACC

Thus, (24b) with an accusative object is ungrammatical. 8

The following diagram attempts to give a comprehensive view of the different possible forms involved in objective case marking in Finnish (this diagram was developed in Vainikka (1985a), and also independently in Renault (1984); cf. also Reime (1989)):

25) objective case

[+COMPLETED] / \ -ta
   (ACC)    (=PAR)
[ACC exists] / \ -t
   -n (ACC) (=GEN) (=NOM)

[+AGR] / \ g
   (=GEN) (=NOM)
This tree represents the "choices" that need to be made in order to end up with the appropriate form for the object. At each node, the left branch represents a special condition (abbreviated in brackets) and the right branch represents an "elsewhere" situation. Going from top to bottom, the first choice involves determining whether the verb implies completed action or not. If it does, we choose the left branch. If it does not, we choose the right-hand branch, and we are done—we end up with the partitive suffix -ta.

As for the negative sentences, I would like to suggest that the reason we do not get accusative objects in negative sentences (but cf. fn.7) is that negation is incompatible with the feature [+COMPLETED] (cf. Heinamaki (1984) for a similar suggestion). That is, in order to "assign" accusative case, the verb has to have the feature [+COMPLETED]; if the verb does not have this feature, its object gets the structural default case of its position, the partitive case. The class of [-COMPLETED] verbs then includes non-completed affirmative verbs and all negative verbs.

In the traditional literature on Finnish objective case, the distinction between accusative and partitive has not typically been thought of in terms of one case being an "elsewhere" (default) case. Leino (1982) in unpublished
work was perhaps the first to suggest an analysis in which partitive is a default case; this analysis was also independently suggested in Vainikka (1984). Heinamaki (1984) develops Leino's suggestion in interesting ways. Larjavaara (1988:497) has recently suggested that partitive is a semantically marked case, as opposed to all the other cases (basically since partitive refers to a "part" of something, while all other cases refer to "wholes").

If the verb in a sentence has the feature [+COMPLETED], we have the following choices (the relevant part of the tree in (25')):

\[
\begin{array}{c}
25' \quad (\text{ACC}) \\
\quad \quad [\text{ACC exists}] \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad [\text{AGR}] \\
\quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad 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NP will either get the genitive suffix (-n) or no suffix at all ("nominative"). The NP gets the genitive suffix if and only if the matrix verb agrees with a subject NP.

Apart from the last branch, accusative marking in Finnish is not very different from that in e.g. English. Only certain human pronouns have a form that is uniquely an accusative form (in English: me, him, us, and them). All other NPs (full NPs and the pronouns you and it) end up in "nominative", i.e. with no suffix.

The only real difference between English and Finnish then is that in Finnish in certain syntactic configurations an NP that would otherwise end up in "nominative", actually gets a genitive suffix. The analysis to be proposed in the next section attempts to explain where the genitive suffix comes from.

Given the approach that partitive is the default case for the object position (of the categories V and P), we do not need a further explanation for the distribution of partitive case. We only need to account for the distribution of accusative case, since if accusative is not assigned to an NP in the object position, partitive case "automatically" occurs. Assuming that the distribution of accusative case can be adequately described with the
feature [+COMPLETED] on the verb whose object is receiving accusative case (but cf. fn.7), we can say that accusative is actually being assigned by the feature [+COMPLETED]. Since Ps (or any other heads) cannot have the feature [+COMPLETED], they can never assign accusative case.

Unlike partitive and genitive, the default cases for the object position and the specifier position, accusative case is literally assigned by a specific head (or feature).

The distribution of the -t marked accusative of human pronouns is straightforward, since these elements are unambiguously marked as occurring in accusative case (but cf. fn.10 on the problem with plural NPs).

The remaining problem is then the distribution of the "genitive" and "nominative" suffixes in accusative case assignment. This problem is clearly a syntactic problem, since it cannot be determined in the lexicon which suffix the NP ends up with. Since the genitive suffix only occurs if the verb agrees with a subject, it appears that agreement on the verb somehow gives rise to an "extra" genitive suffix, which somehow ends up on the object.
3.3.2 The fate of an unrealized genitive feature

The analysis of the genitive suffix on an accusative NP (i.e. ACC/GEN) to be proposed here is the following. Nominative subjects are base-generated in the Spec(VP) position, with genitive case (the default case for Spec(XP) positions). The NP raises to the Spec(IP) without the genitive case. The subject NP ends up with no case (i.e. "nominative"). The unrealized genitive feature percolates to the object position. If the object position contains an NP without overt case (i.e. "nominative"), the feature is obligatorily realized on that NP as genitive case:

26) Maija luki kirjan    /*kirja
   NOM  read  book-ACC/GEN  book-ACC/NOM

If the sentence contains no nominative subject, then there is no unrealized genitive feature that can percolate to the object, and the object ends up without a suffix:

27a) Lue kirja!    /*kirjan
   read  book-ACC/NOM  book-ACC/GEN
   'Read a book!'

b) Koulussa luettiin kirja    /*kirjan.
   school-INE read-PASS book-ACC/NOM  ACC/GEN
   'A book was read at school'

c) Minun täytyy lukea kirja    /*kirjan.
   my-GEN must  read-INF ACC/NOM  ACC/GEN
   'I have to read a book'

157
None of these three sentences contain a nominative subject, and the genitive suffix on the object is impossible. (27a) gives an example of an imperative sentence, (27b) a passive sentence, and (27c) a construction with the modal täyttyy 'must' which does not agree with anything in person/number.

Let me now attempt to justify and clarify each part of the analysis.

3.3.2.1 Nominative case is not a case

Nominative case in Finnish has no suffix. Following R.Jakobson (1936), Andrews (1982), and Vainikka (1986) I take nominative not to be a case (in languages such as Finnish where there is no suffix, while in e.g. Japanese "nominative" refers to an actual case suffix). An "NP with nominative case" then refers to an NP in its lexical form, without a case suffix.

Thus, nominative subjects and "nominative objects" (=ACC/NOM) bear the same form, but not because they are both assigned the same case. Rather, a nominative subject is assigned no case; an ACC/NOM object is actually assigned accusative case, but since the NP does not have an accusative form in the lexicon, no case suffix is realized.
on the NP. The difference between nominative subjects and ACC/NOM objects in Finnish is that the verb never agrees with an ACC/NOM object, while it always agrees with a nominative subject. We shall see how this distinction is accomplished in my analysis.

Note that since I am not assuming Case Theory, and therefore no Case Filter (cf. Chapters 1 and 2), there is no problem with NPs not being assigned case. However, NPs without an overt case suffix are still assigned a theta-role.

3.3.2.2 Subjects are base-generated in the Spec(VP)

Recently it has been suggested by various people working within the GB-theory that subjects originate in the VP (e.g. Kitagawa (1986) and Fukui (1986)). This allows for a unification of theta-role assignment: all theta-roles are assigned in the VP (at D-Structure). I will adopt this analysis of VP-generated subjects for Finnish.

If, as it was argued in this chapter, the structural default case for the specifier position is genitive, why do subjects not occur in genitive case?\(^{13}\)
Although nominative subjects are base-generated in the Spec(VP) position, they end up in the Spec(IP) position (due to the licensing requirement according which the Spec(IP) position has to be filled; Ch.2). Crucially, genitive is the structural default case for lexical categories only (cf. Section 3.2.2.1.). The Spec(IP) position does not have a genitive feature, so the subject will not get genitive case in that position.

Why does the NP not get genitive case in the position it was base-generated in, the Spec(VP)? Something appears to block the realization of the genitive case. I will suggest that the fact that the subject NP is coindexed with agreement features prevents genitive case from being realized.

3.3.2.3 Agreement features are base-generated in the Spec(IP) position

Recall the analysis of INFL in Chapter 2, according to which tense (and presumably mood) features are base-generated in INFL (or, in negative sentences, in TNS). I would like to suggest that agreement features (i.e. person and number features) are base-generated in Spec(IP):
The agreement features on the Finnish verb follow the tense (and mood) features. Given the D-Structure tree in (28), the right order of morphemes is guaranteed. Since the verb is either base-generated in INFL (if it is the auxiliary verb olla) or it raises to INFL (main verb), the tense features will be realized on the verb. The agreement features will then "lower" to the INFL position, since they cannot be realized in the Spec(IP) position (this process is comparable to "Affix-Hopping" [cf. e.g. Chomsky (1988)], although it probably needs to occur before PF). There is no way for the agreement features to attach to the verb stem before the tense features, since the verb never raises to Spec(IP).

In Finnish, there is a one-to-one relationship between a nominative subject and the agreement suffix of the verb. However, not all verbs take nominative subjects. Finnish (as e.g. Icelandic) has non-nominative subjects (we will return to some examples). It appears that Agentive subjects always agree with the verb. For non-Agentive
subjects, it may be that the verb needs to specify in the
lexicon whether the subject occurs in nominative or not.

In order to guarantee that nominative subjects (and
only them) always agree with the verb, I would like to
suggest that the verb specifies that its subject is of the
"agreeing" type (either via the theta-role, or in the
lexicon). To achieve the desired result technically, we
can say that at D-Structure the subject in the Spec(VP)
position is coindexed with the agreement features in the
Spec(IP) position. In the lexicon, the verb specifies that
the subject argument has to be coindexed with something
(cf. Williams' (1981) notion of an "external argument").

Thus, if the NP that is base-generated in the
Spec(VP) position bears the information that it has to be
coindexed with agreement features in the Spec(IP) position,
then agreement features are base-generated in the Spec(IP)
position. That is, agreement features can only be base-
generated in the Spec(IP) if they are coindexed with an NP
in the Spec(VP) position.

I would now like to stipulate that coindexation
between the agreement features in the Spec(IP) and the NP
in the Spec(VP) is what prevents the genitive case from
being assigned to the NP in the Spec(VP) position (note
that something like the coindexation is needed

162
independently of the analysis presented here, in order to indicate which verbs take nominative subjects).

If the element in the Spec(VP) position need not be coindexed with agreement features, then nothing is base-generated in the Spec(IP) position. Apparently the only thing that can be base-generated in the Spec(IP) position is a bundle of agreement features, while either tense features or tense features and the auxiliary verb and/or the negative verb can be base-generated in the INFL position.

3.3.2.4 Percolation of the genitive feature

Given the stipulation that genitive case cannot be realized on an element that is coindexed with agreement features, we have an almost complete analysis of the ACC/GEN forms. That is, whenever the genitive case cannot be realized on the NP in the Spec(VP) position, we get a genitive suffix on an object. We only need to determine how the unrealized genitive feature gets from the Spec(VP) to the object. Before attempting this, let us see how the analysis works in a number of constructions.
3.3.2.4.1 Simple active sentences

Recall the example with an ACC/GEN object, repeated here as (29):

29) Maija luki kirjan /*kirja
    NOM read book-ACC/GEN book-ACC/NOM
    'Maija read a/the book'

The D-Structure representation of (29) is given in (30):

30) It
    \     I
    Spec \_ / VP
    [AGR-i] INFL \ / V'   
    [TNS] Spec V
    [GEN]  / NP
    NP [+C] [ACC]
    Maija-i luk- kirja

The verb luk- 'read' has two arguments in the VP, one in the object position and one in the Spec(VP) position.

Since the verb has the feature [+COMPLETED], accusative case is assigned to the object (represented here as a feature on the object NP). However, the NP in the object position is a full NP and does not have an accusative form in its paradigm.

The verb indicates (either in the lexicon, or through theta-role assignment) that its subject has to be coindexed
with something. The subject is base-generated in the Spec(VP) position, and it is coindexed with the agreement features in the Spec(IP) position.

By M-Structure the subject NP has raised from the Spec(VP) position to the Spec(IP) position, and the verb has raised to INFL. Both movements are motivated by the requirement to license the Spec(IP) and the INFL positions:

```
31)   IP
     / \    
    Spec I'  
     / \    
Maija-i INFL VP    
     / \    
luki-i Spec V'     
[GEN] / \ 
   V \ NP 
[ACC]  kirja
```

The agreement features have lowered to INFL; both tense and agreement features are realized on the raised verb. The subject and the agreement features presumably retain their coindexation relationship.

The genitive feature has been "stranded" by the nominative subject, since the realization of genitive case was blocked (due to the fact that the NP was coindexed with agreement features, as was stipulated). Somehow the stranded genitive feature ends up occurring on the object NP; we will return to the mechanism of this process.

165
3.3.2.4.2 Impersonal passive sentences

Consider the following examples of the (impersonal) passive construction in Finnish:

32a) Kylpyhuoneessa pestiin vauvaa.
bathroom-INE wash-PASS baby-PAR

b) Vauvaa pestiin kylpyhuoneessa.
baby-PAR wash-PASS bathroom-INE

'The baby was being washed in the bathroom'

As with active verbs, when the passive verb does not imply completion (or when the sentence is negative), the object occurs in partitive case. This suggests that the NP object of a corresponding active sentence is also an object in a passive sentence. As we saw in Chapter 2, either the locative phrase or the direct object can raise to the Spec(IP) position, in the absence of a nominative subject.

When the passive verb implies completion, an accusative object occurs, but without the genitive suffix:

33a) Kylpyhuoneessa pestiin vauva.
bathroom-INE wash-PASS baby-ACC/NOM

b) Vauva pestiin kylpyhuoneessa.
baby-ACC/NOM wash-PASS bathroom-INE

'The baby was washed in the bathroom'

We can be sure that the NP vauva in (33) bears accusative case, since if we were to replace vauva with a
human pronoun, we get overt accusative case (the nominative form of the pronoun is hän):

34a) Kylpyhuoneessa pestiin hän.  
bathroom-INE wash-PASS him-ACC

b) Hänet pestiin kylpyhuoneessa.  
him-ACC wash-PASS bathroom-INE

'He was washed in the bathroom'

Why do we never find a genitive suffix on an accusative object of a passive verb?

The solution is simple: no Spec(VP) position is base-generated in a passive sentence. Therefore, no genitive suffix is base-generated. Also, no subject is possible in an impersonal passive sentence, not even as an adjunct (since a subject would need to be base-generated in the Spec(VP) position). And, since agreement features can only be base-generated in the Spec(IP) position if they are coindexed with something in the Spec(VP) position, the impersonal passive verb does not agree with any NP in the sentence.

An object NP that does not have an accusative form in its paradigm ends up with no case (i.e. the NP occurs in its lexical "nominative" form), as in example (33).
Although in Standard Finnish there are no nominative subjects without agreement, Colloquial Finnish has one verb form that may not agree with anything, yet we find a nominative subject (objective case marking works the same way in Colloquial Finnish and in Standard Finnish). This is the passive verb form used as a first person plural verb (it is also still used as the passive form):

35a) Me pestiin hänet kylpyhuoneessa.  
we-NOM washed-PASS him-ACC bathroom-INE  
'We washed him in the bathroom'

b) Me pestiin vauva kylpyhuoneessa.  
we-NOM washed-PASS baby-ACC/NOM bathroom-INE  
'We washed the baby in the bathroom'

c) Te pesitte vauvan kylpyhuoneessa.  
you-NOM washed-2PL baby-ACC/GEN bathroom-INE  
'You (pl.) washed the baby in the bathroom'

We see in (35b) that this verb form behaves the same way as the regular impersonal passive does: the object of a [+COMPLETED] verb does not (and cannot) have a genitive suffix. (35c) has the 2nd person plural verb, with a genitive suffix on the object (both in Colloquial and Standard Finnish).

Descriptively, then, the colloquial 1st person plural verb treats its object as a passive verb would, yet it takes a nominative subject. In the current analysis, this
means one of two things: either (i) the object does not get a genitive suffix because a Spec(VP) position is not base-generated and the 1st person plural subject pronoun has to be exceptionally base-generated in the Spec(IP) position; or (ii) the subject is base-generated in the Spec(VP) position, as always, but for some reason no genitive feature is base-generated in the Spec(VP) position in sentences such as (35b). The second alternative seems preferable in the sense that the analysis of subjects remains uniform, while the non-occurrence of a genitive feature in the Spec(XP) position is something we have encountered before with the functional categories INFL and COMP (although this property is exceptional with a lexical category). I will leave the analysis of these forms open.

3.3.2.4.3 Imperative sentences

The case marking of the object of an imperative verb is identical to that of a passive verb:

36a) Lue kirjaa!
    read-IMP book-PAR
    'Read (at least a part of) a book!'

b) Lue kirja! /*kirjan
    read-IMP book-ACC/NOM  ACC/GEN
    'Read (and finish) a book!'
Again, if the verb does not imply completion (or if the verb is negative), the object occurs in the default partitive case, as in (36a). If the verb implies completion, we get the suffixless accusative form, (36b).

As with the impersonal passive, we can assume that the VP in the D-Structure of an imperative construction does not have a Spec(VP) position, since a nominative subject that agrees with the verb is impossible. Thus, since no Spec(VP) is base-generated, no genitive feature is base-generated either, and one never occurs on the object of an imperative verb.

3.3.2.4.4 Sentences with täytyy 'must'

The only remaining matrix construction where we do not get objects with a genitive suffix is a class of constructions with "quirky" subjects and with 3rd person singular verbs that do not seem to agree with anything. In a typical example, it is impossible to tell whether the case of the "object" is nominative or ACC/NOM, since these constructions do not allow human pronouns (and since the NPs are 3rd person singular ones):

37) Minun on nälkä /jano /kylmä.
my-GEN is-3SG hunger/thirst/cold-

'I am hungry/thirsty/cold'

170
The logical subject (the human) of this example is in genitive case, and the postverbal NP bears no suffix. The "object" might be a displaced nominative subject, agreeing with the 3rd person sg. verb, or it is an ACC/NOM object of the verb. I will not attempt to analyze most of these constructions here, but will concentrate on one subtype of this class where we can tell what the object case is—the modal täytyy ‘must’. The analysis to be proposed for the modal construction will, however, carry over to the examples in (37), if the genitive NP is the subject and the postverbal NP is an ACC/NOM object.

Modal verbs in Finnish typically behave like main verbs do, except in the case of täytyy ‘must’. This modal only occurs in the 3rd person singular; apart from agreement morphology, it has a full verbal paradigm with compound tenses and negation. The logical subject of this modal occurs in genitive case (not ACC/GEN—human pronouns also have genitive). The objects in a täytyy-sentence never get ACC/GEN, but they behave like the passive and imperative objects (as we shall see in Ch.5, whether or not the object of the embedded verb gets the genitive suffix depends on the matrix verb):
38a) Jukan täytyy lukea kirjaa.
GEN must read-INF book-PAR

'Jukka has to (be) read(ing) a book'

b) Jukan täytyy lukea kirja.
GEN must read-INF book-ACC/NOM

'Jukka has to read (and finish) a book'

This construction differs from the passive and imperative constructions in that it has an overt NP that might be a subject—the genitive Jukan.

I would like to suggest that the NP Jukan is base-generated in the Spec(VP) position the same way nominative subjects are. Since the verb täytyy 'must' does not have any agreement features, we can assume that no agreement features are base-generated in the Spec(IP) position. That is, since there are no agreement features in the Spec(IP) position, the NP in the Spec(VP) is not coindexed by anything. Therefore, the genitive feature is not blocked, and genitive case is realized on the element in Spec(VP):

39)    
    IP
     / \  
    Spec I'
     / \  
    INFL VP
     | / \  
    [TNS] Spec V'
        / \  
        [GEN] V \ VP
        | \  
        NP täytyy V NP
        [+] [ACC]
        Jukka lukea kirja
This is the D-Structure tree for example (38b) above (the internal structure of the embedded VP is not relevant here; I will return to it in Ch.5).

Since Jukka is not coindexed by agreement features in the Spec(IP), it will be assigned genitive case. It will raise to the Spec(IP) position in order to license that position. The modal verb will raise to INFL to license the INFL position.

Since genitive case is realized on the subject, no genitive feature is stranded, and no genitive suffix occurs on an accusative subject in the sentence. Only ACC/NOM objects are possible.

3.3.2.5 The mechanism

We now have an analysis of the ACC/GEN objects according to which a genitive suffix occurs on an object (which otherwise would have no case) if and only if a genitive suffix has been "stranded" by a nominative subject. If there is no subject, then no Spec(VP) position is base-generated, and thus no genitive feature is base-generated (in the passive and imperative sentences). If there is a genitive subject, then the subject has been
assigned genitive case, and there is no unrealized genitive feature that could percolate to the object (in the modal construction with täntyy 'must').

At what point in the derivation does case realization occur? It has to occur before M-Structure, since instance of phrase-based movement (WH-movement, Topicalization) always move a case suffix with the NP (cf. Ch.2). It has to occur at or before D-Structure, since NPs that raise to Spec(IP) during affix-based movement move with their case suffixes (except for the nominative subject), e.g. direct or indirect objects of passive and the missing person construction, when they raise to the Spec(IP) position. The fact that the nominative subject moves without its case suffix is not due to moving too "early", but rather not being able to receive a case suffix (due to blocking by coindexation).

We can say that accusative, partitive, and genitive are all realized at D-Structure. However, the percolation of genitive case to objects has to occur after it has been determined that the object NP does not have an accusative form.

Recall the process of secondary movement discussed in Chapter 2. This is a process that does not respect cyclicity, and is blind to the information that an element
has previously occupied a position. Genitive percolation is somewhat similar to secondary movement, in that it also does not respect cyclicity (as we shall see especially clearly in Ch.5). Like secondary movement, genitive percolation is blind to the information that a case has been assigned to a particular NP (accusative case); it appears to treat an NP as if the NP had not been assigned case before.

I suggested in Chapter 2 that secondary movement is a postcyclic process with respect to phrase-based movement. Similarly, I would like to suggest that genitive percolation is a postcyclic process with respect to case realization; it operates after all other instances of case realization have taken place. It still has to apply early in the derivation, however, since ACC/GEN marked direct objects can raise to Spec(IP), presumably before M-Structure.

I have represented structural case as a feature on the node which is "responsible" for the particular case: partitive case as a feature on the object NP node, and genitive on the Spec(XP) node. Given this representation, we need an explanation for how the genitive feature can "percolate" from the Spec(VP) node to the object NP. I would like to suggest that the representation is not
appropriate (although I will continue to use it for the sake of exposition). Rather, if we assume that the feature is represented on the projection of the head that is "responsible" for a particular position, we have no problem with percolation:

```
40)          XP
   \   /  
  Spec  X'
   \ /  
    [PAR]
   / \  
   X   YP
```

If the structural default case for the specifier position is represented as a feature on the maximal projection, then if the feature is not realized, it will remain on the maximal projection, i.e. the VP. The genitive feature will then percolate from the VP node to the NP node that is dominated by the VP node.

3.3.2.6 Plural NPs and the genitive feature

The analysis so far accounts for the distribution of all partitive objects, accusative human pronouns, and accusative singular NPs (whether they occur with a genitive suffix or not). Plural NPs initially pose a slight problem for the analysis, but their behavior turns out to support the idea that genitive percolation is a late process.
It is not obvious whether plural accusative objects bear an overt accusative suffix, or whether they occur in ACC/NOM case:

41a) Maija kätki banaanit.
    NOM  hid-3SG bananas-

    'Maija hid the bananas'

b) Kätke banaanit!
    hide-2SG-IMP bananas-

    'Hide the bananas!'

The nominative plural suffix is -t, which is also the overt accusative suffix with the human pronouns. Accusative plural NPs always occur in this form (with the suffix -t) regardless of whether the sentence has a "floating" genitive feature or not. The form of the NP is identical in (41a) with a nominative subject, and in (41b) with an imperative verb and no nominative subject (where in the singular we would get a distinction in form).

If the -t suffix on the plural NP were actually an accusative suffix, then nothing special would need to be said about plural NPs. They would then form a class with human pronouns; since both have an overt accusative form, no genitive case is ever realized on these NPs.

