Interpreting Agreement

Johns, Christopher Stephen Rowland

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Christopher Stephen Rowland Johns

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This dissertation is an investigation of the formal status of agreement morphology and its relationship to null arguments. Rejecting Chomsky's (2000, 2001) claim that valuedness is the formal correlate of interpretability, it is suggested that a more elegant account of the data follows if φ-features of verbal affixes are taken to be valued in the lexicon. Interpretability is argued to be determined in the syntax, according to whether the affix is in a position to receive a θ-role or not and as such the proposal diverges from that of Pesetsky and Torrego (2005a, 2005b), who also argue for the separation of interpretability and valuedness, but consider both to be lexical properties of a given category. Positing the existence of verbal affixes with valued interpretable φ-features is uncontroversial and this is the analysis adopted for environments such as the participial clause in Finnish, object and complementiser agreement in Modern Standard Arabic and a range of contexts in Modern Irish in which 'pronominal agreement' and full NP or free pronominal arguments are in strictly complementary distribution. It is shown that valued uninterpretable features, while not present in the lexicon according to the Chomskyan model, are necessarily created in the course of the derivation, leading to the conclusion that the computational component must contain an operation for deleting such features under identity with matching identical features of a nominal category. Since this should be no less able to apply to lexically valued uninterpretable features, there is no principled reason to suppose that such features do not exist and this is the analysis adopted for constructions such as certain Finnish adjunct clauses and SVO structures in Modern Standard Arabic, in which agreement and overt arguments co-occur. An important consequence of allowing the interpretability of φ-features to be determined in the syntax is the possibility that the same affix could be interpretable in one environment and uninterpretable in another, exhibiting different syntactic behaviour accordingly, and this is argued to be the case for Finnish possessor agreement and finite verb agreement in Modern Standard Arabic, obviating the need to posit a lexical split as other analyses (e.g. Fassi Fehri, 1993, Toivonen, 2000) have had to. Optional arguments are accounted for by recourse to the idea of a null pronominal with interpretable unvalued φ-features which probes an agreement head with uninterpretable valued φ-features, a natural consequence of the dissolution of the biconditional relationship between interpretability and valuedness and a direct analogue in Minimalist terms of the category *pro* of Chomsky (1982) and Rizzi (1986).

Declaration

No part of the material contained within this dissertation has previously been submitted for a degree at Durham University or any other university or institute of learning.

Statement of Copyright

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Abbreviations

–	morpheme boundary	ILL	illative
=	clitic boundary	IND	indicative
<>	infix	INE	inessive
1	first person	INF	infinitive
2	second person	INF_1	first infinitive
3	third person	INF_2	second infinitive
I	class 1	INF_3	third infinitive
II	class 2	INS	instrumental
	etc.	LOC	locative
ABL	ablative	M	masculine
ACC	accusative	MA	see chapter three
ADE	adessive	NEG	negation
AFF	affix	NMLZ	nominaliser
ALL	allative	NOM	nominative
AOR	aorist	NUT	see chapter three
AUG	augment	OBJ	object
CLF	classifier	PAR	partitive
CMPR	comparative	PASS	passive
COND	conditional	PAST	past
CONTR	contrastive	PL	plural
DAT	dative	POS	possessive
DE	see chapter three	PRES	present
DEF	definite	PROG	progressive
DEM	demonstrative	PTCP	participle
DFT	default	*Px*	possessive suffix
ELA	elative	Q	question marker
EMPH	emphatic	SUBJ	subject
EXPL	expletive	SG	singular
EXT	extension	TA	see chapter three
F	feminine	TOP	topic
FV	final vowel	TRNS	translative
GEN	genitive	VA	see chapter three

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Agreement and Null Subjects

1

To say that the relationship between verbal agreement and the possibility of null subjects in a language is not a new area of inquiry is something of an understatement. In the three and a half decades since Perlmutter (1971) first tackled the issue from a generative perspective, the Chomskyan tradition alone has produced a dauntingly vast literature devoted to the subject, to say nothing of treatments in other traditions. Yet for all this attention, the consensus on the nature of the relationship is no greater now than it was then and while it would be unfair to suggest that no progress has been made, it would be equally disingenuous to pretend that research has been consistently cumulative.