There are two NPs in Finnish that tell us that this cannot be the whole story, the two non-human pronouns. The
plural non-human pronoun ne ‘they’ does not have a -t suffix, yet it does not get a genitive suffix:

42a) Maija kātki ne.
   NOM  hid  them-ACC/NOM
   ‘Maija hid them (inanimate)’

   b) Kātke ne!
      hide-2SG-IMP them-ACC/NOM
      ‘Hide them!’

This plural pronoun behaves the same way as the plural full NPs do, in not getting a genitive suffix. On the other hand, the singular counterpart of this pronoun (which is very similar morphologically) does get a genitive suffix:

43a) Maija kātki sen.
   NOM  hid  it-ACC/GEN      ‘Maija hid it’

   b) Kātke se!
      hide it-ACC/NOM            ‘Hide it!’

Thus, the plural non-human pronoun behaves the same way as plural full NPs do, and the singular non-human pronoun behaves the same way as singular NPs do (showing variation in form between (43a) and (b)).

I would like to propose the following solution to why plural NPs do not get the genitive feature. At the time of accusative assignment (case realization proper), NPs will either get an accusative suffix, or no suffix at all. If the NP happens to be a plural full NP (or non-human
pronoun), it also ends up with no suffix, in the "nominative" case. Crucially, plural NPs in Finnish have two forms: one form for the nominative, and one for other cases (while singular NPs only have one form). Consider the examples in Table 3.2.

**TABLE 3.2.** Singular and plural genitive suffixes.

<table>
<thead>
<tr>
<th>NOM</th>
<th>GEN</th>
<th>GLOSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>se</td>
<td>sen</td>
<td>'it'</td>
</tr>
<tr>
<td>ne</td>
<td>niden</td>
<td>'they(non-human)'</td>
</tr>
<tr>
<td>kissa</td>
<td>kissan</td>
<td>'cat'</td>
</tr>
<tr>
<td>kissat</td>
<td>kissojen</td>
<td>'cats'</td>
</tr>
</tbody>
</table>

For the singular NPs, occurring in a non-nominative case involves attaching the case suffix to the nominative form. For plural NPs, a non-nominative case suffix cannot be attached to the nominative form. The plural marker is -t only in the nominative case, while in other cases the plural marker is -i/-į-.

In order for a genitive suffix to be able to attach to a plural accusative object during genitive percolation, the plural marker on the NP would have to change from -t to -i/-į---assuming that genitive percolation is a late process, and case realization has already taken place by the time it operates.

179
I would like to suggest, then, that during case realization plural accusative objects end up with the -t form. By the time genitive percolation occurs, this form exists. It is impossible for the genitive suffix to attach to the t-form. Therefore, all plural accusative objects occur in nominative case, regardless of the agreement characteristics of the verb.

NOTES

1) Swear words that "modify" a head noun also occur in genitive case, as pointed out to me by Nikanne.

2) Comparative forms of adjectives have the option of taking their "argument" in partitive case (cf. Vainikka (1987) for a description of the two comparative constructions in Finnish and other languages). Since partitive case is otherwise impossible with the Finnish adjectives, it seems that the comparative suffix would have to take a "direct object" in partitive case (note that for some reason the partitive case marked NP has to precede the adjective). I do not have the opportunity to pursue the analysis of comparative constructions here.

3) There are a couple of preposition-like elements that take an NP in elative case:
   a) ulos ovesta
      out door-ELA 'out the door'
   b) irti pinnasta
      loose surface-ELA 'separated from the surface'

Following Emonds' (1972) and (1985) analysis of particles as "intransitive prepositions", we might analyze these elements as prepositions that do not have an object position, but rather an adjunct position (for which elative is the default case), like Ns and As.
4) We cannot test articles, since Finnish has none.

5) Note that there is a problem in the analysis of oblique cases as Ps, in that we have to make sure that a P that contains an abstract case suffix does not take an NP that has a grammatical case feature (as in (19), except having a case feature in P). Apart from stipulating the impossibility of such a structure (since there are never more than one case suffix on a Finnish stem), we might classify the "case-P" together with the functional heads INFL and COMP, which also do not "assign" structural case.

6) The P in (20), alla 'under' has morphological structure (this is true of some other locative Ps as well). It consists of a stem and the allative case suffix. It is part of a series of "under"-Ps:

   a) alla  ' (being located) under' (adessive)
   b) alta  ' (from) under' (ablative)
   c) alle  ' (to) under' (allative)

Although this stem occurs with three locative cases, it cannot take any of the three internal locative cases, nor any other case suffixes. I will leave open the question of how the internal structure of the P in (20) is represented.

7) See Heinämäki (1984) for some problems with the notion of "completion" with respect to accusative case. I will use the feature [+COMPLETED] to refer to the appropriate feature, assuming that when more is understood about aspect, a related concept can be found that is more appropriate than "completion".

8) An accusative object is sometimes possible with the negative verb. The descriptive generalization seems to be that in "genuinely negative" sentences the object has to occur in the partitive, but in e.g. rhetorical questions with the negative verb an accusative is possible (Heinämäki (1984:167)).

9) It is a traditional intuition that partitive NPs refer to a "part" of something. Although I have taken accusative to imply verbal aspect and not "nominal" aspect, it may be that accusative is only possible if the action is completed and if the object NP refers to a "whole". Larjavaara's treatment, however, only considers "nominal aspect".
10) Plural accusative NPs occur in a form that superficially looks as if it contained an accusative suffix. However, we shall see in Section 3.3.2.6. that plural NPs do not have an accusative suffix.

11) I will discuss infinitival constructions in Ch. 5. We shall see that the matrix verb determines the form of the accusative object of the embedded verb for some constructions, but not for others.

12) Note that even in English one of the accusative forms is the same as the genitive form, namely her.

13) I argue in Vainikka (1985b) and in Vainikka (to appear (b)) that the my-subjects that children produce in the acquisition of English are actually instances of genitive case being assigned to the subject in the Spec(VP) position (while children at this stage do not have the Spec(IP) position).

14) This is not very different from what is assumed in Chomsky (1981:259), according to which "AGR" (agreement features in INFL) is coindexed with an NP at D-Structure (nominative case is then assigned at S-Structure based on this coindexation (p.264), while in my analysis no case assignment takes place for coindexed NPs).

15) Whether agreement features are base-generated in the Spec(IP) position or not, it appears that the position has to be filled by an NP (or PP). That is, agreement features do not constitute filling up (licensing) a position. Similarly, for the INFL position, having tense features base-generated in that position does not constitute licensing the position—a verb still has to occupy INFL.

16) Nichols (1986) argues, based on extensive crosslinguistic evidence, that in general either a head or an argument morphologically "registers" a relationship, but not both. That is, if the verb agrees with an NP, then that NP does not bear overt case; and if the verb does not agree with an NP, then that NP tends to bear overt case. This suggests, then, that case and agreement are two "poles" of the same thing, and it is not surprising that the indication that an NP has to agree with something blocks case assignment, as would be happening with nominative subjects in Finnish (and other languages) in
genitive being blocked. See Vainikka (to appear (a)) and (to appear (b)) for further discussion.

17) Standard Finnish passive does not have anything corresponding to the English by-phrase, although some dialects of Finnish do (my dialect does not).

18) A nominative, emphasized NP is possible in imperatives, but it has to follow the verb:
   a) Lue sinä kirja!
      read you book 'You read the book!'
   b)*Sinä lue kirja!

I will not attempt an analysis of these "subjects". As far as object marking is concerned, sentences such as (a) behave as if they did not have a nominative subject.

19) Reime (1989) has an interesting analysis of ACC/GEN objects according to which these objects get assigned genitive case (where genitive has no connection to the Spec(VP) position) in order to satisfy the Case Filter; i.e., they need to be assigned abstract Case. According to him, plural NPs do not get assigned genitive case because the plural suffix blocks the assignment of genitive case. Crucially, the plural suffix cannot be the blocking element because of the non-human pronoun (which does not have the suffix); rather, the relevant element is the plural feature.
CHAPTER 4
PRO-DROP AS ANAPHORIC BINDING

4.1 Introduction: pro-drop and functional explanations

This chapter is an expansion of the arguments for the analysis briefly presented in Section 2.2—an analysis according to which "pro-drop" (i.e. null subjects) in the sentential domain is paralleled in the NP domain, and that both are instances of anaphoric binding, with anaphoric suffixes playing a crucial role. The NP domain is covered first, in Section 4.2 (after this introductory section); the sentential domain is covered in Section 4.3. Section 4.3.3 discusses (the logic of) the acquisition of pro-drop in Finnish and other languages. In Section 4.4 the relationship of abstract subjects to the Spec(VP) and the Spec(IP) is discussed.

Standard Finnish (SF) allows empty subjects for the 1st and 2nd persons (singular and plural), but not for the 3rd person (singular and plural); that is, SF is pro-drop in 1st and 2nd person, and non-pro-drop in the 3rd person.¹ Table 4.1. gives the paradigm for the verb istua 'sit' (parentheses indicate optionality of the subject).
TABLE 4.1. Present tense paradigm of 'istua'.

<table>
<thead>
<tr>
<th>PERSON/NUMBER</th>
<th>FINNISH</th>
<th>GLOSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>(minä) istun</td>
<td>'I sit'</td>
</tr>
<tr>
<td>2SG</td>
<td>(sinä) istut</td>
<td>'You(sg.) sit'</td>
</tr>
<tr>
<td>3SG</td>
<td>hän/se istuu</td>
<td>'He/she/it sits'</td>
</tr>
<tr>
<td>1PL</td>
<td>(me) istumme</td>
<td>'We sit'</td>
</tr>
<tr>
<td>2PL</td>
<td>(te) istutte</td>
<td>'You(pl.) sit'</td>
</tr>
<tr>
<td>3PL</td>
<td>he/ne istuvat</td>
<td>'They(human/ non-human) sit'</td>
</tr>
</tbody>
</table>

The 3rd person pronouns are obligatory, while in the 1st and 2nd person forms, the subject pronoun is optional. In isolation, the interpretation of a non-stressed overt pronoun and a "dropped" pronoun seems to be identical (for 1st and 2nd person).

Hyams’ (1983) and (1986) original explanation for the pro-drop phenomenon does not work in Standard Finnish: according to Hyams’ analysis, the existence of expletives (pleonastic elements) in the subject position tells the language learner that he is learning a non-pro-drop language (the intuition being that all subject positions need to be lexically filled, either by an expletive or by an overt subject NP). SF does not have obligatory subject expletives, and we would expect the language to be completely pro-drop. It is indeed pro-drop, but only in 1st and 2nd person.
Would a functional explanation based on "rich inflection" work in Finnish? In SF, the 1st and 2nd person facts could be explained by saying that since the verb contains information about the subject in its person/number inflection, the pronoun is not needed. This explanation would also wrongly predict that the 3rd person subjects are optional (as in "regular" pro-drop languages such as Italian and Spanish), since the verb contains person/number information also in the 3rd person in Finnish.

On the other hand, the 3rd person inflection does not tell us as much about the subject NP as the 1st and 2nd person inflections do: although a distinction is made between singular and plural in the 3rd person suffixes, the suffix leaves open whether the 3rd person subject is a human or a non-human pronoun (where SF makes a distinction), or whether the subject is any one of an infinite number of full NPs. This might explain, in functional terms, why overt subjects are required in the 3rd person. Also, it might be argued that the 3rd person singular verb form does not have a suffix at all, and therefore an overt subject is needed. Unfortunately, the 3rd person plural form clearly has a unique suffix, but an overt subject is still required. I will return to the question of the 3rd person suffix.
A functional explanation of the SF pro-drop facts based on how much information the verbal suffix carries has a further complication, when taken literally: even in the 1st and 2nd persons there is a difference between singular and plural verb forms. In the 1st and 2nd person singular, the suffix tells us exactly what the subject denotes—the speaker or the hearer. In the 1st and 2nd person plural, however, the suffix only tells us that the set denoted by the subject contains the speaker or the hearer—we do not know who else is a member of that set. We would then need to distinguish between the amount of information that the verbal suffix carries in the 3rd person singular and plural (not enough to warrant dropping the subject) and the information carried by the 1st and 2nd person plural (enough information for pro-drop). Furthermore, such an explanation would need to distinguish between the amount of information that the SF 3rd person plural suffix carries and that of the Spanish 3rd person plural suffix—since the latter allows pro-drop and SF 3rd person does not.

A functional explanation would also have difficulty with Colloquial Finnish (CF), where all the persons are non-pro-drop, regardless of the fact that most of the inflectional suffixes on the verbs are identical to those in SF. Consider Table 4.2 (I have added the locative adverb with a CF form distinct from SF—sik—-to make sure I am getting CF judgments).
TABLE 4.2. Paradigm of 'istua' in Colloquial Finnish.

<table>
<thead>
<tr>
<th>PER/NUM</th>
<th>NON-PRO-DROP</th>
<th>PRO-DROP</th>
<th>GLOSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>Mä istun siä.</td>
<td>*Istun siä.</td>
<td>'I sit there'</td>
</tr>
<tr>
<td>2SG</td>
<td>Sä istut siä.</td>
<td>*Istut siä.</td>
<td>'You(sg.) sit...'</td>
</tr>
<tr>
<td>3SG</td>
<td>Se istuu siä.</td>
<td>*Istuu siä.</td>
<td>'He/she/it sits there'</td>
</tr>
<tr>
<td>1PL</td>
<td>Me istutaan siä.</td>
<td>*Istutaan siä.</td>
<td>'We sit there'</td>
</tr>
<tr>
<td>2PL</td>
<td>Te istutte siä.</td>
<td>*Istutte siä.</td>
<td>'You(pl.) sit...'</td>
</tr>
<tr>
<td>3PL</td>
<td>Ne istuu siä.</td>
<td>*Istuu siä.</td>
<td>'They sit there'</td>
</tr>
</tbody>
</table>

The singular verb forms in CF, and the 2nd person plural form, are identical to the corresponding SF forms; yet, unlike in SF, all of them are non-pro-drop.

The form of the 1st person plural is "borrowed" from the impersonal passive (recall the discussion in Section 3.3.2.4.2). With respect to the inflectional paradigm, this form is unique to the 1st person plural, yet it is also non-pro-drop.

The only place where "richness of inflection" has been reduced between SF and CF is in the 3rd person plural. The two 3rd person forms are now identical. It is not obvious how a functional explanation based on richness of inflection would result in CF being completely non-pro-drop and SF being non-pro-drop only in the 3rd person.3
Table 4.3 summarizes the agreement suffixes and whether pro-drop occurs with each suffix or not, for Standard Finnish and Colloquial Finnish.

TABLE 4.3. Verbal suffixes and pro-drop in SF and CF.

<table>
<thead>
<tr>
<th>PER/NUM</th>
<th>SF SUFFIX</th>
<th>PRO-DROP?</th>
<th>CF SUFFIX</th>
<th>PRO-DROP?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>-n</td>
<td>yes</td>
<td>-n</td>
<td>no</td>
</tr>
<tr>
<td>2SG</td>
<td>-t</td>
<td>yes</td>
<td>-t</td>
<td>no</td>
</tr>
<tr>
<td>3SG</td>
<td>(V)</td>
<td>no</td>
<td>(V)</td>
<td>no</td>
</tr>
<tr>
<td>1PL</td>
<td>-mme</td>
<td>yes</td>
<td>(PASS)</td>
<td>no</td>
</tr>
<tr>
<td>2PL</td>
<td>-tte</td>
<td>yes</td>
<td>-tte</td>
<td>no</td>
</tr>
<tr>
<td>3PL</td>
<td>-vat</td>
<td>no</td>
<td>(V)</td>
<td>no</td>
</tr>
</tbody>
</table>

In the 3rd person singular and the colloquial 3rd person plural the suffix consists of lengthening the last vowel of the stem (in present tense; in past tense there is no overt suffix). "PASS" refers to the impersonal passive verb form in the 1st person plural in CF.

We have seen that neither functional accounts based on "richness of inflection", nor the standard analysis of pro-drop assumed in GB (Hyams (1986); Chomsky (1981:240)) can explain the pro-drop facts in SF and CF. In the remainder of the chapter, I will propose an analysis of pro-drop that treats the phenomenon as being one instance of anaphoric binding. We will start by looking at "pro-drop" in NPs.

189
4.2 Pro-drop in NPs

Recall the discussion in Chapter 3 where it was argued that genitive is the structural default case for the Spec(XP) position, for the basic categories N, A, V and P. It was also mentioned that not only do each of these categories take genitive specifiers/subjects, but each of these categories also takes a possessive suffix (Px).

I will use the term "genitive construction" to refer to all constructions that allow a genitive NP and/or a Px. I also need a term that will single out the genitive constructions that have a N-head; for want of a better term, I will refer to them as "possessive constructions", although many instances of such a construction do not involve "possession" in any way (e.g. nominalizations). Similarly, when using the terms "possessor" and "possessed", I mean to include genitive NPs and head-Ns that may have nothing to do with possession.

Something similar to pro-drop happens in possessive constructions in Standard Finnish. In the 1st and 2nd persons in SF, the possessor-NP is optional, and its features are registered on the possessed-N as a Px:
1a) (minun) kirjani  
    my book-my  

b) (sinun) kirjasi 
    your book-your 

c) (meidän) kirjamme 
    our book-our 

d) (teidän) kirjanne 
    your book-your 

There is just one Px form in the 3rd person, -nsa (for both singular and plural). In the third person, a distinction is made between full NPs and non-human pronouns vs. human pronouns: with full NPs and non-human pronouns, Px is impossible, as in (2a) and (c) below. With human pronouns, Px is obligatory--(2b) and (d):

2a) sen/Jukan kirja/*kirjansa  
    its/Jukka's book book-3Px  

b) hänen kirjansa/*kirja 
    his book-3Px book  

c) niiden kirja/*kirjansa 
    their(non-human) book book-3Px  

d) heidän kirjansa/*kirja 
    their(human) book-3Px book  

Regardless of which type of possessor we have--one that requires a Px, or one that prohibits a Px--an overt genitive NP is obligatory in the 3rd person, as opposed to the 1st and 2nd person optional possessors. There is one exception to the genitive NP's being obligatory in the 3rd person, and this exception provides strong evidence for
treating the Px's as anaphors, subject to Condition (A) of the Binding Theory; we will return to it shortly.

In the SF possessive construction, then, the 3rd person is "non-pro-drop" (regardless of the occurrence of a possessive suffix), just as with the 3rd person subjects. Also, as with subjects, the 1st and 2nd persons in the possessive construction are "pro-drop".

In Colloquial Finnish the possessive domain is in general also similar to the verbal domain: all persons are non-pro-drop, just as all tensed sentences are non-pro-drop. The main difference between the two domains in CF is that the Px's have basically been lost in CF (while the agreement suffixes on the verb were lost only in the 3rd person). There is some interesting variation in CF, which I will return to. For now, we can summarize the Px's and optional possessors in NPs as in Table 4.4.

<table>
<thead>
<tr>
<th>PER/NUM</th>
<th>SF Px</th>
<th>PRO-DROP?</th>
<th>CF Px</th>
<th>PRO-DROP?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>-ni</td>
<td>yes</td>
<td>-</td>
<td>no</td>
</tr>
<tr>
<td>2SG</td>
<td>-si</td>
<td>yes</td>
<td>-</td>
<td>no</td>
</tr>
<tr>
<td>3SG</td>
<td>-nsa</td>
<td>no</td>
<td>-</td>
<td>no</td>
</tr>
<tr>
<td>1PL</td>
<td>-mme</td>
<td>yes</td>
<td>-</td>
<td>no</td>
</tr>
<tr>
<td>2PL</td>
<td>-nne</td>
<td>yes</td>
<td>-</td>
<td>no</td>
</tr>
<tr>
<td>3PL</td>
<td>-nsa</td>
<td>no</td>
<td>-</td>
<td>no</td>
</tr>
</tbody>
</table>
As we shall see, the CF Px’s have actually not disappeared completely, but their distribution is different from the SF Px’s. In the Helsinki dialect of CF, Px’s have basically disappeared from NPs (while in the Tampere dialect they remain in the 1st and 2nd person singular). I will return to the details of the data.

As we can see comparing Tables 3 and 4, the pro-drop data is identical in sentences and NPs. Assuming that this is not an accidental similarity, we need an analysis of "pro-drop" that covers both tensed sentences and NPs. An analysis of possessive NPs will be provided first.

4.2.1 The 3rd person possessive suffix is an anaphor

Consider the 3rd person possessive suffix -nsg. As already mentioned, a genitive NP is not always obligatory with this Px. Leaving out the genitive NP, however, is only possible if there is a c-commanding NP within the tensed sentence with which the Px agrees. This, of course, sounds very much like Condition (A) of the Binding Theory.

The distribution of -nsg, then, can be captured by saying that the Px has to be bound in a tensed sentence (i.e. in an IP), and it has to be bound within its NP if
there is a potential binder within the NP. Consider the following examples of -nsa:

3a) Maija-i hukkasi kasettinsa-i/*j.
   NOM lost tape-3Px
   'Maija lost her-i tape'

b) *Minä hukkasin kasettinsa.
   I-NOM lost tape-3Px
   ('I lost her tape')

c) *Maija-i väitti, että minä hukkasin kasettinsa-i.
   NOM claimed that I lost tape-3Px
   ('Maija claimed that I had lost her tape')

In (3a), -nsa is bound by an element outside of its NP, the subject NP Maija; -nsa cannot be bound by anything outside of the tensed sentence, as indicated by the index 'j'. Sentence (3b) is ungrammatical, because -nsa does not have a binder; BT(a) is violated. Similarly, (3c) is ungrammatical because the Px does not have a binder, although there is a 3rd person NP outside of the IP (Maija).

To see that c-command (for a definition, cf. fn.30, ch.2) makes a difference, as we expect of a binding phenomenon, consider the following example:

4) Maijan-i sisar-j hukkasi kasettinsa-*i/*j
   GEN sister-NOM lost tape-3Px
   'Maija's sister lost her tape'

194
As expected, the Px has to be coindexed with the head of the subject, sisar 'sister', and the non-c-commanding genitive specifier cannot act as an antecedent.

Even a c-commanding NP outside of the possessive NP cannot act as a binder, if the NP contains a potential binder:

5) Maija-i hukkasi hânen-*i/j kasettinsa-*i/j.
   NOM lost her tape-3Px
   'Maija-i lost her-j tape'

In this example, the Px has to be bound by the overt genitive pronominal NP hânen 'his/her'. hânen is a well-behaved pronoun, and it cannot be coindexed by a c-commanding NP in the binding domain (IP), according to Condition B of the Binding Theory. Since Maija and hânen have to be disjoint, and hânen and the Px have to be coreferential, Maija and the Px end up being disjoint.5

The pronoun hânen 'his/her' can be coindexed by a non-c-commanding NP in an IP, as expected:

6) Maijan-i sisar-j hukkasi hânen-i/*j kasettinsa-i/*j
   GEN sister-NOM lost her tape-3Px
   'Maija's-i sister-j lost her-i/j tape'

Again, hânen cannot be bound by the c-commanding sisar, but it can be coindexed with Maijan, which does not c-command the pronoun. Again, the Px has to be bound by hânen.
We can see from these examples that the pronominal hän 'his/her' does not treat NP as a binding domain; otherwise, being coindexed with a c-commanding NP that is outside of the NP should be fine, and it is not (binding by sisar is not possible in (6)). On the other hand, we referred to NP as a binding domain for the anaphoric Px, because a potential binder within the NP obligatorily binds the Px (Maija cannot be (and hän has to be) the binder in (5)).

Ideally, the binding domain(s) for pronominals and anaphors would be the same. We can maintain that the only binding domain in Finnish is IP, if something else accounts for the stricter locality of binding with the anaphors in the possessive construction. We might say that an anaphor has to be bound by the most local potential antecedent. This, however, is clearly not true in Finnish; consider the following example:

7) Maija-i kuuli Pekan-j pyytäneen Liisaa-k
    NOM   heard GEN    ask-INF PAR
            ...kävelytämään koiraansa-i/j/k
            walk-INF     dog-3Px

    'Maija heard that Pekka had asked Liisa
to walk his/her dog'

In this example, -nsa can be bound by the matrix subject Maija or by the genitive subject of the embedded infinitival, Pekan, or by the object of the infinitival
(and the subject of its complement), *Liisaa*. As long as there is no overt binder in the possessive NP (i.e. in this example, such a binder would immediately precede *koiraansa*), any c-commanding NP can bind the anaphor—not just the most local one. It will be argued in Chapter 5 that infinitivals are VPs in Finnish, not IPs; since VP is not a binding domain, anaphoric binding is not blocked in (7).

In Section 4.2.3, I will propose an analysis of possessive NPs according to which binding within a possessive NP takes place "prior" to other instances of binding. Once binding within an NP is ensured, we can allow any c-commanding NP within an IP to bind the anaphor in principle, but in practice mismatch of indices will always rule this possibility out (if there is an overt binder in the NP), as we shall see.

In addition to the possessive construction, -nsa occurs with the typical anaphors in Finnish, *itse- 'self' and toinen toise- 'each other'—what I will call anaphoric nouns. In fact, the anaphoric nouns have to have a possessive suffix affixed to them in order to behave as an anaphor:
8a) Maija-i maalasi itseänsä-i/*j.
    NOM     painted self-3Px

    'Maija painted herself'

b) Pojat-i maalasivat toinen toisiansa-i/*j.
    boys   painted    each-other-3Px

    'The boys painted each other'

In (8a), itseänsä has to be coindexed with Maija, and in
(8b), toinen toisiansa has to be coindexed with pojat.

I would like to propose that in (8a) and (b) what is
being bound is actually the Px -nsa, rather than the whole
anaphoric NP. Looking at the data this way, we find that
the distribution of -nsa is identical in the possessive
constructions and in the more typical anaphoric
constructions here, and the generalization can be captured
by assuming that -nsa is an anaphor, subject to BT(a).

In Standard Finnish, then, we have the following
possible types of possessive NPs (recall that "possessive"
is used in a broad sense here):

9a) If the possessor is a human pronoun, the
    possessed N has a Px that is obligatorily
    coindexed with the possessor.

b) If the possessor is a full NP (or a non-human
    pronoun), a Px is impossible.

c) If there is no overt possessor, a Px is
    obligatory; the Px has to be bound within its IP.
The status of the 3rd person -nqa as an anaphor seems straightforward. Let us now turn to the more problematic 1st and 2nd person Px's.

4.2.2 Are the 1st and 2nd person Px's also anaphors?

4.2.2.1 Binding without an overt binder

The 1st and 2nd person possessive suffixes differ from the 3rd person one in that they seem not to have to be bound in a tensed S; that is, they allow a "null" possessor. They may be bound within their NP or tensed S, but they don't have to have an overt antecedent in the tensed S:

10a) Taina löysi [minun rahakukkaroni].
    NOM    found    my    wallet-1SGPx
    'Taina found my wallet'

b) Minä löysin rahakukkaroni.
    I    found    wallet-1SGPx
    'I found my wallet'

c) Taina löysi rahakukkaroni.
    NOM    found    wallet-1SGPx
    'Taina found my wallet'

In (10a), the 1st person Px -ni is bound by minun within the NP. In (10b), -ni is bound by the subject minä 'I'. In (10c), there is no binder for -ni, yet the
sentence is fine. There doesn't seem to be any difference in meaning between (10a) and (10c).

One attempt at distinguishing the 1st and 2nd person Px's from the anaphoric 3rd person Px would be to say that the 1st and 2nd person Px's are pronominal, subject to Binding Theory (B). This was the assumption in e.g. Kanerva's (1987) analysis of Px's. However, if the 1st and 2nd person Px's are pronominal, they should not be able to be coindexed with a local c-commanding NP--whether within an NP or outside of one--and they frequently are, as in (10a) and (b) above. Thus, when there is a potential binder for the 1st and 2nd person Px's in the IP binding domain, these Px's behave as if they were anaphoric.

There is a further reason to treat the 1st and 2nd person Px's as anaphors, namely the fact that these suffixes (just like the 3rd person Px) occur on the elements itsesel- 'self' and toinen toise- 'each other, as we saw in Section 2.2:

11a) Sina satutit itsesi.
You-NOM hurt self-2SGPx

'You hurt yourself'

b) Me tapasimme toinen toisemme.
we-NOM met each-other-1PLPx

'We met each other'
Given these data, the 1st and 2nd person Px's clearly can act as anaphors, subject to Binding Theory (A). I would like to maintain that the 1st and 2nd person Px's are always anaphors, but that an abstract discourse-related binder is possible for them (but not for the 3rd person). What would the nature of this abstract binder be?

Consider the following suggestion: each (tensed) sentence (that is, IP) contains two implicit NPs: one corresponding to the speaker (1st person) and one to the hearer (2nd person). This is reminiscent of Ross's (1971) (cf. also Jacobs and Rosenbaum (1970)) Performative Hypothesis, in which a sentence is embedded under an abstract 'I tell you' clause. Having an abstract matrix clause under which overt sentences are embedded would not work here, however, since it is crucial that the abstract element can be located within the IP, in order for anaphoric binding to take place.

4.2.2.2 Syntactic position of the implicit binder

Where would these implicit NPs be located? It turns out that we cannot have them uniquely associated with a particular syntactic position: they are not automatically part of a syntactic tree, but they can be "inserted" into an empty NP position. Consider the following example:
12) Maija-ı löysi [1SG-GEN]-j rahakukkaroni-*i/j
   NOM    found        wallet-1SGPx

   'Maija found (my) wallet'

The implicit binder of the 1st person Px -ni is presumably located in the Spec(NP) genitive position, where it binds the anaphor. In this example we cannot posit the implicit binder in the subject position, since the subject position is filled by Maija, although we can in the pro-drop example (b):

13a) Minä-ı löysin  [1SG-GEN]-i rahakukkaroni-i.
    I          found-1SG        wallet-1SGPx

b) [1SG]-i löysin [1SG-GEN]-i rahakukkaroni-i.
    found-1SG        wallet-1SGPx

   'I found my wallet'

In (13a), we do not have to actually posit an implicit binder for the Px, since the subject can bind the suffix directly; I have included an abstract intermediate binder, for the sake of parallelism. In (13b), the subject corresponds to an implicit speaker-NP (as we shall see in detail in Section 4.3), and this abstract NP binds the Px, possibly via an abstract genitive NP, as shown above.

We might think that the implicit NPs are located somewhere in the CP (outside of IP), where they might still be able to bind anaphors. This does not seem plausible, however, since lexical material in CP does not block this possibility of binding. Consider a WH-question:
14) Minne Maija piilotti [1SG-GEN]-i rahakukkaroni-i?
   where NOM  hid
   wallet-1SGPx

   'Where did Maija hide my wallet?'

If the Px were bound by some element in C or Spec(CP), we
might expect having a WH-phrase in one of those positions
making binding more difficult--but it does not. On the
other hand, positing the implicit binder directly in the
Spec(NP) position, as in the example above, predicts that
any amount of material intervening between the "discourse"
and the suffix does not interfere with binding. This seems
to be the case. Also, binding of Px's in embedded clauses
is perfectly fine:

15) Taina väitti että Jukka oli löytänyt
   NOM  claimed that NOM  had found
   [1SG-GEN]-i kukkaroni-i.
   wallet-1SGPx

   'Taina claimed that Jukka had found my wallet'

Again, if the implicit binder were not located in the
Spec(NP) position, we would have a problem in having it be
located in a syntactic position elsewhere in this example.

I conclude, then, that the implicit speaker/hearer
NPs can be turned into syntactic antecedents of an anaphor,
by having them occupy the Spec(NP) position.

Before getting back to empty subjects in the
sentential domain, I will attempt to determine in the next
section what the relationship between a Px and its binder within a possessive NP is, and (in Section 4.2.4) what the structure of an anaphoric NP is. Then we will take a brief look at NPs in Colloquial Finnish in Section 4.2.5.

4.2.3 The structure of a possessive NP

Recall (from Section 4.2.1) the distribution of Px's with respect to different NP-types: only human genitive pronouns co-occur with a Px in a possessive NP, and other genitive NPs do not allow a Px.

If the distribution of Px's is solely determined by the Binding Theory, this distinction between NP-types is surprising. Recall that outside of the NP no distinction is made between a human pronoun binder vs. any other NP: any 3rd person NP that c-commands the Px, and is located in the same IP, can bind the Px.

I would like to propose that the co-occurrence possibility between a human genitive pronoun and a Px stems from the lexicon.

Recall (Chapter 3) how in accusative case assignment human pronouns have special status—-they are the only NPs in Finnish that have an overt (unique) accusative case
suffix. This was taken to mean that in the case paradigm for human pronouns, an accusative case suffix is given; such a case paradigm would have to exist in the lexicon of the language. For other NPs in Finnish, no accusative case suffix is given in the lexicon, and we saw that this results in no case suffix occurring on the NP when accusative is called for (=ACC/NOM), unless a genitive suffix percolates to the NP (=ACC/GEN).

Thus, human pronouns bear special status in the lexicon with respect to accusative case; it is not surprising to find that this class is also distinguished in the lexicon from the rest of the NPs with respect to Px's.

If the relationship between a human genitive pronoun and a Px in the lexicon is such that they are "automatically" coindexed for binding purposes, we have a solution to the problem of binding domains discussed earlier (we will return to how this coindexation is accomplished). Recall that anaphoric binding had to refer to the domain of NP, for possessive NPs, while pronominal binding (and non-possessive anaphoric binding) only had to refer to the domain of IP. The only actual instances of binding a Px by an NP within the possessive NP are ones with a human genitive pronoun as a binder (since no other genitive NPs allow a Px). A typical example is repeated here as (16):
16) Maija-i hukkasi hän en-**i/j kasettinsa-**i/j.
    NOM    lost   her   tape-3Px

'Maija-i lost her-j tape'

If the Px _msa_ is already bound "in the lexicon" by the corresponding genitive pronoun, the Px will never end up being bound by anything else--since anything that would bind the Px, such as the subject Maija in this example, would also bind the genitive pronoun hän en 'his/her', and this would result in a violation of Binding Theory (B). Thus, if the coindexation between a Px and its human genitive binder is established in the lexicon, then the only binding domain in Finnish is IP.

Helke (1970) discusses idioms of the type 'lose one's way' in English. These idioms need to be listed in the lexicon as having an open (variable?) position that can later be bound (corresponding to 'one' in the example). The mechanism used to represent the anaphoric nature of these idioms in the lexicon can perhaps be extended to the Finnish possessive NPs. For want of more appropriate terms, I will continue to speak of "coindexation" and "binding" in the lexicon, although these are traditionally phrasal notions (note, however, that the elements involved in "binding in the lexicon" in Finnish are closed class elements, so I do not need to refer to full (open class) phrases in the lexicon).
Recall the three types of possessive NPs, repeated here as (17):

17a) If the possessor is a human pronoun, the possessed N has a Px that is obligatorily coindexed with the possessor.

b) If the possessor is a full NP (or a non-human pronoun), a Px is impossible.

c) If there is no overt possessor, a Px is obligatory; the Px has to be bound within its IP.

If we have a way of coindexing a human pronoun and the corresponding Px in the lexicon, then (17a) and (b) are straightforward. If only human genitive pronouns can be coindexed with a Px, then (17b) follows. In order to account for (17c), a Px needs to be able to occur in the lexicon without a binder. That is, within the NP a Px either is coindexed with nothing (i.e. (17c)) or it is coindexed with a human genitive pronoun, as stated in (17a).

What does it mean for two elements to be coindexed in the lexicon? Consider the standard tree for an NP with a specifier position (with genitive as the default case for the specifier position):

![Diagram](image)

207
Using this tree, the D-Structure representation for a possessive NP in Finnish with a full NP possessor would be the following:

19) \[
\begin{array}{c}
\text{NP} \\
\text{Spec} \\
\text{[GEN]} \\
\text{tuoli} \\
\text{Virpi}
\end{array}
\]

Genitive case is realized on the NP in the Spec(NP) position, giving us Virpin tuoli 'Virpi’s chair'.

In order to represent a possessive NP with a human genitive pronoun, we need to be able to represent both the genitive pronoun and the Px (which is obligatory with the pronoun).

Recall the suggestion (Ch.3) that agreement suffixes on the verb are base-generated in the Spec(IP) position. Since sentences and NPs behave very parallelly with respect to suffixation, we might want to base-generate the agreement suffix on the NP (the Px) in a comparable syntactic position—that is, in the Spec(NP) position. On the other hand, if we wish to maintain a parallelism between different genitive possessors, we would have to say that a human genitive pronoun is base-generated in the
Spec(NP), just like the full NP is in (19). Thus, we might want a structure in which both the human genitive pronoun and the corresponding Px are base-generated in the Spec(NP) position:

\[
\text{20) } \quad \begin{array}{c}
\text{NP} \\
\text{/} \quad \text{\_} \quad \text{\_} \\
\text{Spec} \\
\text{\_} \\
\text{[GEN]} \\
\text{\_} \\
\text{tuoli} \\
\text{NP} \\
\text{/} \quad \text{\_} \\
\text{\_} \\
\text{hänän -nsa}
\end{array}
\]

This tree gives us hänän tuolinsa 'his chair(+3Px)', assuming the same sort of Affix Hopping analysis as we needed for the verb agreement suffixes in order to lower them from the Spec(IP) position to INFL (in Section 3.3.2.3).

Let us leave the internal structure of the NP in the Spec(NP) position open, for now. With a structure such as the one in (20) all genitive possessor NPs, be they full NPs or pronouns, are base-generated in the Spec(NP) position. Px's are also base-generated in the Spec(NP) position, corresponding to verbal agreement suffixes being base-generated in the Spec(IP) position.

Furthermore, since the human genitive pronoun and the Px form a constituent at D-Structure, we can suppose that
they are coindexed at D-Structure. This gives us not only the result that a genitive pronoun and its Px have to agree in person/number features, but also the fact that Px’s behave as if NP were a binding domain for them. This follows if we can stipulate that the coindexation between the two parts of the NP occurs before binding theory applies. Once the coindexation between the genitive pronoun and the Px has taken place, it is impossible to for the Px to be bound by anything outside of the possessive NP, since any such binder would also bind the possessive pronoun, resulting in ungrammaticality (violation of Condition (B) of the Binding Theory).

Note that of the two components of the NP in the Spec(NP) position in (20), one is obligatory and one is optional (at least on the surface): the Px is obligatory, and the genitive pronoun is optional. Consider the possibility that the Px is the head of the NP in the Spec(NP) position, and that the genitive pronoun is a specifier of the Px:

```
20') NP
   /\ Spec N
  [GEN]  |
   |  tuoli
 NP
 /\ Spec N
 [GEN]  |
   |  -nsa-i
 NP
   |  hänen-i
```

210
The constituent consisting of the Px and the pronoun is in the Spec(NP) position of the possessed noun. The head of the NP in the specifier position is the Px; the Px presumably bears genitive case. It has a specifier position of its own, which also contains an NP with genitive case.

The representation in (20‘), then, is the D-Structure tree for all human genitive pronoun and Px combinations.

Recall the argument that the implicit (speaker or hearer) binder of 1st and 2nd person Px’s had to occur in the Spec(NP) position. I would like to suggest that since the speaker/hearer feature is not available in the 3rd person, an abstract binder in the specifier position is not possible. That is, the D-Structure tree of an NP without an overt 3rd person binder is the following:

21) \[ NP \\
\quad \text{Spec} \\
\quad [\text{GEN}] \\
\quad \text{tuoli} \\
\quad \text{NP} \\
\quad \text{N} \\
\quad -\text{nsa} \]

This tree gives us the NP tuolinsa '(his/her) chair'. Since the Px is not coindexed in this structure, it has to be bound "in the syntax", as a regular anaphor.
To account for all the possible combinations, and to rule out all the impossible combinations, I need to stipulate the following: (i) only a human genitive pronoun or an abstract NP can occur as the specifier of a Px; (ii) a human genitive pronoun has to be the specifier of a Px.

Consider the lexical representation of pronouns and Px's. Since human genitive pronouns only occur with Px's in Standard Finnish, we can assume that human genitive pronouns are listed in the lexicon as only being able to occur in the specifier position of a Px (stipulation (ii)). This is comparable to specifying in the English lexicon that the article 'a' can only occur in the specifier position of singular (common) nouns.

With the two stipulations, the structures proposed account for the characteristics of the three types of possessive NPs.

The first stipulation prevents Px's from occurring with full NPs (or with non-human pronouns). Their structure is then straightforwardly the one given in (19) above.

All other possessive NPs contain a possessive suffix. This Px either has to be coindexed with something in its specifier position (binding "in the lexicon") or it has to
be bound in the syntax. If it is coindexed by a human pronoun, we get the tree in (20'). If the Px is a 1st or 2nd person one, it can be coindexed by an abstract NP corresponding to the human pronoun in (20'). A Px cannot be coindexed with by anything else. If the Px is not coindexed with anything, we get (21).

Let us now briefly consider the structure of anaphoric nouns with Px's.

4.2.4 The structure of an anaphoric NP

Although the anaphoric nouns itse- 'self' and toinen toise- 'each other' are similar to possessed nouns in that they require a Px, there are some crucial differences between the two types.

The anaphoric nouns never allow a genitive NP in the Spec(NP) position. If the anaphoric NPs did not have a Spec(NP) position, we would expect exactly that. Also, if there were no Spec(NP) position in the anaphoric NPs, we would expect that no implicit speaker/hearer binder can be posited in that position. This is exactly what we find:
22a) *Maija katseli itseäni.
   NOM watched self-1SGP\textsubscript{x}

(*'Maija watched myself')

b) Maija katseli koiraani.
   NOM watched dog-1SGP\textsubscript{x}

'Maija watched my dog'

Binding by the implicit speaker-NP (located in the
Spec(NP)) is fine in (22b), while—as expected, if there is
no available Spec(NP) position—having an implicit binder
is impossible in (22a).

There is a problem, though, with the idea of not
having a Spec(NP) position in the current analysis. The
anaphoric suffix cannot be directly base-generated on the
anaphoric noun, because case suffixes (including the
syntactic default cases) occur between the noun and the P\textsubscript{x}
(just as with regular nouns). If P\textsubscript{x}'s were directly base-
generated on the noun, we would expect case suffixes to
follow the P\textsubscript{x}, and they cannot:

23a) itseltänsä
    self-ABL-3P\textsubscript{x} 'from himself/herself'

b) ystävältänsä
    friend-ABL-3P\textsubscript{x} 'from his/her friend'

Rather than drastically getting rid of the Spec(NP)
position, I would like to suggest that (23a) and (b) have
the same structure:
As with 3rd person possessive constructions without an overt genitive pronoun, only a Px is base-generated in the Spec(NP) position. As usual, the case feature from P percolates to the head noun first, followed by affixation of the Px (by Affix Hopping).

The only way in which anaphoric nouns then differ from "possessed" nouns is in not allowing a Spec(NP) position of the Px. That is, the Px of an anaphoric noun cannot be bound "in the lexicon". Given this constraint (regardless of how it is actually implemented in the lexicon), we get the desired result. A human genitive pronoun or an abstract binder cannot occur with the anaphoric nouns, because this would involve the Px being already coindexed and bound in the lexicon.

Having a structure for the anaphoric nouns which involves a Spec(NP) position also enables us to have a position in which the first part of the reciprocal toinen toise- 'each other' can be base-generated (as suggested to me by F.R.Higgins). The word toinen and the anaphoric Px
would need to "share" the Spec(NP) position, and they would presumably be coindexed. *toinen* may in fact occur in the specifier position of the Px (i.e. in the same position that human genitive pronouns occur in possessive NPs).

4.2.5 Possessive suffix pro-drop in Colloquial Finnish

Superficially, Colloquial Finnish differs from Standard Finnish in drastic ways with respect to possessive suffixes. I will consider two versions of CF: the Helsinki and the Tampere dialects.

In the Helsinki dialect, Px's have basically been lost in the possessive construction. All NPs behave as full NPs do in Standard Finnish (and even human genitive pronouns would be represented as in tree (19) in Section 4.2.3, without a Px).

Possessive pronouns in the Helsinki dialect can be interpreted either as pronominals (BT(b)) or as anaphoric (BT(a))—unlike Standard Finnish, where possessive pronouns are strictly pronominal (and their anaphoric counterparts are the Px's). The change in the possessive pronouns can be seen as a consequence of the fact that possessive pronouns are now obligatory in the possessive construction.
In SF, the Px’s functioned as anaphors, and possessive pronouns as pronominals, but in the Helsinki dialect, only pronouns are available, so they end up covering both the anaphoric and the pronominal functions (as may also be the case e.g. in English).

The Tampere dialect (of my generation) exhibits a cross between Standard Finnish and the Helsinki dialect: Px’s exist for the singular, as in SF; in the plural, Px’s have been lost, as in the Helsinki dialect. Consider an example of the paradigm:

25a) mun kissani
    my cat-1SGPx

b) sun kissas(i)
    your cat-2SGPx

c) sen kissa
    his/her/its cat

d) Jukan kissa
    Jukka’s cat

e) meiän kissa
    our cat

f) teiän kissa
    your cat

g) niitten kissa
    their cat

So, the Px’s in the plural have been lost, and the possessive pronouns are obligatory: (25e)–(g). In the singular, the Px’s remain. This is not obvious in the 3rd person, since the only form of the 3rd person that takes
the suffix in SF, hanen (the human pronoun), has been lost (the human/non-human distinction has disappeared in favor of the non-human). The following example shows, however, that -nsa still exists:

26) Jukka/se kâvelytti kissaansa.
   NOM he walked dog-3Px

   ‘Jukka/he walked his dog’

This example suggests that the Px’s are still analyzed as anaphors (in the singular), since we find the anaphoric suffix in a binding environment (as in SF) although -nsa cannot co-occur with Jukka or se ‘he/she/it’ in the same NP (any more than it can in SF).

As in SF, the singular possessive pronouns behave as pronominals. Compare the singular (pronominal) possessive pronoun in (27a) to the plural (anaphoric?) possessive pronoun in (27b):

27a) Mä kâvelytin koiraani /?mun koiraani.
    I walked dog-1SGPx my dog-1SGPx

   ‘I walked my dog’

b) Me kâvelyttiin meiän koiraa.
   we walked our dog

   ‘We walked our dog’

In (27a) --as in SF--binding the possessive pronoun results in an awkward sentence for my dialect, while in (27b) this is fine (and no Px is possible in (b)).

218
There is a difference between the existing Px’s in my dialect of CF and in SF: in CF, the 1st and 2nd person suffixes are not "pro-drop". That is, for some reason the implicit speaker/hearer NPs cannot act as binders any more:

28a) Pekka kävelytti mun koiraani.
    walked my dog-1SGPx

    'Pekka walked my dog'

b) Mä kävelytin koiraani.
    I walked dog-1SGPx

    'I walked my dog'

c)??Pekka kävelytti koiraani.
    walked dog-1SGPx

    'Pekka walked my dog'

Sentences (28a) and (b) are fine, just as in SF, but (28c) is not very good. In (28c), the Px would need to be bound by the implicit speaker-NP in the Spec(NP) position, and this does not seem possible any more. The 1st and 2nd persons now behave identically to the 3rd person, where reference to such an implicit NP was not possible even in SF. Binding by an overt antecedent is still possible, however (as in (28b)).