Although the object of inquiry has remained essentially the same (new data notwithstanding), the broader questions constituting the research context in which that object has been studied have not. For the generative linguist working in the Government and Binding Theory of the 1980s and early 1990s, the study of human language was concerned principally with the internal properties of a specific module of the mind/brain, as the following research questions illustrate:

(1) What constitutes knowledge of language?
How is knowledge of language acquired?
How is knowledge of language put to use? (Chomsky, 1986a:6)

Although related, there are important differences between these questions and the following, which arguably define Chomsky's Minimalist Program.

(2) What are the general conditions that human language can be expected to satisfy?
Which of these are imposed on the language faculty by virtue of
(a) its place within the array of cognitive systems of the mind/brain?
(b) general considerations of conceptual naturalness that have some independent plausibility, namely simplicity, economy, symmetry, nonredundancy, and the like?
To what extent is the language faculty determined by these conditions, without special structure that lies beyond them? (after Chomsky, 1995:1)

Research in this paradigm is less concerned with the mechanisms of the language module for their own sake than for the extent to which they can shed light on whether the design of the language faculty is an 'optimal solution' to the design specification imposed upon it by its neighbouring cognitive systems. The remainder of this chapter will consider the implications of the shift of emphasis between Government and Binding Theory and the Minimalist Program for the study of null subjects.

1 PARAMETERS IN GENERATIVE GRAMMAR

1.1 The Advent of Parameters

One of the defining characteristics of generative grammar in the Chomskyan tradition has been the answer it proposes to the problem of the poverty of the stimulus (also known as Plato's Problem). As Chomsky himself put it, the problem "for the child learning the language ... is to determine from the data of performance the underlying system of rules that has been mastered by the speaker-hearer and that he puts to use in actual performance" (Chomsky, 1965:4). Given the incomplete and indeed often contradictory nature of the performance data, this task would be impossible, so it was argued, if the child were not genetically endowed with knowledge of "deep seated regularities which, being universal, are omitted from the grammar itself" (Chomsky, 1965:6). The task of the generative linguist was therefore "that of developing a hypothesis about initial structure that is sufficiently rich to account for acquisition of language, yet not so rich as to be inconsistent with the known diversity of language" (Chomsky, 1965:58). As study of individual languages proceeded, however, it became increasingly clear that there was a discrepancy between the truly universal and such properties as could reasonably be expected to be learned on the basis of the primary linguistic data alone[1] and this led in the early 1980s to the proposal that universal grammar is parameterised, admitting of a range of mutually exclusive options in any given area of grammar, one of which was supposed to be selected by the child on the basis of salient triggers in the primary linguistic data.

[1] Given the importance of the move to the Principles and Parameters approach, it is perhaps surprising in retrospect that the question of what a child should be considered capable of learning without the help of universal grammar was never treated in any systematic way.

1.2 Pro-Drop as the Parameter *Par Excellence*

It was against the background of the search for parameters that the study of null subjects became a topic of central importance to the generative enterprise. As early as 1971, long before the concept of parameter had been espoused, Perlmutter noted that languages (such as Spanish) which allow null subjects (3) also allow extraction of subjects from embedded clauses headed by an overt complementiser (4), while languages with obligatorily overt subjects (such as English) do not allow such a transformation (5-6).

(3) (Nosotros) he-mos trabaja-do todo el día
(we) have-1PL.PRES work-PTCP all the day
'We have worked all day' (Perlmutter, 1971:103)

(4) Quíen diji-ste que sal-i-ó temprano
who say-2SG.PAST that leave-PAST-3SG early
'Who did you say left early' (Perlmutter, 1971:103)

(5) *(They) ate the soup without a spoon (Perlmutter, 1971:99)

(6) Who did he say (*that) fainted? (Perlmutter, 1971:102)

Furthermore, he observed that those languages which allow null thematic subjects also allow non-thematic subjects (7), which languages such as English do not (8).

(7) (*Él) es tarde
(*it) is late
'It is late' (Perlmutter, 1971:104)

(8) *(It) is late (Perlmutter, 1971:104)

Almost a decade later, Kayne (1980) suggested that the same class of languages as allow null subjects and extraction of this kind also allow free inversion of a subject and unaccusative verb in a way that the other class does not, as the following examples from Italian (9) and English (10) illustrate.