In the Tampere dialect, Px’s are required in all persons, even in the plural, in anaphoric NPs:
29a) Mä satutin itteni.
    I-NOM hurt self-1SGPx

 'I hurt myself'

b) Te ette pessy itteenne.
    you-NOM not-2PL washed self-2PLPx

 'You (pl.) didn't wash yourselves'

Table 4.5 summarizes the data from Standard Finnish and from the Tampere dialect of Colloquial Finnish, giving the distribution of the Px and its (largest possible) binding domain.

TABLE 4.5. Summarizing the distribution of Px’s.

<table>
<thead>
<tr>
<th>Environment of Px</th>
<th>Standard Finnish</th>
<th>Tampere Dialect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Px?</td>
<td>bound?</td>
</tr>
<tr>
<td>NP with full NP possessor</td>
<td>impossible</td>
<td>-</td>
</tr>
<tr>
<td>NP with sg.human GEN pronoun</td>
<td>obligatory</td>
<td>in NP</td>
</tr>
<tr>
<td>NP with pl.human GEN pronoun</td>
<td>obligatory</td>
<td>in NP</td>
</tr>
<tr>
<td>NP without overt sg.possessor</td>
<td>obligatory</td>
<td>in IP</td>
</tr>
<tr>
<td>NP without overt pl.possessor</td>
<td>obligatory</td>
<td>in IP</td>
</tr>
<tr>
<td>Anaphoric NP</td>
<td>obligatory</td>
<td>in IP</td>
</tr>
<tr>
<td>No overt binder in IP(1st/2nd)</td>
<td>obligatory</td>
<td>(in IP)</td>
</tr>
</tbody>
</table>
According to the first row, Px's are impossible in NPs that have full NP possessors (for both dialects). The same holds for non-human pronouns for both dialects. In the Tampere dialect, Px's are also impossible in the possessor in a plural human pronoun (row 3).

For singular possessors, a Px is obligatory in both dialects with a human genitive pronoun, and it has to be bound in the NP (coindexing in the lexicon). For plural possessors, this also holds in SF.

If the NP contains no overt possessor, then a Px is obligatory in SF (if the NP is a possessive NP). The Px has to be bound within its IP. Similarly, for the singular possessors in the Tampere dialect. There is no way to "omit" a plural possessor in this dialect (cf. English).

In anaphoric NPs, a Px is obligatory for both dialects; as usual, it has to be bound in the IP.

Finally in the last row of Table 4.5, a Px is obligatory in SF if the IP contains no overt binder (nor the NP); this is only possible in the 1st and 2nd person. In the Tampere dialect, this is not possible in any person.

How can we account for the differences between SF and the Tampere dialect? Clearly the Tampere dialect is more
restrictive in what is allowed in the Spec(NP) position (or actually, what is allowed in the Spec(NP) position of the Px). The following gives the possibilities for what can occur in the Spec(NP) position (of the head-N) in the Tampere dialect (in addition to full NPs in genitive case):

30) NP
   / \ Spec N
   | [GEN]  tuoli 'chair'
   |     NP
   |    meián 'our'
   |   teián 'your(pl)'
   | niitten 'their'
   | sen 'his/her/its'
  -nssa
(mun) -ni
(sun) -si

The Spec(NP) position can contain one of the plural possessive pronouns. It can contain the 3rd person singular possessive pronoun sen, which now refers both to humans and non-humans. It can contain the 3rd person Px -nssa, which has to be bound within the IP (but there is no need to posit an abstract binder in the NP). It can contain the 1st or 2nd person singular Px’s, with or without an overt pronoun. If the pronoun is not overt, then an overt binder is required in the IP.
Standard Finnish restricts the specifier position of Px's to human pronouns, for some reason (cf. fn.7). Presumably for a similar reason, the Tampere dialect restricts the specifier position of Px's to overt, singular human pronouns.

Given such a restriction in the Tampere dialect, it is impossible to have plural Px's in a possessive NP, because the possessive pronoun would have had to be base-generated in the specifier position of the Px. A Px can occur by itself, but it has to be bound within the IP.

Assuming that an abstract binder is impossible in the Spec(NP) position of a Px, we get the result that the 1st and 2nd person Px's have to have an overt binder. This follows from the analysis for speaker/hearer binders that was proposed (in Section 4.2.2.1) according to which the abstract speaker/hearer binder occupies the specifier position of a Px.

The fact that Px's are still possible in anaphoric NPs suggests that the structure proposed for these NPs (in Section 4.2.4) is correct. Since in the proposed structure the Px is bound from the outside of the anaphoric NP (without an intermediate abstract binder) restricting what can occur in the specifier position of the Px does not affect the anaphoric NPs.
4.3 Pro-drop in tensed sentences

4.3.1 Basic analysis for Standard Finnish

Assuming that pro-drop in the possessive construction and pro-drop in tensed sentences are related, I will now extend the analysis outlined above to cover the tensed sentences.

Recall the finding discussed in Chapter 2, that although the Spec(IP) position (i.e. the subject position) normally has to be filled with lexical material, this is not the case with the 1st and 2nd person pro-drop cases. When the 1st or 2nd person subject has been omitted, nothing else occurs in the subject position, either. This led me to propose that the subject position in these cases was filled with an abstract element; this abstract element ends up binding the agreement suffix on the verb.

I would like to propose, along the lines of the analysis for the possessive construction, that agreement suffixes on the SF verb are anaphors, and they need to be bound within the IP. In the 3rd person, this anaphor has to be bound by the subject NP, which therefore cannot be omitted:
31a) He-i lähtivät-i kotiin.
    they went-3PL  home

'They went home'

b)* [ ]-i lähtivät-i kotiin.
    went-3PL  home

(31b) is ungrammatical because there is no binder for the anaphor, -vat.

Pro-drop is possible in 1st and 2nd person, because the agreement suffix can be bound either by the implicit speaker-NP or by the implicit hearer-NP. The implicit NP is the abstract element that prevents other material from moving into the subject position, by occupying that position. For example:

32a) Me-i lähdimme-i kotiin.
    we  went-1PL  home

'We went home'

b) [NP-SPEAKER]-i lähdimme-i kotiin
    went-1PL  home

Unlike in the 3rd person plural example above, the 1st person plural example in (32b) is fine (since there is no implicit NP corresponding to the speaker or hearer in the 3rd person). The agreement suffix in (32b) is bound by the implicit 1st person speaker NP, located in the subject position.
There is a slight problem with the plural anaphors. It appears that these can be bound by the speaker/hearer NPs as easily as singular anaphors can, although we might expect the speaker/hearer NPs to be singular in number. This is a problem both in the possessive constructions, and here in tensed clauses.10

We now have a system for Standard Finnish in which both agreement suffixes on a V and Pfx’s on an N (and other heads) are anaphors. A 1st or 2nd person suffix can be bound by an implicit speaker/hearer NP in the subject position (for verbal suffixes) or in the genitive position (for Pfx’s). This results in pro-drop for the 1st and 2nd person, in both domains. A 3rd person suffix cannot be bound by an implicit binder, but it needs an overt binder. This leads to non-pro-drop in the 3rd person, both in NPs and in IPs.

Let us now consider the sentential domain in Colloquial Finnish.

4.3.2 Pro-drop in the Colloquial Finnish sentences

In the Colloquial Finnish possessive constructions, we found that the possibility of being bound by an implicit speaker/hearer NP has been lost. If the same holds for the
verb domain, we would expect all persons to become non-pro-drop (since even the 1st and 2nd person anaphors cannot be bound by the implicit NPs, overt binders are required); this is what we find. CF (both Tampere and Helsinki dialects) is non-pro-drop for all persons. The sample paradigm is repeated here:

33a) Mä istun siä. /*Istun siä.
   I sit-1SG there
   'I'm sitting there'

b) Sä istut siä. /*Istut siä.
   you 2SG 2SG

c) Se istuu siä. /*Istuu siä.
   he/she/it 3 3

d) Me istutaan siä. /*Istutaan siä.
   we 1PL/PASS 1PL/PASS

e) Te istutte siä. /*Istutte siä.
   you 2PL 2PL

f) Ne istuu siä. /*Istuu siä.
   they 3 3

The agreement suffixes on the verb have not been lost, unlike some of the Pk's, but we do find some "reduction" in the verb agreement suffixes: the 3PL suffix has been lost (3SG and 3PL are now identical); 1PL has a new form which may or may not be analyzed as having an agreement suffix (the impersonal passive form).

If the sentential domain and the NP domain were exactly parallel with respect to the position of the anaphoric suffix, we would have the following structure for
the Spec(IP) after the subject has raised from Spec(VP) to the Spec(IP) but before the agreement suffix has attached to INFL:

34)    IP
     / \  
    Spec I'
     \ 
     ?P
     / \  
    Spec ?
     / \  
    NP    [agr.suffix]
     / 
[subject]

The agreement features would act as a head of a maximal projection (name irrelevant), and would take a specifier. The subject NP would raise (from the Spec(VP)) to this position.

In the NP domain in the Tampere dialect, the specifier position of the Fx was restricted to overt singular NPs. Let us see what would follow if the Spec(?P) position were similarly restricted.

If the implicit speaker/hearer binder were blocked from this position, we would not get any abstract binders for the 1st and 2nd person agreement suffix. Therefore, all persons would become non-pro-drop. This is a desirable result for the Tampere dialect.
If plural NPs were blocked from this position, we would not expect the combination of a plural subject NP and an agreement suffix. We find, indeed, that in Colloquial Finnish only one of three plural agreement suffixes remains.

As in the NP domain, the combination of a singular NP and an anaphoric suffix is possible in the CF sentence.

It seems clear that the agreement suffixes on the verb and Px's behave very similarly both in SF and CF. The differences stem from the fact that Px's have more potential binders than agreement suffixes, given the syntactic flexibility of an NP, while the suffix in the IP can only be bound by the NP in the Spec(IP).

4.3.3 Variation in pro-drop and its acquisition

If the verbal agreement suffixes (and the Px's) are anaphoric in nature in Finnish, we might expect that this holds in other languages as well. If, however, the language has no agreement suffixes—such as Chinese—no binding relationship would be posited. In such a language, there would be no requirement based on the Binding Theory that would force subjects to occur overtly, and subjects could be omitted as freely as any other arguments can.
We can suppose that the language learner will only posit a binding relationship, if the verbs are analyzed as having suffixes. Until any suffixes have been discovered, the following default "inference" would be made:

35) no suffix on V -> no binder required
   -> subject optional

Since the learner of Chinese will get no evidence for suffixes, this inference will be maintained. The children learning English would also start off with this kind of assumption, and we expect pro-drop to occur at the stage in English before inflectional morphology has been acquired.11

Clahsen (personal communication) reports that German children stop using pro-drop sentences as soon as they acquire the 2nd person singular inflectional suffix. Until this point, children do not use inflectional suffixes as agreement suffixes.

Italian, CF, and SF all have agreement suffixes, so a binding relationship is posited. What accounts for the differences between the languages?

Once the child discovers inflectional suffixes in (either form of) Finnish, she will try to figure out what can act as a binder of the suffix. The obvious c-commanding binder is the nominative subject, which is then
obligatory, in order to avoid violating BT(a). This results in non-pro-drop in CF. In order to learn Standard Finnish, the child would have to learn that an implicit binder is possible in the 1st and 2nd person (this can be learned through positive evidence).

One of the characteristic features of Italian (and other familiar pro-drop languages) is that post-verbal subjects are very common. The child learning Italian would have trouble positing the nominative subject as the binder of the anaphoric suffix, since the subject often occurs in the postverbal position. Whether this leads into positing an abstract discourse binder for all persons, or into reanalyzing the agreement suffixes as non-anaphoric, is not clear. The two options for languages with inflectional suffixes would be the following:

36a) subject can bind suffix
     -> overt subject required

b) subject cannot bind suffix (since it is postverbal) -> ?

Italian and other "typical" pro-drop languages (with postverbal subjects) would follow path (b), while CF (and presumably English) would follow path (a). SF would also initially follow path (a).
Let me now turn to a discussion of the possible positions for an abstract subject in Finnish.

4.4 Raising vs. not raising a subject
4.4.1 Spec(VP) and the missing person construction

We saw in Section 2.3.1.3.3 that the missing person construction behaved similarly to the impersonal passive construction in that one of the complements of the verbs had to raise to the Spec(IP) position. That is, unlike pro-drop sentences, the missing person construction behaves as if the subject position were empty (before something moves into the position).

Unlike in passive sentences, however, the 3rd person Px -nәa can occur in the missing person construction:

37a) *Yliopistolla nәhtiin ystәviәnsә.
university-ADE see-PASS friends-PAR-3Px

('Friends were seen at the university')

b) Yliopistolla nәkee ystәviәnsә.
university-ADE see-JSG friends-PAR-3Px

'(One) sees (one’s) friends at the university'

As expected, (37a) is bad because -nәa is not bound (the sentence is fine without the Px). Unexpectedly, however,
(37b) is perfectly fine, where -nsa occurs without an overt binder.

Given that the missing person construction is the only construction in which -nsa can occur without an overt binder, there is most likely an abstract binder of some sort in the missing person construction—-one that does not occur in the impersonal passive counterpart.

This abstract binder cannot be of the pro-drop variety. First, the pro-drop variety of abstract binder is not normally available in the 3rd person. Secondly, as we established earlier, the Spec(IP) position is empty both in the missing person and in the impersonal passive, until an overt complement of the verb raises to the Spec(IP). Thus, the missing person construction does not behave like the pro-drop cases, where we had evidence for an abstract binder in the Spec(IP) position.

We need an abstract binder in the missing person construction that is not located in the Spec(IP) position, and that is not available to any other construction.

There are three things that are unique to the missing person construction: (i) it is the only construction without the possibility of an overt nominative subject whose object gets ACC/GEN case; (ii) it is difficult or
impossible to interpret it as referring to a specific point in time; i.e. it is a generic construction; (iii) it allows binding of \(-n\) without an overt binder. None of these hold in the impersonal passive (or any other constructions).

I would like to propose that in the missing person construction an abstract 3rd person subject is base-generated in the Spec(VP) position, and that subject remains in the Spec(VP) position.

Let me first show that the analysis takes care of the data, and then attempt to further justify the analysis.

If there is an abstract 3rd person subject in the Spec(VP) position in this construction, then binding of the anaphoric suffix \(-n\) is straightforward; the abstract subject binds the Px.

Since the abstract binder is in the Spec(VP) position, the Spec(IP) position still needs to be filled; the construction behaves like other ones with an empty Spec(IP) position (passive, raising, existentials).

I would like to tentatively suggest that the fact that the subject does not raise to the Spec(IP) forces the
construction to be interpreted as generic, since basically the sentence is interpreted just using the VP, without the IP positions.

The ACC/GEN form occurs in the missing person construction, although there is no overt nominative subject (which was required in order to base-generate a genitive feature; cf. Ch.3), and it is not possible in the passive:

38a) Täältää loytaa helposti kirjan /*kirja here-ABL find-3SG easily book-ACC/GEN ACC/NOM

'(One) finds a book here easily.'

b) Täältä löydetiin kirja /*kirjan
here-ABL find-PASS book-ACC/NOM ACC/GEN

'A book was found here.'

The occurrence of the genitive suffix on the accusative object in (38a) can be accounted for if the construction has an abstract subject, base-generated in the Spec(VP) position (I will return to why the subject is not assigned genitive case). In the passive construction there is no possibility of base-generating a genitive feature, and ACC/GEN never occurs.

Thus, the stipulation that the missing person construction has an abstract 3rd person subject in the

235
Spec(VP) position accounts for the properties of this construction.

4.4.2 Remaining in the Spec(VP) position

Let us assume, then, that the missing person construction has a base-generated 3rd person (implicit) subject in the Spec(VP) position. Although the subject never raises to the Spec(IP) position, there is no problem with case assignment.

In order to prevent genitive case from being realized on all subjects in the Spec(VP) position, I had to assume that the fact that the subject is coindexed with the agreement features in the Spec(IP) position blocks realization of genitive case (cf. Section 3.3.2). In the impersonal construction, then, the 3rd person subject in the Spec(VP) position is coindexed with agreement features in the Spec(IP) position. This prevents genitive case from being assigned to the abstract subject, and genitive case percolates to a "receptive" object. The agreement features in the Spec(IP) end up in INFL; the vacated Spec(IP) position has to be filled by one of the complements or adjuncts of the 3rd person singular verb.
The mechanism of having a nominative subject stay in the Spec(VP) position is needed in two other types of constructions, postverbal subjects and indefinite quantifiers (cf. fn.8 in ch.2):

39a) Kirjan löysi Jukka.
   ACC/GEN found NOM
   'The book was found by Jukka'

b) Keittiössä on joku.
   kitchen-INE is someone-NOM
   'There is someone in the kitchen'

It was suggested in Section 2.3.1.1 that the postverbal subject ("new" in discourse) in constructions such as (39a) occupies the Spec(VP) position. Similarly, quantified subjects such as joku 'someone' and kukaan 'anyone' often follow the verb. These can also be analyzed as remaining in the Spec(VP) position.12

In the constructions in (39), as well as in the missing person construction, the Spec(IP) position has to be filled by another element whenever the nominative subject is not raised.

Recall the täytyy 'must' construction (Section 3.3.2.4.4). In this construction, the subject occurs in genitive case (and no genitive suffix is possible on the object):

237
40) Hänen täyttää syödä illallista.
   he-GEN must eat supper-PAR

   'He has to eat supper'

There are now three possible ways of realizing a
subject that is base-generated in the Spec(VP) position.

First, if the verb does not indicate that its subject
has to be coindexed with an agreement element in the
Spec(IP), then the subject gets genitive case, the default
case of the Spec(VP) position. This is what happens in
(37).

All other subjects (unless they bear semantic case or
lexical case) are coindexed with an agreement element in
the Spec(IP) position. This prevents genitive case from
being realized on the subject. The genitive feature can
then percolate to an object in these sentences.

Coindexation then leads to "nominative" subjects
(with no case). These subjects can then either raise to
the Spec(IP) position (which is the second way of realizing
a subject) or stay in the Spec(VP) position (third way).
Examples of subjects staying in the Spec(VP) position are
the implicit subject of the missing person construction and
the two constructions exemplified in (39) above.
The existence of the missing person construction with an abstract 3rd person subject suggests that an abstract subject with any person features can be base-generated in the Spec(VP) position. The difference between 1st/2nd and the 3rd person is that the 3rd person suffix cannot raise to the Spec(IP).

Thus, only those abstract subjects that are able to bind an agreement suffix in the IP can raise to the Spec(IP) position: the 1st and 2nd person subjects. The 3rd person abstract subject cannot bind a suffix (since it does not bear appropriate discourse-related features), and it also cannot raise to the Spec(IP) position.

NOTES

1) Pro-drop facts are identical in matrix and embedded clauses; I will return to this.

2) Colloquial Finnish (CF) seems to be developing expletives; the expletives se ('it') and sitä (PAR of 'it') are fairly common in some forms of CF. As we shall see, CF is non-pro-drop in all persons. There may be a link between the occurrence of non-pro-drop and the expletives, but the CF data suggests that the expletives probably diachronically follow non-pro-drop. Thus, expletives could not act as triggers for non-pro-drop in some forms of CF (for example, my dialect (Tampere dialect of the 60's) is non-pro-drop but does not have expletives).

3) Hyams & Jaeggli (1987) suggest that languages that have a uniform inflectional paradigm are pro-drop (either no inflection at all, or an overt affix in each person & number), and languages with a mixed system are non-pro-drop (e.g. English, where only the 3rd person singular present
form bears a suffix). This analysis makes the right prediction about CF (mixed paradigm, non-pro-drop). However, it does not explain the SF data (uniform paradigm, pro-drop only in 1st/2nd).

4) U. Nikanne (personal communication) has pointed out to me that sentences in which -nssa does not have an overt c-commanding binder are becoming more common in modern Finnish. Especially common seem to be expression of the following sort: a name followed by veli/vaimo/vstävä+nssa 'brother/wife/friend' (where the name presumably does not c-command the Px):

    Pekka-i ja vaimonsa-i Raili
     NOM   and wife-3Px NOM

    'Pekka and his wife Raili'

In my dialect, such constructions are marginal.

5) In order to render 'Maija lost her tape' (with emphatic 'her') in Finnish, we would need to use the adjective oma 'own':

    Maija hukkasioman kasettinsa.
     NOM   lost own-ACC tape-3Px

    'Maija lost her own tape'

6) T. Roeper (personal communication) has pointed out that English might have forms in which binding "in the lexicon" takes place:

    a) self-helper
    b) self-aggrandizing

In these examples, one needs to make sure that the reference of 'self' in these compounds is the same as that of one of the theta-roles of the verb (say, by co-indexing 'self' and the suffix).

7) F.R. Higgins has suggested to me that the restriction on what can occur with the Px in SF might have to do with Condition C of the Binding Theory. Full NPs might be impossible because they would (perhaps) be c-commanded by the Px (and the two would have the same index). This would explain why full NPs cannot occur with Px's, which would then not have to be stipulated. Unfortunately, this analysis it still would not explain why non-human pronouns
cannot occur with PΓ’s (and why in CF plural NPs are not allowed either).

8) Nikanne (personal communication) informs me that in his Helsinki dialect 2nd and 3rd person singular PΓ’s are preferred to not having a PΓ, when the head is PΓ. Also, PΓ’s are still used with the anaphoric words itse- ‘-self’ and toinen toise- ‘each other’; I will return to this.

9) Binding of mun by ma improves under certain conditions, as also in SF, for example as a response to a multiple WH-question ‘Who walked whose dog?’.

10) Plurals pose problems in general (cf. e.g. Lasnik & Uriagereka (1988)). The following feature decomposition of (unary) person/number features seems to make sense of the Finnish data:

1SG [+SPEAKER]
2SG [+HEARER]
3SG [ ]
1PL [+SPEAKER]
[+PL]
2PL [+HEARER]
[+PL]
3PL [+PL]

That is, 1st person singular and 1st person plural share the feature [+SPEAKER]. That is the only feature that the 1st person singular has. 1st person plural has [+PL] in addition. Similarly for the feature [+HEARER] and the 2nd person. In the 3rd person, the singular has no features. The plural only has the feature [+PL].

These features would be what the agreement suffix on the verb or the PΓ have in Standard Finnish.

11) Presumably once the English child learns the 3rd person singular suffix -s, this is enough to tell the child that the language requires binding of inflectional suffixes. This would involve positing an abstract suffix in the rest of paradigm.

12) It appears that certain nominative NPs have to raise to the Spec(IP). The criteria for having to raise involves some combination of thematic, semantic, and discourse information. For example, it may be that agentic subjects
that are definite and old information have to raise to the Spec(IP). Presumably the 1st and 2nd person implicit subjects also have to raise.

13) An abstract 3rd person plural suffix seems not to exist in Finnish.
CHAPTER 5
INFININITAL ARGUMENTS AND ADJUNCTS

5.1 Introduction

There are at least a dozen productively used non-finite verb forms in Finnish (examples to be given shortly). They all share the following features: (i) they do not allow nominative subjects; (ii) they do not allow the negative verb; (iii) they do not allow the auxiliary verb olla (or any of the four tenses found in tensed sentences).

I have argued that nominative subjects are base-generated in the Spec(VP) position and coindexed with the agreement suffix in the Spec(IP) position; the coindexation blocks case assignment to these NPs (cf. Ch.3), and they end up with no case (i.e. "nominative"). Due to the defective paradigm of the negative verb e- (which only has forms with an agreement suffix), it was suggested that the negative verb is base-generated in INFL. Similarly, the distribution of the auxiliary olla could be accounted for by assuming that it also is base-generated in INFL (Ch.2).
Thus, the syntactic positions relevant to the three characteristics of non-finite constructions are Spec(IP) and INFL, the two positions unique to IP.

To account for the three characteristics of the non-finite constructions, I would like to propose that these constructions in Finnish do not have an IP. Non-finite constructions consist of a projection of the verb that is identical to the VP (or V') in the D-Structure of a finite clause. Since the non-finite constructions have no IP (and therefore no Spec(IP) nor INFL) there is no position in which the agreement suffix (of the verb), the negative verb, or the auxiliary verb can be base-generated.

Not having an IP in the representation of the non-finite constructions is also consistent with the fact that it appears that these constructions do not have a CP: there is no WH-movement, topicalization, or complementizers in the non-finite constructions.

Recall also that the non-finite constructions do not act as binding domains, while finite IPs do (Chapter 4). If non-finite constructions do not have an IP, we have a generalization concerning binding domains: only IP counts as one.
Traditionally, the non-finite forms have been divided into two classes: participles and infinitives. As noted by Hakulinen & Karlsson (1979:341), this division is not syntactically relevant in some cases. Some of the participles have more than one function (with different case forms). In the nominative case, the participles behave as adjectives, listed in Table 5.1 for the verb *luke-* 'read' (based on Hakulinen & Karlsson (1979:340)).

<table>
<thead>
<tr>
<th>FINNISH FORM</th>
<th>TRADITIONAL NAME</th>
<th>GLOSS WITH CONTEXT</th>
</tr>
</thead>
<tbody>
<tr>
<td>lukeva</td>
<td>present p. (active)</td>
<td>(the woman) reading</td>
</tr>
<tr>
<td>luettava</td>
<td>present p. (passive)</td>
<td>readable (material)</td>
</tr>
<tr>
<td>lukenut</td>
<td>past p. (active)</td>
<td>(a well-)read (woman)</td>
</tr>
<tr>
<td>luettu</td>
<td>past p. (passive)</td>
<td>(the book) read</td>
</tr>
<tr>
<td>lukema</td>
<td>agentive p.</td>
<td>(the book) read (by Jukka)</td>
</tr>
<tr>
<td>lukematon</td>
<td>negative p.</td>
<td>(the book) not read</td>
</tr>
</tbody>
</table>

In this chapter, I will not be concerned with the adjectival usage of the participles given in Table 5.1; some of the above forms will be found in the next table, however, behaving as verbs. Table 5.2 gives the forms—grouped by their syntactic distribution—that will be discussed in this chapter, with their traditional names and the terms I will use for them (loosely based on Hakulinen &

245
Karlsson (1979:341)). Approximate glosses are given where possible.

TABLE 5.2. Five infinitival constructions.

<table>
<thead>
<tr>
<th>MY TERM</th>
<th>FORM</th>
<th>TRAD. TERM</th>
<th>GLOSS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TA-infinite</strong>:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lukea</td>
<td>1st inf.(short)</td>
<td>'to read'</td>
<td></td>
</tr>
<tr>
<td><strong>MA-infinite</strong>:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lukemassa</td>
<td>3rd inf.(INE)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>lukemasta</td>
<td>3rd inf.(ELA)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>lukemaan</td>
<td>3rd inf.(ILL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>** Clausal complement infinitival**:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lukewan</td>
<td>pres.part.(act., GEN)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>lukeneen</td>
<td>past part.(act., GEN)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>luettavan</td>
<td>pres.part.(pass., GEN)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>luettun</td>
<td>past part.(pass., GEN)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Temporal adjunct</strong>:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lukiesa</td>
<td>2nd inf.(act., INE)</td>
<td>'while reading'</td>
<td></td>
</tr>
<tr>
<td>luettua</td>
<td>past part.(act., PAR)</td>
<td>'having read'</td>
<td></td>
</tr>
<tr>
<td>luettaessa</td>
<td>2nd inf.(pass., INE)</td>
<td>'while being read'</td>
<td></td>
</tr>
<tr>
<td><strong>Rationale adjunct</strong>:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lukeakse+Px</td>
<td>1st inf.(long)</td>
<td>'in order to read'</td>
<td></td>
</tr>
</tbody>
</table>

The first three types of form in this table can be considered to be argument-like: the TA-infinite, the MA-infinite (with its three internal locative case
suffixes), and the clausal complement. The MA- and TA-infinitives typically have neither an overt subject nor a Px, while the clausal complement construction has either an overt genitive subject or a Px (the two occur in complementary distribution).

The last two types in Table 5.2—the temporal adjunct and the rationale clause construction—are adjuncts. The temporal adjunct can have both a genitive subject and a Px (like NPs), while the rationale adjunct has an obligatory Px (and no genitive subject).

There are a few more forms in Finnish that will not be covered (all of which are archaic or literary): the so-called 4th infinitive (*onl lukeminen/*ei ole lukemista 'has to be] read/[may not be] read’) and 5th infinitive (lukemaisillaan 'about to read’), both of which can be considered to be idiomatic or frozen (following Hakulinen & Karlsson (1979)). Similarly, one of the archaic forms of the 2nd infinitive (*lukien 'by reading’) will not be covered. I will also not discuss the slightly archaic adessive and abessive case forms of the MA-infinitive (*lukemalla 'by reading’ and lukematta 'without reading’).

Of the forms in Table 5.2, all but the passive forms are productively used in Standard Finnish. The TA- and MA-infinitivals are common in Colloquial Finnish, as well, but
the other forms may not be as common in CF (instead, finite clauses are often used).

In Section 5.2, I will discuss the MA-infinitive and the TA-infinitive—the two constructions that are "non-clausal" (and both of them occur as arguments of matrix verbs). These two constructions share the following properties: they do not allow Px's; they do not have a passive form; they do not have a tense (present-past) distinction; and, the form of an accusative object in these constructions necessarily depends on the matrix verb.

In attempting to account for the distribution of the non-clausal infinitives, we find that generalizations can be made which cover both infinitival and non-infinitival complements.

The two constructions covered in Section 5.3 are "clausal". They allow Px's; they have a passive form; they have two aspectual forms; and, the marking of an accusative object of the infinitival verb is somewhat independent of the matrix verb.

Finally, in Section 5.4, I will discuss the rationale clause. This construction is similar to the two clausal constructions, but with interesting differences.
5.2 The non-clausal infinitivals

In this section, I will discuss the MA-infinitive and the TA-infinitive. It will be argued (following Nikanne (1987) and (1988) that the MA-construction bears the syntactic category of a locative PP, and has the distribution of one, as well. Along similar lines, I will argue that the TA-infinitive has the distribution of a direct object.¹

5.2.1 The MA-infinitive

There are two variants of the MA-construction: one with (matrix) subject control and one with (matrix) object control. We will look at the simpler subject control cases first.

5.2.1.1 MA-infinitivals are locative PPs

The MA-infinitive (of the subject control variant) typically occurs with verbs of physical motion or location, such as mennä 'go', käydä 'go and return/visit', olla 'be (located)', and tulla 'come'. Consider the following examples with each of these verbs:

249
la) Jukka kävi ostamassa solmion.
   NOM went buy-MA-INE tie-ACC/GEN
   'Jukka went to buy a tie'

b) Jukka meni ostamaan solmion.
   NOM went buy-MA-ILL tie-ACC/GEN
   'Jukka went to buy a tie'

c) Jukka on ostamassa solmiota.
   NOM is buy-MA-INE tie-PAR
   'Jukka is buying a tie'

d) Jukka tuli ostamasta solmiota.
   NOM came buy-MA-ELA tie-PAR
   'Jukka came from buying a tie'

For each verb in (1), the case chosen for the MA-infinitival is identical to the case that would be chosen for a locative complement of the verb. Compare the following to the examples in (1):

2a) Jukka kävi kaupassa.
   NOM went store-INE
   'Jukka went to the store'
   (lit. 'visited in the store')

b) Jukka meni kauppaan.
   NOM went store-ILL
   'Jukka went to the store'

c) Jukka on kaupassa.
   NOM is store-INE
   'Jukka is in the store'

d) Jukka tuli kaupasta.
   NOM came store-ELA
   'Jukka came from the store'

The verb kävi 'visited' subcategorizes for a locative
complement in inessive case; both elative and illative would be ungrammatical. Similarly, the MA-infinitival has to occur in inessive case with this verb; cf. (1a) above.

The verb mennä 'go', on the other hand, requires an illative 'to' complement, both with a locative phrase, as in (2b), and with the MA-complement, in (1b) above. olla 'be', when used to indicate location, takes an inessive 'in' complement, both for (2c) and (1c) with the MA-infinitive. Neither elative nor illative is possible with olla.

The verb tulla 'come' can take one of two locative cases, depending on whether we are talking about 'coming from' or 'coming to'. Thus, both elative 'from' and illative 'to' are possible as a locative phrase with tulla:

3a) Jukka tuli kaupasta.
NOM came store-ELA
'Jukka came from the store'

b) Jukka tuli kauppaan.
NOM came store-ILL
'Jukka came to the store'

Similarly, both cases are possible with the MA-infinitive—unlike the other verbs which only allow one locative case:
4a) Jukka tuli ostamasta solmiota.
   NOM came buy-MA-ELA tie-PAR

   (lit.) 'Jukka came from buying a tie'

b) Jukka tuli ostamaan solmiota.
   NOM came buy-MA-ILL tie-PAR

   'Jukka came to buy a tie'

As with the locative phrases, both elative and illative are possible with the MA-construction (and inessive is impossible for both constructions).

Certain non-locative verbs also occur with the MA-construction. As was the case with the locative verbs, these verbs also subcategorize for a non-verbal PP, with the same locative case as their MA-infinitive. Consider the following pairs:

5a) Pekka tyytyi jäätelöön.
   NOM was-satisfied ice cream-ILL

   'Pekka was satisfied with ice cream'

b) Pekka tyytyi odottamaan jonossa.
   NOM was-satisfied wait-MA-ILL line-INE

   'Pekka agreed to wait in line'

6a) Pekka ryhtyi/rupesi työhön.
   NOM started job-ILL

   'Pekka started the job'

b) Pekka ryhtyi/rupesi tekemään työtä.
   NOM started do-MA-ILL job-PAR

   'Pekka started to do (some) work'
The verb *tvytyä* 'be satisfied, agree with' requires an illative 'to' complement, whether it be a locative phrase, as in (5a) or a MA-infinitive, as in (5b). The two verbs meaning 'start' in (6) also take an illative complement, either a "nominal" one or a MA-infinitival, as in (6b).

Facts of this nature led Nikanne (1988) to suggest that the MA-construction bears the same syntactic category as locative PPs do—i.e. a PP with the locative case suffix functioning as the head of the PP. I will adopt his suggestion.

Let us now see what object marking in the MA-construction tells us about the internal structure of the infinitival PP.

5.2.1.2 Objective case in the MA-construction

As several of the examples we have seen show, both partitive and accusative are possible cases for the object of the MA-infinitive. This suggests that the MA-infinitive contains a verb that is responsible for the objective case marking (since accusative case only occurs with the category V; only Vs can have the feature [+COMPLETED]). On the other hand, it appears that the construction does not have a Spec(VP) position, since neither genitive (or
nominative) subjects nor Px's are possible in this construction. Given the analysis of ACC/GEN marking developed in Chapter 3, the lack of a Spec(VP) position should make a difference in objective case marking.

If there is no Spec(VP) position in the MA-construction, we would expect that the genitive feature is not available for accusative objects within the construction—since if there is no Spec(VP), no genitive feature would be base-generated. This is, in fact, the case. Although we find ACC/GEN objects in this construction, they are only possible if the matrix verb agrees with a nominative subject—i.e. a feature is available due to the matrix Spec(VP) position. Consider the following pair:

7a) Pekka kävi ostamassa solmion /*solmio
NOM went buy-MA-INE tie-ACC/GEN ACC/NOM
'Pekka went to buy a tie'

b) Käy ostamassa solmio! /*solmio
go buy-MA-INE tie-ACC/NOM ACC/GEN
'Go buy a tie!'

In both of these sentences, the verb implies completion, and we get accusative case (as opposed to partitive). However, we can only get the genitive suffix on the object in (7a), not in (7b).
The ACC/GEN occurs in the MA-construction exactly when the matrix verb form gives rise to the genitive suffix, i.e. when the matrix verb agrees with a nominative subject.

When the matrix verb is such that its object would occur in ACC/NOM--i.e. passive, imperative, an certain impersonal verbs--the object of the MA-infinitive (of such a matrix verb) also occurs in ACC/NOM--as in (7b) with an imperative matrix verb.

The effect of the matrix verb on the object of the embedded verb is not restricted to one clause. Consider the following examples with a MA-infinitival embedded under a TA-infinitival (which behaves the same way as the MA-infinitival does with respect to objective marking):

8a) Pekka muisti käydä ostamassa solmion/*salmio
   NOM remembered go-TA buy-MA tie-ACC/GEN ACC/NOM
   'Pekka remembered to go buy a tie'

b) Muista käydä ostamassa solmio! /*salmio
   remember go-TA buy-MA tie-ACC/NOM ACC-GEN
   'Remember to go buy a tie!'

Given the analysis of genitive percolation (i.e. ACC/GEN) developed in Chapter 3, these data follow if the MA-construction does not have a Spec(VP) position. When a
genitive feature is base-generated in the Spec(VP) of the matrix verb which then gets "stranded", this feature can percolate to any embedded object (as long as an IP node does not intervene).

So far we seem to have evidence for the following concerning the structure of the MA-infinitive:

9) (i) the MA-infinitive bears the syntactic category of a locative PP; this explains the distribution of the infinitival and the locative case marking on the infinitival verb,

(ii) the construction contains some projection of V, since accusative case is assigned (in addition to partitive), and

(iii) the construction does not have a Spec(VP) position; this explain the impossibility of overt subjects or Px’s, as well as the impossibility of a genitive feature occurring on an accusative object, unless one percolates from the matrix clause.

There is a constituency test that will tell us that the verb and the object form a constituent in the MA-construction, namely movement to a sentence-initial position.

5.2.1.3 Moving a MA-phrase to COMP

As we shall see when discussing the TA-construction, moving a TA-VP to COMP seems to be impossible (leading to
the generalization by Vilkuna (1989) that only Vs can raise
to COMP, not VPs; cf. Ch.2). However (as also pointed out
by Vilkuna), moving a MA-infinitival to COMP is easier.
There is a constraint in moving a MA-infinitival, though:
if the verb has a complement, the complement has to
linearly precede the verb ((10a)=(7a)):

10a) Pekka kävi ostamassa solmion.
   NOM went buy-MA-INE tie-ACC/GEN
   'Pekka went to buy a tie'

b) [Solmionko] Pekka kävi ostamassa []?
   tie-ACC/GEN-Q NOM went buy-MA-INE
   'Was it a tie that Pekka went to buy?'

c) [Ostamassako] Pekka kävi [] solmion?
   buy-MA-Q NOM went tie-ACC/GEN
   'Did Pekka go buy the tie?'

d) *[Ostamassa(ko) solmion(ko)] Pekka kävi []?
   buy-MA Q tie Q NOM went
   ('Was it to buy a tie that Pekka went?')

e)(?) [Solmionko ostamassa] Pekka kävi []?
   tie-Q buy-MA NOM went
   'Was it to buy a tie that Pekka went?'

The direct object of the MA-verb can be topicalized or
questioned, as shown in (10b). Similarly, the MA-verb can
be fronted by itself, as in (10c).
Fronting the whole MA-phrase is impossible without a change in word order, as (10d) shows (regardless of which element the question particle is attached to). However, if the object precedes the verb, fronting is much better, as in (10e). The question particle may only occur on the object NP in this example (why this has to be the case is unclear).

It is not obvious whether examples such as (10e) are the result of the object moving to a pre-verbal position before or after the MA-phrase moves to COMP. In VPs, the object can precede the verb under certain conditions (cf. "complement fronting" in Ch.2).^4

11) Pekkako kävi [salmion] ostamassa []?
   Nom-Q went tie-ACC/GEN buy-MA-INE
   ‘Was it Pekka that went to buy a tie?’

Thus, (10e) could be "derived" from something like (11), rather than from (10a).

The data from PPs suggests that the head-final character of an element moved to COMP (such as in (10e)) is a consequence of something happening after (or during) movement to COMP:

258
12a) Pekka lähti ilman Seijaa.  
NOM left without PAR  
'Pekka left without Seija'

b)*?Pekka lähti Seijaa ilman.

c)(?)[Ilman Seijaako] Pekka lähti?  
without PAR-Q NOM left  
'Was it without Seija that Pekka left?'

d) [Seijaako ilman] Pekka lähti?

Unlike with VPs, having the object of the preposition precede the P is not very good, as shown in (12b). However, this order is fine if the PP has been topicalized, as we see in (12d).

Thus, the head-final order in COMP may be a result of a further movement operation in CP; say, the PP moves to COMP, and then the complement of the PP further raises to Spec(CP). I will not be able to pursue this problem here.

Unlike with the MA-phrase, the topicalized PP in (12) does not have to be head-final, since (12c) is quite good. Also unlike in the VP-domain, the preposition or the complement cannot be fronted alone.

Assuming that the head-final constraint on fronted MA-phrases is a result of something that happens in COMP, we can conclude that MA-phrases can be topicalized. This
provides further support for the analysis of MA-phrases as PPs.

We now have something like the following as the structure of the MA-construction, where P is occupied by one of the locative case features found in the MA-construction, and the -ma suffix is represented as a feature on the maximal projection of V:

```
13) PP
   / \
P . V' (=VP)
[MA]
   / \ 
V  NP
[PAR]
```

The verb projects to the V' level, at which partitive is base-generated as the structural default case for the object position. Since there is no Spec(VP), V' is the maximal projection (i.e. VP) of the verb.

If the verb implies completion, accusative is assigned, as usual (and genitive percolation occurs if the matrix VP has a genitive feature that can percolate). As with finite verbs, the verb assigns a theta-role to its complement(s).

What is unusual about the structure in (13) is that the P is taking a VP-complement. I will leave open the
problem of why this is possible here (but not with regular, non-case Ps), as well as the question of how we prevent the V from taking a Spec(VP).

Let us now turn to the more complex version of the MA-construction, in which the MA-infinitival appears to be in some sense "predicated" of the matrix object.

5.2.1.4 MA-infinitival predicated of the matrix object
5.2.1.4.1 Basic data

The simple MA-construction just discussed typically occurs with verbs of motion or location. The complex MA-construction occurs with e.g. the following matrix verbs (cf. Appendix I for more examples): *pyytää* 'ask', *kehottaa* 'urge', *yllyttää* 'incite', *vaatia* 'demand', *kaskea* 'order', *haluta* 'want', *estää* 'prevent', *auttaa* 'help', and *nähdä* 'see'. Consider the following examples:

14a) Pekka näki Jukan lukemassa sarjakuvia.  
   NOM saw ACC GEN read - MA-INE comics - PAR
   'Pekka saw Jukka reading comics'

b) Jukka esti Pekkaa putoamasta veteen.  
   NOM prevented PAR fall - MA-ELA water - ILL
   'Jukka prevented Pekka from falling into the water'

c) Liisa pyysi Pekkaa tulemaan yliopistolle.  
   NOM asked PAR come - MA - ILL university - ADE
   'Liisa asked Pekka to come to the university'

261
In each of these examples the object of the matrix verb is interpreted as the subject of the MA-infinitive.

There is some reason to think that the "subject" of the infinitival verb in these examples is indeed the object of the matrix verb. This NP (e.g. Jukan in (14a)) bears the case of an object—either partitive or accusative. As with regular verbs, the choice between the two cases has to do with aspect:

15a) Liisa ei pyytänyt Pekkaa/*Pekan tulemaan.
   NOM not asked PAR ACC/GEN come-MA
   'Liisa did not ask Pekka to come'

b) Liisa pyysi Pekkaa lukemaan esitelmän.
   NOM asked PAR read-MA presentation-ACC/GEN

c) Liisa pyysi Pekan lukemaan esitelmän.
   NOM asked ACC/GEN read-MA presentation-ACC/GEN
   'Liisa asked Pekka to read the presentation'

In (15a), a partitive case is obligatory when the verb is negated.5

The difference between (15b) and (15c) is subtle. (15b) could be appropriately uttered in a situation where Liisa asked if Pekka would read the presentation; Pekka may have refused to do it. In (15c) it is implied that Liisa has specifically chosen Pekka for the task, and she assumes that Pekka will do it.

262
If this difference between (15b) and (c) has to do with the feature [+COMPLETED] of the matrix verb, then Pekka in (15) would really be the object of the matrix verb (in the sense that the matrix verb assigns a theta-role to this NP, as its object).

Apart from the presence of direct objects as controllers, these examples behave in the same way as the subject-control variant. The MA-infinitivals can be "replaced" by locative phrases; compare the following to the examples in (14):

16a) Pekka näki Jukan saunassa.
    NOM saw ACC/GEN sauna-INE

    'Pekka saw Jukka in the sauna'

b) Jukka esti Pekkaa onnettomuudesta.
    NOM prevented PAR accident-ELA

    'Jukka prevented Pekka from an accident'

c) Liisa pyysi Pekkaa eteiseen.
    NOM asked PAR hallway-ILL

    'Liisa asked Pekka to the hallway-ILL'

With the perception verb nähdä 'see', both a locative phrase--(16a) here--and the MA-infinitival (in (14a) above) have to occur in inessive 'in' case, when predicated of the object; elative and illative are not possible.
Similarly, with the verb estää 'prevent', only elative 'from' is possible both with the MA-infinitive in (14b) and the locative PP in (16b). And, with the verb pyytää 'ask', the only possible case of the three internal locative cases is illative 'to', for both constructions—(16c) and (14c).

If the accusative and partitive NPs are objects of the matrix verb in (16), then it seems that the comparable NPs in (14) also have to be direct objects of the matrix verb; this is what I will assume.

Analyzing the second NP in our examples as an object of the matrix verb allows us to maintain an identical structure for the two MA-constructions. In the simple MA-construction, we have a complement of the matrix verb that has a distribution of a locative PP complement. In the complex MA-construction, we again have a phrase that has the distribution of a locative PP, but this time the locative phrase is "predicated" of the matrix object. The internal structure of the locative (MA-)PP is identical in the two constructions.

In the simple MA-construction, the "subject" of the infinitival verb is the matrix subject, just as the "subject" of a locative complement is the matrix subject. In the complex MA-construction, the "subject" of the
infinitive is the direct object of the matrix clause, just
as the "subject" of the ("real") locative PPs in (16) is
the object of the matrix verb.

I will leave open the question of exactly how the
predication relationship is established in each of these
cases (cf. Williams (1980)). The point that can be made
here is that a "PRO" (and abstract subject of infinitives)
is not required to establish this predication relationship,
unless one is required both in the "verbal" PPs and in the
"nominal" PPs (i.e. both in (14) and (16)).

5.2.1.4.2 Two objects with four case combinations

Except for a complication, the objective case facts
are the same as with the subject control construction; a
complication arises, since we now have two objects to deal
with. It appears that the matrix verb and the infinitival
verb can disagree with respect to completion--one verb can
have a partitive object, while the other one has an
accusative object (yielding all of the four logical
combinations).

To make matters worse, although the infinitival verb
can be independent of the matrix verb with respect to the
aspect of completion, the form of the accusative object still depends on the matrix clause. That is, even if the matrix verb is [-COMPLETED], its agreement features determine whether or not the object of a [+COMPLETED] infinitival has a genitive suffix; compare the following examples:

17a) Maija pyysi Jukkaa lukemaan kirjan
   NOM asked PAR read-MA-ILL book-ACC/GEN
   'Maija asked Jukka to read the book'

b) Pyydä Jukkaa lukemaan kirja!
   ask PAR read-MA-ILL book-ACC/NOM
   'Ask Jukka to read the book!'

c) Jukkaa pyydettiin lukemaan kirja.
   PAR was-asked read-MA-ILL book-ACC/NOM
   'Jukka was asked to read the book'

The matrix object occurs in partitive case in these examples, suggesting that the matrix verb does not imply completion. The infinitive does imply completion in these examples, but we get the genitive suffix in (17a), while we get ACC/NOM in (17b) and (c)—since the matrix verb does not have a nominative subject, and therefore there is no genitive feature in the matrix VP.