(9) Hanno telefonato molt-i amic-i
have telephoned many-PL friend-PL
'Many friends have telephoned'

(10) *Have telephoned many friends

This cluster of superficially unrelated and intuitively intractable properties was a prime candidate for analysis as a parameter. If it could be shown that the possibility of free subject inversion and subject extraction of the kind described above necessarily followed from the availability of null subjects in a language, then the burden on the child learning a language would indeed be significantly reduced provided that (as was widely accepted at the time) null subjects are made available in a given language by the presence of rich agreement. All that was required of the child in order for him or her to set this parameter was to identify the presence or absence of rich agreement in the target language, this presumably being sufficiently salient a property as to be able to function as a trigger in the primary linguistic data. Rizzi (1982) showed that these correlations did indeed follow, if null-subject languages were assumed to have as part of their lexical inventory a null pronominal category *pro* not available in languages of the English-type, an idea first advanced by Chomsky (1982). Under this analysis, it was not necessary to modify the claim that the *that*-trace filter was a linguistic universal, since the element supposedly extracted from the subject position of the embedded clause could just as easily have been extracted from further down the structure. In these and in subject-inversion constructions, the subject position could be said to be occupied by an expletive *pro* satisfying the Extended Projection Principle (also assumed at the time to be universal), an option not available in languages in which this category was not available.

1.3 Empirical Problems

For all the unparalleled elegance of Rizzi's account, it could only ever be as good as the generalisations for which it accounted were true and given that these had been proposed on the basis of only a handful of languages, it was perhaps inevitable that they would prove to be too strong or even completely spurious. In a study of the null subject parameter covering a hundred languages, which put these correlations to the test, Gilligan (1987:Ch.2) found that none of the relationships between the phenomena under scrutiny were biconditional and that that the availability of null thematic subjects did not correlate at all with either free subject

inversion or the possibility of apparent violations of the *that*-trace filter. The following is a summary of his findings.

(11) A language with null thematic subjects also has null expletives
A language which allows free subject inversion also has null expletives[2]
A language which allows free subject inversion also allows apparent violations of the *that*-trace filter
A language which allows apparent violations of the *that*-trace filter also has null expletives (after Gilligan, 1987:147)

One correlation in which null thematic subjects are implicated that did appear to be correct, however, was the relationship between rich agreement and null arguments that is the subject of this dissertation. Of course, it was already known from work by Huang (1984, 1989), that Chinese allowed null arguments of all kinds, despite these not being tracked by any visible agreement markers whatsoever on the verb and equally that there were languages such as Icelandic and German which have rich verbal agreement but do not allow null subjects. The thoroughness of Gilligan's study, however, which included not only subject arguments of finite clauses but also infinitival and imperative subjects, direct and indirect objects, possessors and objects of adpositions, revealed an important difference between the two classes of language. The following table, summarising Gilligan's findings, shows the number of languages with null arguments and agreement (Ø+A), null arguments and no agreement (Ø–A), obligatorily overt arguments and agreement (*Ø+A) and obligatorily overt arguments and no agreement (*Ø–A). It conflates information that Gilligan presents in two tables, the figure before the plus sign being the number of languages with a given property in Gilligan's own survey and the figure after the plus sign being the number of languages already surveyed by other researchers with that same property.

[2] Since Icelandic constitutes a lone, albeit robust, counterexample to this correlation, Gilligan deems it to be only 'statistical'. However, noting that an exceptionless implicational relationship is derivable from the third and fourth lines of (11) by transitivity, he suggests that Icelandic subject inversion is "ripe for reanalysis" (Gilligan, 1987:147).

(12)

	Ø+A	Ø–A	*Ø+A	*Ø–A	Not conclusive[3]
Thematic subject	76+14	17+1	2+9	9+2	0
Infinitival subject	1+2	50+17	0	0	50+4
Imperative subject	32+0	72+21	0	1+0	0
Expletive subject	12+11	21+3	2+5	0+6	67+2
Direct object	56+8	18+8	0	28+10	0
Indirect object	26+6	0	0	74+14	0
Possessive	55+6	3+1	0	42+14	0
Object of adposition	21+4	0+1	0	79+16	0

(after Gilligan, 1987:195&210)

While none of the columns is empty, it is striking that the only environments in which an overt argument must co-occur with an agreement marker are subject positions. Given the exceptional and cross-linguistically diverse nature of subject positions, it is entirely plausible that null subjects are in fact licensed in principle by the rich agreement in the languages represented in the *Ø+A column, but that independent constraints prevent this option from ever being realised. This view also accords with the fact that there are languages with defective agreement paradigms in which arguments may remain unexpressed only in those parts of the paradigm where agreement is marked. In São Tomé Creole, null subjects are possible only with first person arguments, which are also the only arguments to trigger agreement in the form of a prefix *i–* on the tense marker (13-14). In Ecuadorian Quechua, on the other hand, subjects may be omitted in finite clauses in which verbs always agree with their subjects (15), but not in nominalised embedded clauses, in which they do not (16).