Consider now a "minimal quartet" with the four possible partitive-accusative combinations ((18d)=(17a)):
18a) Maija pyysi Jukkaa lukemaan kirjaa.
NOM asked PAR read-MA-ILL book-PAR

'Maija asked Jukka to read a book'

b) Maija pyysi Jukan lukemaan kirjan.
NOM asked ACC/GEN read-MA-ILL book-ACC/GEN

'Maija asked Jukka to read the book'

c) Maija pyysi Jukan lukemaan kirjaa.
NOM asked ACC/GEN read-MA-ILL book-PAR

'Maija asked Jukka to read a book'

d) Maija pyysi Jukkaa lukemaan kirjan.
NOM asked PAR read-MA-ILL book-ACC/GEN

'Maija asked Jukka to read the book'

Sentence (18a) is straightforward: the two partitive NPs are each in an object position, getting the structural default case of the position. In (18c), the matrix verb implies completion (cf. discussion above in Section 5.2.1.4.1); the object gets assigned accusative case (and genitive percolation takes place, as usual).

As we have already seen, a genitive suffix has to occur on an embedded accusative object in the MA-construction, as in (18d). The presence of a matrix object does not have any effect on percolation.

Sentence (18b) shows that both the matrix object and the embedded object occur with a genitive suffix, if the
matrix verb agrees with a nominative suffix. Compare (19)
to (18b):

19) Pyydä Jukka lukemaan kirja!
   ask ACC/NOM read-MA-Ill book-ACC/NOM

   'Ask Jukka to read the book!'

If no genitive feature is base-generated in the matrix
Spec(VP), then neither the matrix nor the embedded object
can get a genitive suffix.

The analysis of genitive percolation argued for in
Chapter 3 accounts for (18b), assuming that when a genitive
feature percolates, it percolates to any "receptive" NP
(i.e. any NP that does not have case after case realization
has taken place; recall that genitive percolation seems to
be a postcyclic process).

Again, the genitive percolation facts in the complex
MA-construction show that the embedded infinitival does not
have the "ability" to base-generate a genitive suffix.
Thus, the two MA-constructions behave similarly in this
respect, suggesting that the complex MA-construction does
not have a Spec(VP) position either.

Let us now turn to some anaphoric binding data in the
complex MA-construction.
5.2.1.4.3 Relevant binding data

Complements of a verb cannot usually bind each other in Finnish (cf. fn.30 in Ch.2):

20a) Jukka-i esitteli Liisan-j opettajalleen-i/??j
    NOM introduced ACC/GEN teacher-ALL-3Px

'Jukka introduced Liisa to his/her teacher'

b) Jukka-i esitteli Liisan-j
    NOM introduced ACC/GEN

...hänen-??i/j opettajalleen-??i/j
    his/her-GEN teacher-ALL-3Px

'Jukka-introduces Liisa to his/her teacher'

Binding of the possessive suffix in the allative phrase 'teacher' is only possible by the subject, not by the direct object Liisan in (20a)—presumably because in this structure the object does not c-command the oblique phrase. In order to achieve coreference between the object and the oblique phrase, an overt pronoun has to be used, as shown in (20b)—and, as expected, binding the pronoun by the c-commanding subject is not very good.

Although binding by the direct object is not very good in the above example, binding by an accusative or partitive matrix object in the MA-construction is perfectly fine:

269
21a) Maija-i pyysi Pekan-j tuomaan levynsä-i/j
   NOM asked ACC/GEN bring-MA-ILL record-3Px

   'Maija asked Pekka to bring her/his record'

b) Aija-i yllytti Maijaa-j polttamaan
   NOM incited PAR burn-MA-ILL
   ...päiväkirjansa-i/j
   diary-ACC/NOM-3Px

   'Aija incited Maija to burn her diary'

The anaphoric suffix of the object of the MA-infinitival
can be bound either by the matrix subject or by the matrix
object, for both accusative and partitive matrix objects.
Thus, although complements of the matrix verb cannot bind
each other, the matrix object can bind into the MA-phrase
predicated of the object.

For locative phrases, we find that an object can also
only bind a locative phrase predicated of it:

22a) Pekka-i näki Jukan-j toimistossaan-i/j
    NOM saw ACC/GEN office-INE-3Px

    'Pekka saw Jukka in his office'

b) Pekka-i näki Jukan-j toimistostaan-i/*j
    NOM saw ACC/GEN office-ELA-3Px

    'Pekka saw Jukka from his office'

23a) Seppo-i vakoili Mattia-j huoneistossaan-i/j
    NOM spied PAR apartment-INE-3Px

    'Seppo was spying on Matti in his apartment'

b) Seppo-i vakoili Mattia-j huoneistostaan-i/*j
    NOM spied PAR apartment-ELA-3Px

    'Seppo was spying on Matti from his apartment'
In the (a) sentences, the locative phrase can be predicated of the accusative or partitive object—-in (22a) Jukka is in the office, and in (23a) Matti is in the apartment. For this reading, the anaphoric suffix can be bound either by the matrix subject or by the matrix object.

For the reading where the locative phrase is predicated of the subject—-which is the only reading available in (22b) and (23b), due to the semantics of the matrix verb—-binding is possible only by the subject.  

If the MA-infinitival and the locative PPs have basically the same distribution, as suggested, then the above binding data is exactly what we expect. Both a MA-phrase and a regular locative phrase can be predicated of the direct object, and the direct object can bind either type of complement. Presumably the object c-commands its complement in both cases.

Where predication of this sort is not involved, we do not get c-command, and binding by an object is not possible (e.g. with the verb ‘introduce’ in example (20)). Regardless of which element a locative phrase is predicated of, it will always be c-commanded by the nominative subject, and binding by the subject is always possible.
5.2.1.5 Summary of the MA-construction

The lack of Spec(VP) position in the infinitival VP explains why genitive subjects and PPs are not possible in the MA-construction, and why the accusative object can only get a genitive feature from the matrix clause.

The MA-construction bears the syntactic category of a PP, and has the distribution of a locative complement. If there is no matrix object, both are predicated of the matrix subject. If there is a matrix object, the MA-phrase is predicated of the object (and a "nominal" locative PP may be predicated of the object; cf. fn.7).

If either a MA-phrase or a "nominal" PP is predicated of an NP, then that NP can bind an anaphoric suffix inside the PP. This suggests that "predication" involves c-command (as argued by Williams (1980)).

5.2.2 The TA-infinitive
5.2.2.1 The TA-infinitive without an overt subject

Typical matrix verbs that take the TA-construction include the following: vrittää 'try', haluta 'want', jaksaa 'have strength', viitsiä 'feel like', luvata 'promise',

272
uskaltaa 'dare' and a number of modals (to be discussed in Section 5.2.2.2).

In the TA-construction we get neither genitive subjects nor Px's, just as in the MA-construction (although we will discuss an exceptional verb class in Section 5.2.2.3). This suggests that the TA-construction does not have a Spec(VP) position either. As with the MA-construction, the form of the accusative object depends on the matrix verb—which is expected, if there is no Spec(VP) position:

24a) Pekka yritti lukea kirjan.
    NOM tried read-TA book-ACC/GEN
    'Pekka tried to read the book'

b) Yritä lukea kirja!
    try read-TA book-ACC/NOM
    'Try to read the book!'

Since no genitive feature is base-generated in the infinitival VP (due to the lack of the Spec(VP) position), the only way to get a genitive suffix for an object would be from the matrix Spec(VP)--and there is no genitive feature in the matrix VP in (24b).

Since the VP in (24a) has a genitive feature, we get the genitive suffix on the accusative object of the infinitive.
Given the three converging pieces of data in this simple TA-variant—lack of genitive subjects, lack of Px’s, and lack of infinitival-internal ACC/GEN suffix—I will assume that the TA-construction does not have a Spec(VP) position (at least in the simple variant under discussion), any more than the MA-construction does.

Not having a Spec(VP) position explains the similarities in case assignment and in the Px/genitive subject domain between the MA-construction and the TA-construction (while other infinitivals differ from these two, as we shall see). The two constructions differ in at least two ways: (i) a TA-phrase cannot be fronted to COMP (unlike a MA-phrase), and (ii) the two constructions have a different distribution.

Consider the following attempt to raise a TA-phrase to COMP:

25a) Jukka yritti varastaa suklaata.
    NOM tried steal-TA chocolate-PAR

    'Jukka tried to steal chocolate'

b) [Suklaatako] Jukka yritti varastaa [ ]?
    chocolate-PAR-Q

    'Was it chocolate that Jukka tried to steal?'

c) [Varastaako] Jukka yritti [ ] suklaata?
    steal-TA-Q

    'Did Jukka try to steal chocolate?'

274
d)*[Varastaa(ko) suklaata(ko)] Jukka yritti []?
   steal-TA-Q    chocolate-PAR-Q

e)?*[Suklaata(ko) varastaa(ko)] Jukka yritti []?
   ('Was it to steal chocolate that Jukka tried?')

Questioning the object of the embedded verb is perfectly fine, in (25b). Raising the infinitival verb in (25c) is not perfect, but fairly good (raising an intransitive verb seems to be easier, so the problem (25c) may be the stranded object).

    Fronting the whole TA-phrase is not possible, as shown in (25d) and (e). Recall (Section 5.2.1.5) that raising a MA-phrase without an internal word order change was also not possible, i.e. sentences comparable to (25d) were not very good. However, with the MA-construction raising was possible if the object preceded the verb; even this option is not available for the TA-construction, as shown by (25e).

    I would like to suggest that this difference in raising possibilities between the two constructions stems from the MA-construction being a PP (and thus "frontable", just as other PPs), while the TA-construction bears some other syntactic category, presumably a non-nominal category. The TA-infinitive has one fewer morphemes than the MA-infinitive; I would like to suggest that the TA-
infinitive differs from the MA-infinitive in lacking a P:

26) \[ V' (=VP) \]
    \[ [TA] \]
    \[ / \]
    \[ V \]
    \[ NP \]
    \[ [PAR] \]

Thus, the category of a TA-phrase is the same category as what the abstract P takes as its complement in the MA-construction (and the internal structure of this phrase is identical in the two constructions):

27) \[ PP \]
    \[ / \]
    \[ P \]
    \[ V' (=VP) \]
    \[ [MA] \]
    \[ / \]
    \[ V \]
    \[ NP \]
    \[ [PAR] \]

The two structures in (26) and (27) capture the similarities between the two constructions. As was suggested, the lack of a Spec(VP) node explains the lack of genitive percolation internal to the infinitival phrase, as well the lack of P's.\(^{10}\)

Assuming that of the maximal projections at least NP and PP can be fronted to COMP, but that a VP cannot be fronted, the lack of a PP "layer" in (26) is the crucial factor in preventing a TA-phrase from moving.
The second difference between the two constructions has to do with distribution. It was suggested that the MA-infinitival has the distribution of a locative PP. The TA-construction clearly does not have such a distribution. The TA-infinitival cannot be "predicated" of direct objects the way the MA-infinitival can. It can only be "predicated" of the subject (the same way that the simple MA-construction was). Furthermore, if a sentence contains both a TA-infinitive and a MA-infinitive, the TA-infinitive has to usually precede the MA-infinitive (cf. Vilkuna (1989:212).

I would like to suggest that the TA-infinitival basically has the distribution of a direct object. It cannot be "predicated" of a direct object, any more than a nominal direct object can. It typically precedes the MA-infinitive, because direct objects typically precede locative phrases.

The suggestion is, then, that a TA-infinitival occurs in the object position of a verb, but it bears the syntactic category of a VP.

The verbs that subcategorize for a MA-complement typically cannot take a TA-complement, nor do they regular direct objects. Some of these verbs were käyda 'go; visit',

277
mennä 'go', tulla 'come', olla 'be'; also tyytä (ILL) 'agree (with)', ryhtyä/ruveta (ILL) 'begin'.

Unlike the matrix verbs taking a MA-complement, verbs that take a TA-complement typically may take a direct object instead (although possibly with a slightly different reading of the matrix verb). Consider the following examples:

28a) Pekka yritti lukea kirjan.
    NOM tried read-TA book-ACC/GEN
    'Pekka tried to read the book'

     b) Pekka yritti uutta tyyliä.
        NOM tried new-PAR style-PAR
        'Pekka tried a new style'

29a) Maija koetaa aina ymmartaa ystäviänsä.
    NOM tries always understand-TA friends-3PPl
    'Maija always tries to understand her friends'

     b) Seija koetti housuja kaupassa.
        NOM tried pants-PAR store-INE
        'Seija tried on pants at the store'

30a) Virpi halusi oppia ruotsia.
    NOM wanted learn-TA Swedish-PAR
    'Virpi wanted to learn Swedish'

     b) Anna halusi minun kirjani.
        NOM wanted my book-1SGPl
        'Anna wanted my book'
31a) Raija pelkää tulla meille.
NOM is-afraid come-TA we-ALL

‘Raija is afraid to come to our place’

b) Jussi pelkää pimeää.
NOM is-afraid darkness-PAR

‘Jussi is afraid of darkness’

32a) Liisa lupasi tuoda syntymäpäiväkakun.
NOM promised bring-TA birthday cake-ACC/GEN

‘Liisa promised to bring a birthday cake’

b) Ritva lupasi kaikenlaista juovuspäässään.
NOM promised all-kind-PAR while-drunk

‘Ritva promised all kinds of things while drunk’

Although many verbs that take the TA-infinitive also take a direct object, some of the modals only take a TA-infinitive; we will look at modals next (cf. Appendix I for further examples of subcategorization).

5.2.2.2 Modals

Apart from the impersonal modal täätyy ‘must’ (discussed in Section 3.3.2.4.4), modal verbs in Finnish can be categorized as either taking the MA-infinitive or the TA-infinitive, and otherwise behaving like any of the other verbs taking one of these infinitival complements.

279
There are two ‘modal’ verbs—pystynä and kyseen (both ‘to be able to’)—that take the MA-infinitival with illative case (‘to’); as expected, they also allow a ‘real’ PF in the illative case (although apparently only with abstract nouns, for some reason):

33a) Jukka pystyn kyseen opettamaan /*opettaa.
   NOM is-able-to teach-MA-ILL teach-TA
   ‘Jukka is able to teach’

b) Jukka pystyn kyseen hyvään /*hyvään
   NOM is-able-to good-ILL PAR
   ‘Jukka is capable of good (things)’

With these verbs, the TA-infinitive is impossible, as well as a direct object (in partitive or accusative case).

Most verbs only take one or the other of the two infinitivals, not both. There is an exception: the verb alkaa ‘begin’ takes both:

34a) Jukka alkoi lukea sanomalehteä.
    NOM started read-TA newspaper-PAR
    ‘Jukka (sat down and) started to read a newspaper’

b) Jukka alkoi lukemaan sanomalehteä.
    NOM started read-MA-ILL newspaper-PAR
    ‘Jukka (resolved to) start reading a newspaper’

There is a semantic distinction between the two, although a subtle one. In this particular example, (34a) refers to a particular instance of reading a newspaper, while (34b)
could be more abstract—Jukka decided to start reading the paper on a regular basis.

We would expect that a nominal phrase is possible with this verb, either in objective or in illative case. However, illative case does not seem to be possible (while partitive and accusative are):

35a) Jukka alkoi uuden romaanin.
    NOM started new-ACC/GEN novel-ACC/GEN
    'Jukka started a new novel'

b) *Jukka alkoi opiskeluun.
    NOM began study-ILL
    ('Jukka began studies')

With this verb the correspondence between a MA-construction and a locative PP is not absolute.

In addition to the two verbs referring to ability that we have already seen, there is a third one: osata 'to know, to be able to'. Unlike the two others, this one takes a TA-infinitival, or a direct object (and the MA-infinitive and a locative PP are impossible as complements):
36a) Liisa osaa puhua /puhumaan viittomakieltä
   NOM is-able speak-TA read-MA-ILL sign-language
   'Liisa knows how to speak sign language'

b) Liisa osaa viittomakieltä/viittomakieleen.
   NOM is-able sign language-PAR/ILL
   'Liisa knows sign language'

The two verbs of permission, saada and voida, also take a TA-infinitive, and not MA:

37) Pekka saa/voi syödä koko suklaan.
   NOM may can eat-TA whole chocolate-ACC/GEN
   'Pekka can eat all of the chocolate'

saada with the TA-infinitive only means permission, while voida implies either permission or ability (as English 'can').

These two verbs, with the modal reading, do not take a (non-infinitival) NP complement. saada takes partitive and accusative objects, but with the different reading of 'receive'. voida does not seem to allow nominal objects with any reading. In their modal interpretation these verbs would then only allow a VP complement, but not a direct object NP.

The modal-like verbs (mentioned earlier) jaksaa 'have strength', viitsiä 'feel like' and uskaltaa 'dare' also
take the TA-infinite, and appear not to take a non-infinitival NP object.

There is in general a striking correspondence between TA-complements and direct objects on the one hand, and MA-complements and locative PPs on the other. However, certain modal (or modal-like) verbs only take a VP-complement (or a PP with an embedded VP in the case of the verb alkaa 'begin'), but not a nominal "counterpart" of the complement (a direct object or a locative PP).

This suggests that although modal verbs (apart from tatytyy) are morphologically identical to other verbs in Finnish, they nevertheless constitute a class of their own with respect to subcategorization possibilities.

5.2.2.3 The TA-infinite with an overt subject

Although "predication of direct objects" (i.e. clear object control, as in the complex MA-construction) is not possible with the TA-construction, we have a complex variant of the TA-construction that looks very similar to the object-control MA-construction; this construction is only possible with the four verbs exemplified in (38):
38a) Liisa käski Jukan lukea kirjan.
   NOM asked GEN read-TA book-ACC/GEN
   'Liisa asked Jukka to read the book'

b) Matti antoi/salli/soi hänen sydä suklaata.
   NOM let/allowed/allowed his-GEN eat-TA chocolate
   'Matti let/allowed him/her (to) eat chocolate'

The only obvious difference between this variant and the simple variant of the TA-construction is that there is an overt genitive NP which appears to act as the subject of the infinitival in this variant. This NP is not obviously an object of the matrix verb, since no verb in Finnish takes a genitive NP object (where even the pronouns have a genitive suffix).

Since we have an overt genitive "subject" in the complex TA-construction and not in the simple variant, the obvious structural difference between the two would be the presence or absence of a Spec(VP) node.

However, the two other characteristics associated with the Spec(VP) position are not present in this construction: it has no Px’s, and there is still no possibility of getting a genitive suffix on an accusative object within the infinitival phrase. The form of the accusative object is still dependent on the matrix verb, as it was with the simple TA-construction:
39a) Matti antoi Jukan syödä suklaan.
   NOM let GEN eat chocolate-ACC/GEN
   'Matti let Jukka eat the chocolate'

b) Anna Jukan syödä suklaa /*suklaan!
   Let GEN eat chocolate-ACC/NOM ACC/GEN
   'Let Jukka eat the chocolate!'

On the other hand, as with the modal täytyy, having a Spec(VP) position does not guarantee getting a genitive suffix on the accusative object. With täytyy, although a Spec(VP) position is base-generated (with a genitive feature), the genitive feature is "used up" by the subject—which shows up in genitive case (cf. Section 3.3.2.4.4).

I would like to propose, then, that the maximal projection of the complex TA-construction contains a Spec(VP) position, as follows (note that this tree is identical to the D-Structure tree of a VP in a tensed sentence, except for the feature [MA] on the VP):

```
40)     V'' (=VP)
   [MA]
   / \
Spec V'  
   [GEN] / \
   V   NP
   [PAR]
```

That is, compared to the simple TA-construction, the complex TA-construction has in addition a Spec(VP) position. As always, this position has the genitive

285
feature. Unlike in tensed sentences, however, the subject remains in the Spec(VP) position, and it ends up with genitive case. Since the subject "uses up" the genitive feature, no genitive percolation can occur—unless a genitive feature percolates from the matrix clause, as in (39a) above.

The only problem in positing a Spec(VP) position in this complex TA-construction is the lack of Px's in this construction. In the subsequent sections I will argue that the three infinitival constructions that have Px's also have an NP node. Given this, all apparent instances of a Px on a V in Finnish really involve the Px ending up on a N head, as we shall see.

To round up the picture, consider the binding data from the complex TA-construction:

41a) Aiti-i käßki Matin-j siivota huoneensa-i/j mother-NOM asked GEN clean-PAR room-3Px

'Mother asked Matti to clean up his/her room'

b) Seppo-i antoi Jukan-j käyttää laskukonettaan-i/j NOM let GEN use-PAR calculator-PAR-3Px

'Seppo let Jukka use his calculator'

Binding either an accusative or a partitive object of the infinitive is ambiguous in these sentences: either the matrix subject or the infinitival genitive subject can bind
the anaphoric suffix. Thus, the genitive NP of the infinitival c-commands the infinitival object; this is consistent with treating the genitive NP as the subject of the infinitival.

5.2.3 Brief summary of the two non-clausal constructions

The MA-construction bears the syntactic category of a locative PP (as suggested by the case marking), with an embedded VP. The VP does not have a Spec(VP) position.

The "MA-PP" is predicated of a matrix object, if there is one (complex MA-construction). If there is no matrix object, the MA-infinitival is predicated of the matrix subject (simple MA-construction).

The TA-construction bears the category VP, which appears to occupy the syntactic position of a direct object. With most verbs the VP does not have a Spec(VP) position (simple TA-construction), but with an exceptional class of 'let'-type verbs, the VP has a Spec(VP) position in which a genitive subject occurs (complex TA-construction).
5.3 The clausal infinitivals

The two constructions to be discussed in this section—the temporal adjunct and the clausal complement construction—share a number of properties that the two non-clausal infinitivals did not have. They both occur with genitive subjects and with possessive suffixes (Px's). They have a separate passive form. They have a separate form for a "present tense" and another one for "past tense". They are more independent of the matrix verb with respect to object marking than the non-clausal infinitivals were. In short, they are very sentence-like.

Although the clausal infinitival exhibit properties typically found in tensed sentences, they still lack the defining characteristics of an IP in Finnish. They do not permit the negative verb, the auxiliary verb olla, nor a nominative subject. They clearly do not have a CP.

According to the solution to be proposed here the clausal infinitivals do not have an IP any more than the non-clausal infinitivals did. This explains why the IP-properties are not exhibited, and why a CP is not possible.

In order to capture the parallelism between these infinitivals and tensed sentences, I would like to suggest
that the infinitivals have an NP "layer", corresponding to the IP "layer" of tensed sentences. The Spec(NP) position will correspond to the Spec(IP) position in tensed clauses, in that in both cases the subject will raise to that position. The N position will correspond to the INFL position in tensed clauses, in that it will contain the tense/aspectual information, and the verb will raise to N (as it would to INFL). As with IP, the NP will be licenced at M-Structure, by having elements from VP move into it during affix-based movement.

5.3.1 Temporal adjunct

5.3.1.1 Basic data

Consider some examples of the temporal adjunct (with unanalyzed infinitival forms):

42a) Pekan lukiessa kirjaa  
GEN read(INF) book-PAR  
'while Pekka (was) reading a book'

b) Pekan luettua kirjaa  
GEN read(INF) book-PAR  
'Pekka having been reading a book; after Pekka had been reading a book'

As already mentioned, the temporal adjunct has two tenses, past and present (although morphologically different from
the past and present tenses in the sentential domain). The present tense form consists of the verb stem followed by the suffix -e-, followed by the inessive case suffix, e.g. in (42a). The past form consists of the verb stem with the past participial (passive) suffix -ttu-, followed by the partitive case suffix, in (42b).