(13) (a'mi) i-ka ba dumi'ni
(I) 1SG-AOR go sleep
'I will go to sleep' (Ivens Ferraz (1978), quoted in Gilligan (1987:164))

[3] The large numbers in this column are due to many languages having nominalised rather than infinitival forms and to the sources consulted not giving any information on the behaviour of expletives.

(14) *(bo) ka ba dumi'ni
*(you) AOR go sleep
'You will go to sleep' (Ivens Ferraz (1978), quoted in Gilligan (1987:164))

(15) (Ñuka) Marya-ta juya-ni
(I.NOM) Mary-ACC love-1SG.PRES
'I love Maria' (Cole (1982), quoted in Gilligan (1987:165))

(16) Juan-ka [*(ñuka) Marya-ta juya-j-ta] ya-n
Juan-TOP [*(I.NOM) Mary-ACC love-NMLZ-ACC] think-3SG.ACC
'Juan thinks that I love Maria' (Cole (1982), quoted in Gilligan (1987:165))

1.4 Limitations of Government and Binding Theory

The size of Gilligan's sample and the care taken in selecting languages representative of the genetic diversity of the languages of the world (based on Ruhlen, 1987) make this dissertation the most comprehensive cross-linguistic study of the null subject parameter in the generative tradition to date and as such his conclusions must be taken seriously. Yet for all its empirical comprehensiveness, and in spite of extensive discussion of the matter in the opening chapter, Gilligan's work suffers from a failure to work through the full implications of the differences between the essentially taxonomic goals of a Greenbergian survey and explanatory adequacy as the *raison d'être* of generative grammar. Since the mid-1970s, linguists in the Chomskyan tradition have taken particular constructions (such as the passive) to be no more than epiphenomena, resulting from the interaction of general principles with the properties of individual items drawn from the lexicon. One consequence of this approach (supplemented by a theory of parameters to allow for variation) is that any two such epiphenomena found to have the same distribution cross-linguistically are assumed to instantiate a single abstract property of the language, Rizzi's (1982) theory, as described above, being an example of this kind. If it is abstract properties such as these that are to be surveyed and correlated, a paradox emerges: since, in order to avoid circularity, the phenomena under investigation must be defined independently of one another, any correlation found to obtain is evidence of the failure of the definitions to capture the underlying property which they instantiate and hence of their lack of explanatory adequacy. Contrary to what Gilligan seems to claim, simply defining the surveyed phenomena in the terminology of Government and Binding Theory is not sufficient for a felicitous integration of generative grammar into typological study.

This paradox will remain as long as no principled distinction is made between the level at which the objects of study are defined and that at which correlations between them are to be explained. While the distinction in Government and Binding Theory between the levels of D- and S-structure could potentially be exploited to this end, the fact that the properties of the surface representations are a direct product of their derivation makes it difficult to imagine how this could be achieved in any insightful way whilst still avoiding circularity. Gilligan opts instead to define the survey phenomena in as theory-neutral a way a possible, with the consequence that his definitions are rather *ad hoc*. A construction is considered to contain a null pronoun if:

(17) a) the construction is not coordinate, elliptical, or the answer to a question; and

b) either there is an E[mpty] C[ategory] ... in a site which is predicted by the projection principles, e.g. subject, direct object, indirect object, object of adposition;
or there is a syntactically active gap, i.e. a possible controller, in a site which may be filled by a pronoun;
or there is an obligatorily non-generic pronominal interpretation without a corresponding syntactic argument; and

c) the EC does not obey binding conditions A or C, i.e. it is not obligatorily bound within the minimal sentence containing it nor bound by a non-thematic antecedent. (Gilligan, 1987:186)

And a form is considered to be an agreement marker if it:

(18) a) is a dependent form (either a clitic or an affix); and

b) minimally contains the pronominal feature of person; and

c) yields a pronominal interpretation in the absence of an overt argument with which it agrees; and

d) satisfies one of the following tests:

i) dependency test: it must remain a dependent form under all varieties of speech; or

ii) co-occurrence test: it must be able to co-occur with a lexical subject; or

iii) suppletion test: in slow speech it must be distinct from 'strong' pronoun forms. (Gilligan, 1987:186-187)

While these definitions may in practice capture accurately the kinds of construction thought of as involving null arguments and the set of elements intuitively thought of as agreement markers respectively, their disjunct nature suggests that these sets do not denote a natural class, or if they do, that the defining feature has not been identified.

It would be easy to criticise Gilligan for settling for these superficial definitions rather than probing deeper into their common underlying properties, but the problem is in fact inherent in the theoretical framework within which he was working. Government and Binding Theory, being concerned solely with the internal architecture of the faculty of language rather than the way in which it interacts with other faculties of the mind/brain had no means of characterising the phenomena in pre-theoretical terms, a problem which will persist as long as no theory of possible surface forms, independent of the computational component, is available. The shift of emphasis in the goals of the Minimalist Program, however, and the claims it makes about the relationship of the language faculty to its neighbouring cognitive systems render such definitions possible. In construing LF and PF as interfaces with neighbouring conceptual-intentional and articulatory-perceptual systems respectively and acknowledging that these systems may determine certain properties of the language faculty, the Minimalist Program takes a first step towards just such a theory. Null arguments and agreement can now be defined in terms of relationships between the interface representations, the former being present when an element of the meaning of that structure (i.e. of the conceptual-intentional representation associated with it) does not correspond to any phonetic string (or strings) in the articulatory-perceptual representation and the latter being the reverse case, where an element of meaning corresponds to more than one phonetic string.

Interestingly, the canonical null-subject construction, in which overt verbal morphology allows a subject pronoun to remain phonetically unexpressed, does not fall under either of these definitions, since it represents a one-to-one correlation between a phonetic string (the agreement) and part of the semantic content (the referent of the suppressed pronoun). Whether this is treated as such (cf. Manzini and Savoia, 2002, Platzack, 2003, 2004) or as two zero-to-one relationships will depend on how thematic relations are taken to be encoded: adopting a strict version of the Uniformity of θ-Role Assignment Hypothesis (Baker, 1988) will force the latter analysis; a theory of the kind adopted by Manzini and Savoia (2002) that accords no special significance to the position in which an element is first merged may admit either possibility.

2 OVERVIEW OF THE DISSERTATION

The present study seeks to examine anew the relationship between agreement and null arguments, taking as its starting point the pre-theoretical definitions of the two phenomena facilitated by the model of the architecture of the language faculty as espoused in the Minimalist Program. Rather than replicate the scale of Gilligan's survey, it concentrates on three genetically unrelated languages (Finnish, Modern Standard Arabic and Modern Irish), which despite their relative geographical proximity are also unlikely to have had contact with each other. This increases the likelihood of any generalisations that emerge being directly attributable to inherent properties of the language faculty.

The following chapters will examine the ways in which arguments (assumed throughout to be the element of meaning under consideration) might come to be associated with substrings of the phonetic representation associated with a given structure, arguing that there is no reason to suppose that they should be any more likely to be associated with phrasal constituents than with heads (or vice versa). Chapter two reviews existing literature on the nature of agreement and its relationship to argument structure and as such tackles the problem from a primarily theoretical perspective. Chapter three addresses the specific empirical problem of Finnish possessor agreement, concluding that the most elegant account of the data is that which allows uninterpretable features to be lexically valued, a possibility argued at the end of chapter two to require no more computational machinery (and hence to be no less conceptually appealing to the minimalist mindset) than the more widely propagated alternative where uninterpretable features always enter the syntax unvalued and the model thus developed is applied to Modern Standard Arabic and Modern Irish in chapters four and five respectively. Chapter six returns to Finnish, showing that while agreement morphemes in some pro-drop constructions are best construed as bound arguments, this is not universally true and that there are cases in which a phonetically null category must be postulated. It is argued that the existence of a null category *pro* with unvalued interpretable φ-features is not only conceptually preferable to deletion analyses of the same phenomena, but is in fact to be expected in a system in which interpretability and valuedness are not biconditionally related.