The examples given here have a partitive object, but as with all verbs in Finnish, if completion is implied the object shows up in the accusative case. We will discuss the form of the accusative shortly.

Instead of a genitive subject, as in (42) above, the subject of the infinitive can be expressed as a possessive suffix on the infinitival verb. Just as in the possessive construction, if the genitive NP is a human pronoun, a Px occurs suffixed on the head (here V).11

43) hänen lukiessaan /luettuaan kirjaa
his read-E-INE-3Px read-TTU-PAR-3Px book-PAR
while he (was)/after he (had been) reading a book'

If no genitive phrase occurs, a Px is obligatory. Since Px's are anaphors (cf.Ch.4), they have to be bound within an IP:
44a) Pekka-i katseli TV:ta lukiessaan-i sanomalehteä.
    NOM      watched TV-PAR read-E-INE-3Px newspaper

    'Pekka watched TV while reading the newspaper'

b) *Katselin TV:ta lukiessaan sanomalehteä.
    watched-1SG

    ('I watched TV while he read the newspaper')

c) Katselin TV:ta hänens lukiessaan sanomalehteä.
    his-GEN

    'I watched TV while he was reading the newspaper'

The 3rd person Px in (44a) is bound by the matrix subject. Sentence (44b) is impossible, since the anaphoric Px does not have a binder. In (44c), a genitive binder is available, and the sentence is fine.

Thus, with respect to the behavior and co-occurrence of genitive NPs and Px's, the temporal adjunct behaves the same way as the possessive construction does. With full NPs and non-human pronouns, a Px is impossible, while a Px occurs with human pronouns. A Px can occur without a genitive NP, but it has to be bound within the IP.

Marking an accusative object within the temporal adjunct seems to be independent of the matrix verb; this suggests that there is a way of getting a genitive suffix on an accusative object from inside the infinitival. Consider the following examples, where the matrix Spec(VP)
does not have a genitive feature, yet we find a genitive suffix on the infinitival object:

45a) Kaske Jukan tulla ulos hänen luettuaan kirjan.
    ask GEN come-TA out his read-INF-3Px ACC/GEN
    'Ask Jukka to come out after he has read the book'

b) Myytyäsi puseron sinun täytty kirjoittaa kuiti.
    sell-2SGPx blouse your must write-TA receipt
    ACC/GEN ACC/NOM
    'After selling a blouse, you must write a receipt'

c) Heidän tuotuansa oluen, siellä juhlittiin.
    their bring-3Px beer-ACC/GEN there celebrate-PAS
    'After they brought the beer, (people) celebrated there'

The source for the ACC/GEN objects in these examples cannot possibly be the matrix clause, since the matrix clause in these examples has no genitive feature (since there is no nominative subject).

5.3.1.2 The structure of the temporal adjunct

As outlined in the introduction, I would like to suggest that the temporal adjunct consist of a VP embedded in an NP. The question to be resolved is whether the category of this construction is NP, or whether the NP is embedded under some further category.
Both of the two tenses of the temporal adjunct have a case suffix, inessive in the present tense and partitive in the past tense. This could mean that the temporal adjunct is of the category PP, with the case suffix as the head P. However, since the two aspects have different case suffixes, and since there does not seem to be any reason to think that those suffixes reflect a syntactic (or semantic) position in which this construction occurs, I will treat the case suffixes as being part of the head-N (with the tense/aspect marker).

Now consider the following D-Structure representation for the sentence Jukan luettua kirjaan(PAR) ‘after Jukka had been reading the book’:

```
  NP
   \ /
  Spec N'
     \ /
    [GEN] / \ VP
        |   |   |
      Spec V'
        \ /
       [GEN] / \ NP
            |   |   |
             V    NP
             NP   [PAR]
             |   |   |
             luke kirja
```

The VP is identical to the D-Structure VP of a finite clause; the V assigns its theta-roles to its arguments within the VP. This VP is embedded under an NP which corresponds to IP in a tensed clause.
The subject raises from the Spec(VP) to the Spec(NP). It either gets genitive case in its D-Structure position, or in the Spec(NP) where it ends up. I will leave open for now the question of where the subject gets its genitive case in this construction. What matters here is that one of the genitive case features will remain unrealized.

The verb raises from V to N, corresponding to V-to-I raising in the IP. The N here contains the tense/aspectual information (as well as a partitive or inessive case suffix).

If the verb implies completion, it (as always) assigns accusative case to its object; and if the object is a full NP (as in the tree in (46)), the NP has no accusative suffix. Given the structure just proposed for the temporal adjunct, the accusative object will get a genitive suffix through genitive percolation (since there is an "unused" genitive feature within the infinitival phrase).

Having the NP "layer" in this construction explains why Px's are possible. Consider the following D-Structure tree for *luettuaan kirjaa* 'after (his) reading a book':

294
This tree only differs from the one with a full NP genitive subject in that the subject base-generated in the Spec(VP) is a Px.

We can now distinguish between the two genitive features associated with the "subject" positions here. Since Px's are in general analyzed as bearing genitive case, I have to say that the subject in this construction is getting its genitive case from the Spec(VP) position (otherwise a Px could not be base-generated in that position). This makes sense, given that there does not seem to be a way to block the genitive from being realized on the NP that is base-generated in the Spec(VP).

If this is correct, then the genitive case on an accusative object within the temporal adjunct percolates from the (highest) Spec(NP) position--regardless of whether the matrix VP has an "unused" genitive feature or not. The TA- and MA-infinitivals do not have such a position (nor any other position for base-generating a genitive feature),
and we never find an infinitive-internal genitive suffix on an accusative object.

Let us now turn to the passive form of the temporal adjunct.

5.3.1.3 Passive form of the temporal adjunct

The temporal adjunct has a passive counterpart, marked with the morpheme -ta (this form is very literary):

48a) Pekka oli koululla Jukkaa haastateltaessa.  
    NOM was school-ADE PAR interview-PASS(INF) 
    'Pekka was at school while Jukka was being interviewed'

b) Kirjastosta lainattaaessa kirjoja,  
   library-ELA borrow-PASS(INF) books-PAR 

   ...täytyy olla lainastokortti. 
   must have library-card-ACC/NOM 

   'When books are being borrowed from the library, one needs to have a library card'

As in the tensed impersonal passive, one of the arguments of the verb precedes the passive verb—the partitive object in (48a), and the locative phrase in (48b). And, as the tensed passive, this construction does not allow a subject in any form (neither genitive subject nor Px).
We can give an analysis to this construction that is exactly parallel to that of the tensed impersonal passive, the only difference being the IP-NP difference. That is, the passive of the temporal adjunct does not have a Spec(VP) position. This explains the lack of subject in any form (since it would have to be base-generated in the Spec(VP) position). And, since there is no subject, another argument of the verb occurs in the Spec(NP) position, licencing this position at M-Structure—just as one of the arguments of the tensed passive occurs in the Spec(IP) position. Consider the following D-Structure tree for the relevant part of sentence (48a) above:

![Diagram of D-Structure tree]

The passive form of the temporal adjunct only has one tense (present). In this structure, the passive morpheme and the tense/aspectual morpheme share the N position (as the passive morpheme and the tense morpheme presumably share INFL in the tensed passive). As usual, the verb raises to N.
The object in (49) gets partitive case in the usual manner, through structural default case "assignment". The case-marked object can then raise to the Spec(NP) position to license this position, exactly as with sentential passive (with respect to the Spec(IP) position).

Presumably the tree in (49) has an "extra" genitive feature which can occur on an accusative object. However, this construction does not seem to be able to have accusative objects in any form, perhaps since the only available tense is the present tense. Compare the following examples:

50a) Matin huomatessa Jukan oli jo liian myöhäistä.  
GEN notice-INF ACC/GEN was already too late

'It was already too late when Matti noticed Jukka'

b) Jukka/ *Jukan huomattaessa oli jo ...
ACC/NOM ACC/GEN notice-PASS-INF was already

('It was already too late when Jukka was noticed')

The active temporal adjunct in the present tense seems to be fine with an ACC/GEN object, in (50a). The passive counterpart in (50b), however, is ungrammatical, regardless of the form of the accusative object (while a partitive object would be acceptable, subject to the interpretation of the action as being progressive). I will leave open the difference between the active and the passive with regard to the feature [\#COMPLETED].

298
Apart from this last problem, the structures suggested for the active and passive forms of the temporal adjunct seem to work well. On the one hand, having an NP "layer" corresponding to the IP "layer" allows us to draw the parallels between the temporal adjunct and a tensed clause (the occurrence of subjects, two aspect forms, passive, and the accusative marking data). On the other hand, not having an IP explains why we do not get the typical IP behavior, including the occurrence of the negative verb, the auxiliary, and nominative subjects.

We have already seen the next construction in passing. It will be suggested that it has the same structure as the temporal adjunct.

5.3.2 The clausal complement construction

5.3.2.1 Overview of the data

The clausal complement infinitival is used with verbs of saying, knowing and believing, and perception verbs. Any verb (or almost any; cf. Appendix I) that can take a full sentence (=CP) as a complement also allows this structure. Some of the verbs that take this infinitival are sanoa 'say', väättää 'claim', valehdella 'lie', myöntää 'admit', kertoa 'tell', uskoa 'believe', arvata 'guess',
olettaa 'suppose', tietää 'know', haluta 'want' and nähdä 'see' (and other perception verbs).

Consider the following examples (the internal morphology of the infinitival suffix is left open for now):

51a) Pekka uskoi Jukan/hänens lukevan kirjaa.
    NOM believed GEN his-GEN read(INF) book-PAR
    'Pekka believed (that) Jukka/he was reading a book'

b) Pekka uskoi lukevansa kirjaa.
    NOM believed read(INF)-3Px book-PAR
    'Pekka believed (that) he (Pekka) was reading a book'

In (51a), the embedded genitive subject has to be disjoint from the matrix subject (due to Condition (B)/(C) of the Binding Theory). In (51b) the suffix has to be coindexed with the matrix subject (or some other c-commanding NP within the IP, due to Condition (A) of the Binding Theory).

Although possessive suffixes occur in the clausal complement construction, the distribution of the Px’s differs somewhat from that of the Px’s in the possessive NPs and in the temporal adjunct construction. In the clausal complement infinitival, overt genitive subjects and Px’s occur in complementary distribution: either we get a genitive NP, as in example (51a) above, or we get a Px, as in (51b). Even in the case of human pronouns, the two
cannot co-occur. Table 5.3 provides a summary of the distribution of Px’s.

TABLE 5.3. Px’s in infinitivals and in NPs.

<table>
<thead>
<tr>
<th>Construction:</th>
<th>Px alone?</th>
<th>GEN NP alone?</th>
<th>together?</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA-infinitive</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>TA-infinitive</td>
<td>no</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>possessive NPs</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>temporal adjunct</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>clausal compl.inf.</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
</tbody>
</table>

The last column in Table 5.3 refers to a genitive NP and an agreeing Px occurring in the same phrase. Recall that this combination is only possible when the genitive NP is a human pronoun.

Like the temporal adjunct, this construction has two tense/aspects, past and present. The above examples in (51) are of the present variant. Consider the past variant:

52a) Pekka uskoi Jukan/hänen lukeneen kirjaa.
NOM believed GEN his read-PAST(INF) book-PAR
‘Pekka believed (that) Jukka/he had been reading a book’

b) Pekka uskoi lukeneensa kirjaa.
NOM believed read-PAST(INF)-3Px book-PAR
‘Pekka believed (that) he (Pekka) had been reading a book’
The morphology of the infinitival verb in this construction consists of the following: STEM + va/nut + GEN (or Px). -van is the suffix for the non-past form, and -neen for the past form. That is, the infinitival verb in this construction occurs in genitive case for both tenses (we shall see that this is also the case for the two passive forms of this infinitival).

The examples so far give the object in partitive case. The past "tense" forms with accusative case predictably look as follows, corresponding to the examples in (52):

53a) Pekka uskoi Jukan/hän/en lukeneen kirjan.
     NOM believed GEN his read(INF) ACC/GEN

   'Pekka believed (that) Jukka/he had read the book'

b) Pekka uskoi lukeneensa kirjan.
    NOM believed read-INF-3Px book-ACC/GEN

   'Pekka believed (that) he (Pekka) had read the book'

In these sentences, then, the infinitival verb implies completion, and—as always—the object is in accusative case. Note that we cannot tell, based on objective case, whether the matrix verb implies completion or not, since the matrix verb does not have a direct object in objective case.
As with the temporal adjunct, examples can be constructed where the accusative object gets a genitive suffix, although the matrix VP does not have a genitive feature. Compare (54a) to the MA-construction in (54b) and the TA-construction in (54c):

54a) (?)Meidän täytyy muistaa Pekan maksaneen aterian.
    our must remember-TA GEN pay(INF) meal-ACC/GEN

'Ve have to recall (that) Pekka paid for the meal'

b) *Meidan täytyy pyytää Pekkaa maksamaan aterian.
    our must ask-TA PAR pay-MA-ILL meal-ACC/GEN

('We have to ask Pekka to pay for the meal')

c) *Meidän täytyy maksaa aterian.
    our must pay-PAR meal-ACC/GEN

('We have to pay for the meal')

There is a clear contrast between (54a) and (54b)–(c). What makes sentences (54b) and (c) ungrammatical is the form of the infinitival object. ateria 'meal(ACC/NOM)' would be the grammatical form, since the matrix VP does not have a genitive feature (since there is no nominative subject). To the extent that (54a) is good, the genitive suffix is possible on the accusative subject, although the matrix Spec(VP) does not have a genitive feature. As in the temporal adjunct, the genitive suffix would have to be coming from inside the infinitival clause.
The judgments on the data on accusative marking in the clausal complement construction are not very clear. We just saw that although the matrix verb does not contain a genitive feature, one can occur on the embedded object. However, in such a case, not having a genitive suffix is also possible:

55) (?)Meidän täytyy muistaa Pekan maksaneen ateria.
    our must remember-TA GEN pay(INF) meal-ACC/NOM

'We have to remember (that) Pekka paid for the meal'

Sentences (55) and (54a) above are identical except for the suffix on the embedded object. Both sentences are slightly awkward.

Thus, when the matrix VP does not contain a genitive feature, the object of the infinitive may or may not occur with a genitive suffix (although both options are clumsy). However, when the matrix VP has a genitive feature, a genitive suffix is obligatory:

56) Jukka muisti Pekan maksaneen aterian/*ateria.
    NOM remembered GEN pay(INF) ACC/GEN ACC/NOM

'Jukka remembered (that) Pekka paid (for) the meal'

Thus, the clausal complement seems to be "ambiguous" with respect to genitive percolation: it can behave the same way as the temporal adjunct (ACC/GEN independent of matrix verb) or it can behave the same as the non-clausal complements (ACC/GEN only if matrix VP has genitive
feature). Table 5.4 summarizes the genitive percolation data in infinitivals.

TABLE 5.4. Genitive percolation in infinitivals.

<table>
<thead>
<tr>
<th>Environment:</th>
<th>TA</th>
<th>MA</th>
<th>temp.</th>
<th>CC</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEN feature in matrix clause</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>no GEN feature in matrix</td>
<td>no</td>
<td>no</td>
<td>yes</td>
<td>y/n</td>
</tr>
</tbody>
</table>

5.3.2.2 The structure of the clausal complement

We have seen two differences between the temporal adjunct and the clausal complement: (i) the clausal complement infinitival does not allow both a Px and a (human) genitive pronoun, while the temporal adjunct does; (ii) an accusative object in the clausal complement does not have to have a genitive suffix, if the matrix clause does not contain a genitive feature (while the accusative object in the temporal adjunct always seems to have a genitive suffix).

Regardless of these differences, I would like to propose the same structure for the clausal complement construction as I did for the temporal adjunct. Consider the following D-Structure representation of *Jukana lukkevan kirjaa* 'Jukka reading a book':

305
Both the tense/aspectual suffix and the genitive suffix occur in N, as in the clausal complement, and the verb raises to this position. The subject Jukka raises to the Spec(NP) position.

I will leave open the problem of the two differences between the temporal adjunct and the clausal complement construction, except to suggest that the differences may have to do with the fact that the clausal complement can be thought of as an argument of the matrix verb, while the temporal adjunct is clearly an adjunct.14

Having the same structure for the two "clausal" infinitival constructions captures the generalization that both have genitive subjects and Px's, and two aspects. Both constructions also have a passive form; we will look at the passive counterpart of the clausal complement infinitival next.
5.3.2.3 Passive form of the clausal complement

Consider the following examples of the passive form of the clausal complement infinitival (which is rarer in spoken language than the active forms discussed so far, just as with the passive of the temporal adjunct):

58a) Liisa haluaa Seijan vietävän kotiin.
     NOM wants ACC/GEN take(INF)-PASS home
     'Liisa wants Seija to be taken home'

b) Maija väittii opettajaa armottomasti haukutun.
   NOM claimed teacher-PAR ruthlessly curse(INF)-PAS
   'Maija claimed the teacher (had been) cursed ruthlessly'

c) Pekka uskoo koulussa opetettavan matematiikkaa.
   NOM believes school-INE teach(INF)-PASS mathematics-PAR
   'Pekka believes mathematics is being taught at school'

As in the active, the passive form of the clausal infinitival has a genitive suffix. Between the stem and the genitive suffix, we find one of the two passive participial morphemes—\(-tava\) for the present aspect (cf. \(-va\) in active), in (58a) and (c); \(-ttu\) for the past (\(-nut\) in active), in (58b).

Just as with the tensed passive and the passive of the temporal adjunct, the infinitival passive cannot have an overt subject. And, as in the sentential (tensed) and temporal adjunct domain, one of the complements of the
verbs precedes the verb: the accusative object in (58a),
the partitive object in (58b), and the locative phrase in
(58c).

Given that the passive forms of the two clausal
infinitivals are so similar, I would like to again propose
that the structure of the passive differs from the active
in that no Spec(VP) position is base-generated (partial
tree for (58a) above):

\[\text{59) }\]

```
NP
  /\  
 Spec N'  
  [GEN]  /\  
    N VP  
      /  
     tavan V'  
       /  
      V NP  
      /  
     vie- [PAR]  
      /  
     Seija
```

Again, the verb raises to N, and the object raises to
Spec(NP).\textsuperscript{15}

5.3.3 Summarizing the two clausal infinitivals

Apart from minor differences, the temporal adjunct
and the clausal complement infinitival behave very
similarly. Neither has an IP level. This results in the
lack of the IP properties, including the fact that neither
construction blocks binding into the construction. Also, the negative verb, the auxiliary olla, and nominative subjects are impossible in both constructions.

Both constructions, however, have something very similar to an IP—an NP with the structure parallel to an IP. This structure gives rise to the clause-like properties of the two constructions: the existence of genitive subjects and Pn’s, the possibility of passive and the occurrence of two tense/aspect forms.

Next we will look at the rationale clause adjunct which is similar to the two clausal infinitival constructions just covered, but is also different in important ways.

5.4 The rationale clause adjunct

5.4.1 Comparing the temporal adjunct and the rationale clause adjunct

The main difference between the rationale clause adjunct and the temporal adjunct is that in the rationale adjunct a Pn is obligatory and a genitive subject is impossible. Consider the following examples of the rationale clause construction:
60a) Menin koululle tavatakseni Liisan.
    went-1SG school-ALL meet(INF)-1SGPx ACC/GEN

   'I went to school in order to meet Liisa'

b) Jukka osti romaanin lukeakseen sen lomalla.
    NOM bought novel read(INF)-3Px it vacation

   'Jukka bought a novel in order to read it
    on vacation'

Table 5.5 below is a version of Table 5.3, including
the rationale adjunct.

TABLE 5.5. Px's in infinitivals and in NPs, with rationale
adjunct.

<table>
<thead>
<tr>
<th>Construction</th>
<th>Px alone?</th>
<th>GEN NP alone?</th>
<th>together?</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA-infinitive</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>TA-infinitive</td>
<td>no</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>possessive NPs</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>temporal adjunct</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>clausal compl.inf.</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>rationale adjunct</td>
<td>yes</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>

Although the rationale adjunct construction behaves
differently from the temporal adjunct and the clausal
complement construction, it is sufficiently similar as to
warrant trying to use the same tree as in the other two
clausal constructions. The following is the D-Structure
representation of the relevant part of (60b), lukeakseen sen 'in order for him to read it':

61) NP
   / \ Spec N'
  [GEN] / \ VP
     | / \ Spec V'
   [GEN] / \ 
     | V NP
   NP [+C] [ACC]
     | [3Px] luke se

By the usual mechanisms, the subject Px (with its genitive feature) raises from Spec(VP) to the Spec(NP). The genitive feature base-generated in the Spec(NP) position will percolate to the accusative object.

Between the stem and the Px in this construction there are two morphemes: (t)la and kse. (t)la is the same morpheme as occurs as the suffix of the TA-infinitive. -kse- is the translatival case suffix (the pre-suffix form of it). As with the temporal adjunct, I have represented the two suffixes together in N.16

The rationale clause is independent of the matrix verb with respect to genitive marking on an accusative object, as the following example shows:
As the matrix object tämä romaani shows, the matrix VP has no genitive feature; yet, as with the temporal adjunct, the infinitival object sen has a genitive suffix. The proposed structure gives us this result.

So far, the rationale adjunct behaves like the temporal adjunct. The two constructions have the following differences, however: the rationale adjunct does not have a passive form; it does not have two aspe ctual forms; it does not allow genitive subjects, and Px's are obligatory.

I would like to suggest that one syntactic condition imposed on this construction is the reason for at least the main difference: the rationale clause is "predicated of" the matrix subject (in the sense that e.g. the simple MA-construction or a locative PP is). Before trying to determine what counts as "subject", let me show how some of the differences between the rationale clause and the temporal adjunct follow from this constraint.

If the rationale clause is always predicated of the subject, then we never get overt genitive subjects of the
rationale infinitive, owing to the Binding Theory. Since the subject would always c-command the rationale clause, an overt pronoun in the rationale clause coindexed with the subject would violate Condition (B) of the Binding Theory.

An overt pronoun that is not coindexed with the subject would, on the other hand, violate the constraint of having to be predicated of the subject imposed on this construction. The only possible subject form in the rationale clause is, then, the anaphoric Px, coindexed with the subject.

In a similar vein, passive should not be possible, since a passive construction would not have a Spec(VP) position in which a subject could be base-generated---assuming that this construction has to have a subject.

The lack of a tense/aspectual difference between "past" and "present" may also have to do with the interpretation of the construction. A rationale clause is "future-oriented", and thus only one tense is needed (the "present", or "non-past" tense).

So, stipulating that the rationale clause adjunct has to be interpreted as being "predicated of" the subject gives us at least some of the major differences between the temporal adjunct and the rationale adjunct, allowing us to
maintain the same structure for the two constructions (and the clausal complement construction).