Agreement and Θ-Theory

2

This chapter reviews existing proposals concerning the nature of agreement and considers how they interact with current ideas concerning the way in which thematic relations between the elements of a sentence are encoded. The idea of agreement being a reflex of an operation that exists in order to facilitate displacement (and the semantic effects associated with it) has come to occupy a central place in Chomsky's own work in recent years and it is to his proposals that section 1 is devoted. Section 2, after identifying a number of problems for the configurational theory of thematic relations which Chomsky presupposes, considers a range of alternatives and the implications that these have for the theory of agreement. Section 3 considers the possibility that what appear to be agreement affixes may in fact be bound arguments with valued interpretable φ-features and, finding existing proposals along these lines to be inadequate, explores the additional possibilities made available by dissolving the assumed biconditional relationship between interpretability and valuedness.

1 THE CHOMSKYAN MODELS (CHOMSKY, 1995, 2000, 2001)

1.1 From Filters to Interface Interpretability

The programme of linguistic research pursued in the 1980s and early 1990s sought to reduce the transformational component of the Standard and Extended Standard Theories of previous decades to a single operation *Move α* (Chomsky, 1981, Chomsky, 1986b). This operation took as its initial input representations encoding the thematic relations between the elements of a sentence (D-structure) and, applying recursively, could move anything anywhere any number of times. The resultant overgeneration was regulated by a set of filters, which had to be satisfied in order for a structure to be deemed grammatical. The Case Filter, for example, required all nominal arguments to be marked, either overtly or abstractly, for Case (this being a prerequisite for the visibility of the associated θ-role in many formulations): any structure containing an argument not so marked was deemed ungrammatical by the filter. While the properties of each individual filter were investigated in great detail, each was treated as a primitive property of grammar (be it universal or parameterised) in its own right and there was little if any restriction on what could and could not constitute a filter or on the level at which they could operate.

The advent of the Minimalist Program and in particular its specific claims concerning the place of the language faculty among the other cognitive systems of the mind/brain facilitated a sharpening of the concept of filter. For if a language is to be construed as "a generative procedure that constructs pairs (π, λ) that are interpreted at the articulatory-perceptual (A-P) and conceptual-intentional (C-I) interfaces, respectively, as "instructions" to the performance systems" (Chomsky, 1995:219), then it follows that these instructions must be presented in a form which is comprehensible to the respective performance system. The only filter for which there is now any conceptual motivation is the principle of full interpretation applying at the interfaces themselves, according to which only representations consisting entirely of "legitimate objects" are grammatical. The function of the computational component is therefore to eliminate any element not interpretable at a given interface[1].

As acknowledged by Chomsky himself (see particularly Chomsky, 2000:97), the precise nature of the external systems and the ways in which language interacts with them are still too poorly understood to enable clear ideas about the legibility conditions they impose to be formed without drawing on linguistic data. Consequently, much of the early work in minimalist syntax consisted in re-expressing already established properties of grammar in the terms of the common calculus of feature manipulation, such that uninterpretable features were eliminated from grammatical sentences but not from ungrammatical ones, and it is in this context that verbal agreement began to assume a role of central importance in the development of the theory. The operations that interpret the sentence *we build airplanes* at the LF interface would, Chomsky suggested, need to know that *airplanes* has the φ-features [plural], [–human], [3 person], whereas they would have no way of interpreting the same features in connection with the verb *build* (cf. Chomsky, 1995:277-278). The fact that such a sentence is a grammatical sentence of English may thus be taken to constitute evidence for the existence of an operation in the computational component that facilitates the elimination of the φ-features of the verb whilst leaving those of the nominal intact.