5.4.2 Binding the Px in the rationale adjunct

Let us attempt to determine exactly what can act as a binder of the Px in the rationale clause. In a typical sentence with a nominative subject and an accusative or partitive object, the nominative subject can act as the antecedent, but not the object:

63a) Maija-i auttoi Liisa-a selviytyakseen-i/*j
    NOM    helped PAR     pass-TA-KSE-3Px
    ...kokeesta.
    exam-ELA

'Maija helped Liisa in order to pass the exam'

b) Tuija-i yleni Seija-a pysiakseen-i/*j
    NOM    promoted ACC/GEN stay-TA-KSE-3Px
    ...tyopaikeassaan-i/*j
    job-INE-3Px

'Tuija promoted Seija in order to stay in her job'

Although the pragmatics favors interpreting the matrix subject as the subject of the rationale clause in these examples, binding by the matrix object is impossible, while binding by the matrix subject is fine. Similarly, with the arguments of esitella 'introduce':

314
64) Tuija-i esitteli Liisan-j Maijalle-k
   NOM introduced ACC/GEN ALL
   ...tutustuakseen-i/*j/*k hänelle
   familiarize-TA-KSE-3Px him/her-ILL

   'Tuija introduced Liisa to Maija in order to
   get to know him/her'

Again, the pragmatically odd reading is the only possible
one, where the nominative subject binds the anaphoric Px.

Recall the complex version of the MA-construction,
where the MA-infinitival was predicated of a matrix object.
Such a matrix object can bind the Px in a rationale clause:

65) Maija-i käsiksi Liisaa-j auttamaan Tuijaa-k
   NOM ordered PAR help-MA-ILL PAR
   ...selviytyäkseen-i/*j/*k kokeesta.
   pass-TA-KSE-3Px exam-ELA

   'Maija ordered Liisa to help Tuija in order to
   pass the exam'

In this example, either the subject of the matrix clause or
the partitive object of the matrix clause (of which the MA-
infinitival is predicated) can act as antecedents of the
anaphoric suffix in the rationale clause—but the object of
the MA-infinitive cannot (although it is pragmatically the
best option).

A similar pattern can be found in the clausal
complement construction:
As above with the MA-construction, the matrix subject and the subject of the clausal complement infinitival can be interpreted as subjects of the rationale clause, while the object of the infinitival cannot.

The generalization seems to be that the Px in the rationale clause can be bound only by "subjects", where "subject" is defined as an NP of which a VP is predicated. For example, a partitive object of a matrix verb can act as a binder only if an infinitival VP is predicated of the binder (cf. the MA-construction example above).

5.5 Conclusion

In this chapter I have attempted to chart the infinitival structures used in modern Finnish. There are two ways of classifying the constructions that I have used: phrasal/clausal and argument/adjunct.

The TA-infinitive and the MA-infinitive are phrasal (or non-clausal) arguments. They do not have genitive
percolation independent of the matrix VP (i.e. the embedded object only gets a genitive suffix if the matrix clause has an "unused" genitive feature). They do not allow Px's. They do not have tenses, and they do not have passive forms.

The temporal adjunct and the rationale adjunct are clausal adjuncts. They have genitive percolation that is independent of the matrix verb. They have Px's. The temporal adjunct has two tenses and a passive form.

The clausal complement infinitival is a clausal argument. Like the temporal adjunct, it has Px's and two tenses; it also has two passive forms. It appears to be somewhat more dependent on the matrix clause with respect to genitive percolation than the two adjunct constructions.

It was proposed that the phrasal/clausal distinction derives from the structure as follows: the clausal constructions have an NP "layer" corresponding to the IP "layer" of a tensed sentence, while the phrasal constructions consist of a VP (embedded under a PP in the case of the MA-construction).

Assuming none of the five constructions contain an IP, we can explain why the negative verb and the auxiliary verb are not possible in any of these constructions. Also,
the fact that none of them ever have a nominative subject follows from not having an IP. If the infinitival constructions do not have an IP, we can also maintain that IP is the only binding domain for Finnish (as well as being the local domain for genitive percolation).

NOTES

1) The distribution of locative PPs and MA-complements is not identical, but analyzing the MA-infinitival as a locative PP explains much of the data. Similarly, the TA-infinitival does not have exactly the distribution of a direct object, but of its characteristics make sense if it is analyzed as an object.

2) "Real" locative PPs are not restricted to "internal locative cases" (inessive, elative, illative), but they also occur in "external locative cases" (adessive, ablative, allative). A verb will typically take either an inessive PP (‘in’) or an adessive one (‘at’), while the MA-infinitive can only occur with the "internal" locatives.

3) There is a third verb meaning ‘begin’, alkaa, which also takes an illative MA-infinitive, but for some reason does not take an illative non-verbal complement; I will return to this verb.

4) In Chapter 2 I discussed a complement fronting process whereby complements moved to Spec(IP), if the subject had been moved to COMP. The object preceding the verb in (11) seems to be a related process, but I am not able to pursue its properties here.

5) There is much to be learned about the relationship between a negative matrix verb and the object of an embedded infinitival; I have to leave this area open.

6) For some reason, only abstract nouns seem to be possible in the construction in (16b) with the verb estaa 'prevent'.
7) Predicating the MA-infinitival of a subject, when the matrix verb has an object seems not be possible (at least when the MA-verb has an object NP), unlike with locative PPs.

8) Unlike in English, 'promise' in Finnish seems not to allow a "double-object" construction:

a) Lupasin tulla.
   promise-1SG come-TA 'I promised to come'

b)?*Lupasin Jukalle tulla.
   ALL ('I promised Jukka to come')

c) *Lupasin tulla Jukalle.

d) Lupasin Jukalle, että tulen.
   promise-1SG ALL that come-1SG
   'I promised Jukka I would come'

A "goal" NP is not possible with the TA-complement, although it is fine in the tensed sentence in (d).

9) We can maintain the generalization that VPs do not occur in COMP if the TA-infinitive bears the category of a VP, while the MA-infinitive (which can occur in COMP) bears the category PP.

10) In the complex TA-construction we do find genitive subjects, as we shall see; it will be proposed that they have a Spec(VP) position.

11) Unlike in NPs, the Px is optional in the temporal adjunct, especially in spoken language.

   The 3rd person Px has two forms, -nsa and -vn, which usually occur in free variation. For some reason, -vn is preferred in the temporal construction.

12) We shall see that in the passive forms of the clausal complement infinitival (which, I will argue, has the same structure as the temporal adjunct) there is indeed an "extra" genitive feature that can occur on an accusative object (even when the matrix VP does not have one).
13) When participles are used as adjectives (cf. Section 5.1) they occur in all nominal cases. The nominative suffix of a participle is -nut, and the genitive suffix is -neen.

14) The fact that the head of this construction always occurs in genitive case may also have something to do with genitive percolation.

15) The data on accusative marking in an embedded passive infinitival is murky.

16) There does not seem any reason for positing a P node (which would take the NP as a complement) in this construction.
APPENDIX I

SUBCATEGORIZATION PATTERNS OF SELECTED VERBS

(A) Subcategorizing for nominal complements

- verbs marked with [V] also subcategorize for a verbal complement (possibly with a different reading of the verb); each of these verbs is also listed in (B) (the digit following 'V' refers to one of the types of verbal complement that this verb takes)

- case terms used:

PARTitive, ACCusative;
OBJective (refers to both partitive and accusative);
ABLative 'from', ALLative 'to' ("external locatives");
ELAitive 'from', ILLative 'to' ("internal locatives");
LOCative (one or more of the six locative cases)

- other abbreviations:

so. = someone
sg. = something
(1) verbs that normally only take an accusative object in the affirmative singular:

(Note: In negative sentences and with a plural object, all of these verbs (can) take partitive case.)

painaa 'weigh'
maksaa 'cost'
kestää 'last'
juosta 'run'
kävellä 'walk'
uida 'swim'
sanoa 'say (sg.)'
myöntää 'admit (sg.)'
luvata 'promise (sg.)'
todistaa 'prove (sg.)'
tietää 'know (sg.)'
arvata 'guess'
uskoa 'believe (sg.)'
muistaa 'remember'
unohtaa 'forget'
ymmärtää 'understand'
nähdä 'see'
kuulla 'hear'
tuntea 'feel'
haistaa 'smell'

huomata 'notice'
löytää 'find'
tavata 'meet'
kutsua 'invite'
tuntea 'know (so.)'
osata 'know, be able to'
oppia 'learn'
hyväksyä 'approve (of sg.)'
sallia 'allow'
(2) verbs that only take a partitive object (not accusative):

(Note: The object of most (or all?) of these verbs can occur in accusative case if something is predicated of the object, e.g. *Hailit hänét(ACC) kuoliaaksi(TPAnslative)
'You adored him to death' vs. *Hailit hänét 'You adored him(ACC)'.)

muistuttaa ‘resemble’
matkia ‘imitate’

pelätä ‘fear’ [V1]
ihailta ‘adore’
rakastaa ‘love’
vihata ‘hate’

anoa ‘beg’
vaatia ‘demand’ [V1]
pyytää ‘ask’ [V1]
toivoa ‘hope for’ [V1]

katsella ‘watch’
kuunnella ‘listen’
tunnustella ‘feel around’
koskettaa ‘touch’
haistella ‘sniff’

yrittää ‘try on’ [V2]
kokeilla ‘try’
koettaa ‘try’

auttaa ‘help (so.)’ [V5]
tukea ‘support (so.)’
kiittää ‘thank (so.)’

opettaa ‘teach (so. or sg.)’ [V5]
tutkia ‘do research (on sg.)’
opiskella ‘study’

pelata ‘play (a game)’
leikkiä ‘play (with toys)’
soittaa ‘play (an instrument)’

hallita ‘govern’
vartioida ‘guard’

lyödä ‘hit’
työntää ‘push’
vetää ‘pull’
raottaa ‘open slightly’

jatkaa ‘continue’
(3) verbs that take one NP in objective case (ACC or PAR depending on aspect):

lukea 'read'  
kirjoittaa 'write'  [V1]

syödä 'eat'  
juoda 'drink'  

avata 'open'  
sulkea 'close'  
sytyttää 'light up'  
sammuttaa 'extinguish'  

piirtää 'draw (a picture)'  
maalata 'paint'  

korjata 'fix'  
luoda 'create'  
rakentaa 'build'  
kehittää 'develop'  
synnyttää 'give birth to'  
parantaa 'heal'  

ampua 'shoot'  
tappaa 'kill'  
hajottaa 'scatter'  
turmella 'destroy'  

kertoa 'tell (sg.)'  [V1]  
kuvitella 'imagine'  [V1]  

alkaa 'begin'  [V2]  
aloittaa 'begin'  
lopettaa 'end'  

haluta 'want'  [V1]  
pakottaa 'draw (iron)'  [V5]  
taivuttaa 'bend'  [V5]  
kaivertaa 'engrave'  
muotoilla 'shape'  

324
(4) verbs that subcategorize for one NP in a lexical case (not objective), or possibly semantic case (case given in brackets):

(Note: I could not think of any instances where a verb subcategorizes for an NP inessive [in], adessive [at], or allative [to] case.)

luottaa 'rely on' [ILL]
nojata 'lean on' [ILL]
uskoa 'believe in' [ILL]
turvautua 'trust' [ILL]
rakastua 'fall in love with' [ILL]
tutustua 'get to know' [ILL]
tottua 'get used to' [ILL] [V4]
suostua 'agree to' [ILL] [V4]
pystyä 'be able to' [ILL] [V4]
kyetä 'be able to' [ILL] [V4]
ryhtyä 'begin' [ILL] [V4]
osua 'hit (an aim)' [ILL]
tähdätä 'aim at' [ILL]
vastata 'answer (something)' [ILL]

kieltäytyä 'refuse' [ELA] [V4]
vetäytyä 'withdraw from' [ELA]
luopua 'release' [ELA]
irrottua 'disengage' [ELA]
eristäytyä 'isolate' [ELA]
pitää 'like' [ELA]
tykätä 'like' (colloq.) [ELA]

haaveilla 'daydream' [ELA] [V1]
uneksia 'dream about' [ELA] [V1]

näyttää 'seem' [ABL] [V1]
tuntua 'feel' [ABL] [V1]
kuulostaa 'sound' [ABL]
vaikuttaa 'appear' [ABL] [V1]

(Note: the last four verbs typically have an AP complement.)
(5) verbs that subcategorize for two NPs:

(Note: The mutual word order of the ALL or ABL NP and the object NP is not clear.)

antaa 'give' [ACC, ALL] [V3]
lähettää 'send' [ACC, ALL]
ostaa 'buy for so.' [ACC, ALL]
estellä 'introduce' [ACC, ALL]

ostaa 'buy from so.' [ACC, ABL]
saada 'receive' [ACC, ABL] [V2]

panna 'put' [ACC, LOC] [V5]
päästää 'release sg. from/to a place' [ACC, LOC]

käskää 'order so. somewhere' [ACC, LOC] [V3]
korvata 'replace sg. with sg.' [ACC, ADE]

muistuttaa 'remind so. of sg.' [PAR, ELA]
(B) Subcategorizing for verbal complements

(Note: A number of important verbs in this section are extracted from Vilkuna [1989:208-209].)

- For each verb, I have tested whether it subcategorizes for the following verbal complements:
  - Full tensed sentence (S')
  - Clausal complement infinitival [abbreviated CC]
    (=NP-GEN infinitival subject + VAN/NEEN inf.)
  - Simple TA-inf. (matrix subject control, no inf. subject)
  - Complex TA-inf. (NP-GEN inf. subj. + simple TA-inf.)
  - Simple MA-inf. (matrix subject control, no inf. subj.)
  - Complex MA-inf. (NP-OBJ inf. subj. + simple MA-inf.)

- Below I have only indicated the "positive" subcategorizations: if the verb is not listed as subcategorizing for one of the verbal complement types, then the verb does not subcategorize for that type.

- If a verb takes more than one type of verbal complement, it is listed under each type of complement; such verbs are indicated by a number in brackets, which refers to the other possible verbal complement type (e.g. [2] referring to the simple TA-inf.).

- Since any verb that takes an S' complement also takes a CC, these two are combined as type (1)

- Cases used here:
  ACCusative and PARtitive (the two objective cases);
  INEssive 'in'; ELAtive 'from'; ILLative 'to' (the 'internal' locatives);
  ADEssive 'at'; ABLative 'from'; ALLative 'to' (the 'external' locatives).
(1) verbs that subcategorize for S' and CC:

(Note: the first six verbs also allow an ALL 'to' NP preceding the S' or CC (corresponding to 'him' in 'I told him that she would come'); similarly, 'pyytää' and 'vaatia' allow an ABL 'from' NP preceding the S' or CC (corresponding to 'of him' in 'I demanded of him that she come'). The case in brackets refers to the typical case of a NP complement that these verbs could take.)

sanoa 'say' (ACC)
myöntää 'admit' (ACC)
kertoa 'tell' (ACC)
luvata 'promise' (ACC) [2]
todistaa 'prove' (ACC)
kirjoittaa 'write' (ACC)
vääntää 'claim' (none)
tietää 'know' (ACC) [2]
arvata 'guess' (ACC) [2]
uskoa 'believe' (ACC)
muistaa 'remember' (ACC) [2]
unohdattaa 'forget' (ACC) [2]
ymmärtää 'understand' (ACC) [2]
kuvitella 'imagine' (ACC)
olettaa 'assume' (none)
nähdä 'see' (ACC) [2]
huomata 'notice' (ACC) [2]
kuulla 'hear' (ACC)
tuntea 'feel' (ACC)
haistaa 'smell' (ACC)
haaveilla 'daydream' (ELA)
uneksi 'dream' (ELA)
toivooa 'hope' (PAR)
haluta 'want' (PAR) [2]
tahtoaa 'want' (?PAR) [2]
pelätä 'fear' (PAR) [2]
pyytää 'ask' (PAR) [2] [5]
vaatia 'demand' (PAR) [2] [5]

näyttää 'seem'
näkyy 'seem'
tuntua 'feel; seem'
kuulua 'sound; seem'
vaikuttaa 'appear'

(Note: The last five verbs are raising verbs: the CC does not have an overt subject with these verbs.)

328
(2) verbs that subcategorize for the simple TA-inf (i.e. subject control):

(Note: unlike with the S' and CC complements, the verbs 'luvata' (promise), 'pyytä' (ask) and 'vaatia' (demand) do not allow a Recipient/Source NP preceding (or following) the verbal TA-inf. complement.)

yrittää 'try'
jaksaa 'have strength'
viitsiä 'feel like'
uskaltaa 'dare'

osata 'be able to'
saada 'have permission to'
voida 'be allowed to'
alkaa 'begin'
aikoa 'intend'

luvata 'promise'

haluta 'want'
tahtoa 'want'
pelätä 'fear'

rietää 'know'
arvata 'guess'
muistaa 'remember'
unohtaa 'forget'
ymmärtää 'understand'
huomata 'notice'

pyytää 'ask'
vaatia 'demand'

täytyä 'must'
kannattaa 'be worthwhile'

pelottaa 'scare'
inhottaa 'hate'
kiinnostaa 'interest'

(Note: the last five verbs have non-nominative "subjects").

(3) verbs that subcategorize for the complex TA-inf:

(Note: this is an exhaustive list.)

antaa 'let'
sallia 'allow'
suoda 'allow'
käskeä 'order'

[5]
(4) verbs that subcategorize for the simple MA-inf (subject control):

(Note: case of the MA-inf. indicated in brackets.)

mennä 'go' [ILL]
olla 'be' [INE]
tulla 'come from' [ELA]
tulla 'come to' [ILL]
käydä 'visit' [INE]
lähteä 'leave' [ILL]

pystyä 'be able to' [ILL]
kystä 'be able to' [ILL]
oppia 'learn' [ILL]

ryhtyä 'begin' [ILL]
alkaa 'begin' [ILL] [2]
aikoa 'intend' [ILL] [2]

suostua 'agree to' [ILL]
tottua 'get used to' [ILL]

kieltäytyä 'refuse' [ELA]
lakata 'quit' [ELA]

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(5) verbs that subcategorize for the complex MA-inf (object control):

pakottaa 'force' [ILL]
taivuttaa 'persuade' [ILL]
kehottaa 'urge' [ILL]
panna 'compel' [ILL]
saada 'get(X to do)' [ILL] [2]

käskää 'order' [ILL] [3]
pyytää 'ask' [ILL] [1]
vaatia 'demand' [ILL] [1]

auttaa 'help' [ILL]
opettaa 'teach' [ILL]

estää 'prevent' [ELA]
kieltää 'deny' [ELA]
APPENDIX II

NOMINAL AND VERBAL PARADIGMS

(A) Case paradigm of full NPs nouns (productive cases):

<table>
<thead>
<tr>
<th>CASE</th>
<th>'book'</th>
<th>'books'</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominative</td>
<td>kirja</td>
<td>kirjat</td>
<td>basic form</td>
</tr>
<tr>
<td>Partitive</td>
<td>kirjaa</td>
<td>kirjoja</td>
<td>objective</td>
</tr>
<tr>
<td>Genitive</td>
<td>kirjan</td>
<td>kirjojen</td>
<td></td>
</tr>
<tr>
<td>Essive</td>
<td>kirjana</td>
<td>kirjoina</td>
<td>'as'</td>
</tr>
<tr>
<td>Translative</td>
<td>kirjakisi</td>
<td>kirjoiksi</td>
<td>'(become) X'</td>
</tr>
<tr>
<td>Inessive</td>
<td>kirjassa</td>
<td>kirjoissa</td>
<td>'in'</td>
</tr>
<tr>
<td>Elative</td>
<td>kirjasta</td>
<td>kirjoista</td>
<td>'from'</td>
</tr>
<tr>
<td>Illative</td>
<td>kirjaan</td>
<td>kirjoihin</td>
<td>'to'</td>
</tr>
<tr>
<td>Adessive</td>
<td>kirjalla</td>
<td>kirjoilla</td>
<td>'at'</td>
</tr>
<tr>
<td>Ablative</td>
<td>kirjalta</td>
<td>kirjoilta</td>
<td>'from (surface)'</td>
</tr>
<tr>
<td>Allative</td>
<td>kirjalle</td>
<td>kirjoille</td>
<td>'to (surface)'</td>
</tr>
</tbody>
</table>

(B) Case paradigm of the human pronouns

<table>
<thead>
<tr>
<th>CASE I</th>
<th>you(sg)</th>
<th>he/she</th>
<th>we</th>
<th>you(pl)</th>
<th>they</th>
<th>who</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>minua</td>
<td>sina</td>
<td>han</td>
<td>me</td>
<td>te</td>
<td>he</td>
</tr>
<tr>
<td>PAR</td>
<td>sinun</td>
<td>hänä</td>
<td>meitä</td>
<td>teitä</td>
<td>teidä</td>
<td>heidä</td>
</tr>
<tr>
<td>ACC</td>
<td>sinut</td>
<td>hänet</td>
<td>meidät</td>
<td>teidät</td>
<td>heidät</td>
<td>kenet</td>
</tr>
<tr>
<td>GEN</td>
<td>sinun</td>
<td>hänensä</td>
<td>meina</td>
<td>teinas</td>
<td>heinä</td>
<td>kenen</td>
</tr>
<tr>
<td>ESS</td>
<td>sinuusa</td>
<td>hänennä</td>
<td>meinas</td>
<td>teinäsa</td>
<td>heissä</td>
<td>kenessä</td>
</tr>
<tr>
<td>TRA</td>
<td>sinuksi</td>
<td>häneksi</td>
<td>meiksi</td>
<td>teiksi</td>
<td>haihksi</td>
<td>keneksi</td>
</tr>
<tr>
<td>INE</td>
<td>sinussa</td>
<td>hänessä</td>
<td>meissä</td>
<td>teissä</td>
<td>heissä</td>
<td>kenessa</td>
</tr>
<tr>
<td>ELA</td>
<td>sinusta</td>
<td>hänestä</td>
<td>meistä</td>
<td>teistä</td>
<td>heistä</td>
<td>keneesta</td>
</tr>
<tr>
<td>ILL</td>
<td>minuun</td>
<td>hänenehen</td>
<td>meihin</td>
<td>teihin</td>
<td>heihin</td>
<td>keneen</td>
</tr>
<tr>
<td>ADE</td>
<td>minullä</td>
<td>hänellä</td>
<td>meillä</td>
<td>teillä</td>
<td>heillä</td>
<td>keneellä</td>
</tr>
<tr>
<td>ABL</td>
<td>minulta</td>
<td>häneltä</td>
<td>meiltä</td>
<td>teiltä</td>
<td>heiltä</td>
<td>keneiltä</td>
</tr>
<tr>
<td>ALL</td>
<td>minulle</td>
<td>hänelle</td>
<td>meille</td>
<td>teille</td>
<td>heille</td>
<td>keneelle</td>
</tr>
</tbody>
</table>

331
(C) The possessive suffix paradigm

| (minun)  -ni | 'my'          |
| (sinun)  -si  | 'your(sg)'    |
| (hanen)  -nsa/-Vn | 'his/her'    |
| (meidan) -mme | 'our'        |
| (teidan) -nne | 'your'        |
| (heidan) -nsa/-Vn | 'their'      |

(D) Verbal paradigm for *lukea* 'read':

<table>
<thead>
<tr>
<th>P/N</th>
<th>Present</th>
<th>Past</th>
<th>Present Perfect</th>
<th>Past Perfect</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>luen</td>
<td>luin</td>
<td>olen lukenuet</td>
<td>olin lukenuet</td>
</tr>
<tr>
<td>2SG</td>
<td>luet</td>
<td>luit</td>
<td>olet lukenuet</td>
<td>olit lukenuet</td>
</tr>
<tr>
<td>3SG</td>
<td>lukee</td>
<td>luki</td>
<td>on lukenuet</td>
<td>oli lukenuet</td>
</tr>
<tr>
<td>1PL</td>
<td>luemme</td>
<td>luimme</td>
<td>olemme lukeneet</td>
<td>olimme lukeneet</td>
</tr>
<tr>
<td>2PL</td>
<td>luette</td>
<td>luitte</td>
<td>olette lukeneet</td>
<td>olitte lukeneet</td>
</tr>
<tr>
<td>3PL</td>
<td>lukevat</td>
<td>lukivat</td>
<td>ovat lukeneet</td>
<td>olivat lukeneet</td>
</tr>
</tbody>
</table>

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