1.2 Apparent Imperfections: Agreement and Dislocation

The phenomenon of agreement is discussed in Chomsky's own work not so much as a property of human language in its own right, nor even simply as an example of how uninterpretable features are removed before a derivation reaches LF, but rather in the context of wider research questions concerning the extent to which the human language faculty is an

[1] In common with most work on syntax, this dissertation will be concerned only with LF-interpretability.

optimal or perfect solution to the design specification imposed upon it by its place within the array of cognitive systems (cf. Chomsky, 1995:1, 221). Given the hypothesis that "language design may really be optimal in some respects, approaching a "perfect solution" to minimal design specifications" (Chomsky, 2000:93), the task of syntactic research is to investigate those properties of human language that appear to contradict this claim and determine whether they are spurious or real and, if real, whether they constitute a genuine imperfection or are in fact, contrary to first appearances, part of an optimal design (cf. Chomsky, 2000:112). Agreement of a verb with any or all of its arguments is a *prima facie* example of an apparent imperfection in the system, since it involves redundant duplication in the phonetic form of the verb of semantic information already provided by the nominals it cross-references. Another such imperfection is the dislocation of elements from the positions in which they are interpreted. In this regard, Chomsky observes that dislocation differs from agreement to the extent that, even if its precise function may not be clear (he cites its purported role in facilitating processing on the sound side and dissociation of quasi-logical aspects of interpretation from more discourse-oriented properties on the meaning side among the possible answers), it is clear that it has a function and as such is required by the design specifications of human language. However, justifying the need for dislocation as a property of human language on the basis of whatever function it may have does not answer the question of how dislocation structures come into existence in the first place. In the context of a research programme seeking to verify the hypothesis that language is in some sense a perfect solution, Chomsky argues that it is natural to look to agreement to provide the mechanism for dislocation. For if it could be shown that it plays a role in dislocation, then agreement need also no longer be considered an imperfection, since it drives a process required by the design specifications of language (cf. Chomsky, 2000:120-121).

Chomsky (1995) in fact proposes a connection of this kind between dislocation and agreement without reference to the theoretical desirability of linking the two and it is there that he instigates a shift of emphasis from the object of the operation *Move* α to its target, suggesting that "instead of thinking of α as raising to target [a category with uninterpretable features] K," K should be thought of "as attracting the closest appropriate α [fn omitted]" (Chomsky, 1995:297). This move is desirable to the extent that it further rationalises and regulates the transformational component by removing the power enjoyed by *Move* α as it was originally conceived to apply at will, but it does so at the expense of attaching much greater importance to uninterpretable features than they previously enjoyed. For if *Move* α no longer has rein to

apply indiscriminately, it falls to uninterpretable features to precipitate the operation, raising the question of how they differ from interpretable features such that they may trigger movement and be deleted but interpretable features may not.

The earliest accounts of feature checking (that is, the operation by means of which features are deleted) assume that the notions of Case, person, number etc. have no theoretical status independently of their instantiations as [NOM], [1SG] etc. and that deletion of an uninterpretable feature takes place under simple identity with an interpretable counterpart. In order to ensure that the computational component deletes all and only the uninterpretable features without recourse to the diacritics *i* and *u*[2], Chomsky appeals to the bare output conditions imposed by the interfaces, since these invoke no theoretical apparatus beyond what is assumed by the architecture of the theory itself. Checking of a feature under identity leads to deletion[3] of that feature "when possible". Deletion of interpretable features is not possible, because doing so would "contradict the overriding principle of recoverability of deletion, which should hold in some fashion for any reasonable system" (Chomsky, 1995:280).

However, allowing reference in the course of the derivation to a property motivated at the interface in this way is not unproblematic, since it requires a look-ahead mechanism able to consult the cognitive system which will ultimately interpret the sentence and then to prevent features from being deleted where this would cause a crash. The inherent circularity of such a mechanism becomes evident when one considers that some constructions are deemed ungrammatical solely by virtue of the fact that uninterpretable features remain undeleted. Furthermore, framing the question in the same terms as that of the proposed relationship between agreement and dislocation also suggests that appeal to the interfaces is not the correct solution. For while there can be little doubt that interpretable features alone may (indeed must) persist to LF, this is surely not itself an axiomatic principle according to which the

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[2] These diacritics violate the inclusiveness condition, requiring all the 'raw material' for a construction to be present in the numeration. In the interests of clarity, they will be used in this dissertation to indicate whether a feature would be interpretable at LF if allowed to persist to that interface, but in accordance with the inclusiveness condition, the computational system will not be allowed to distinguish between *u*F and *i*F. (Where existing literature is reviewed, the notation of the work under discussion is retained.)

[3] Chomsky also draws a distinction between deletion (marking a feature invisible at the interface, but leaving it visible to the computational component and hence available to participate in further operations) and erasure (whereby a feature is removed altogether, and hence visible neither at the interface, nor to the computational component). This second distinction does not have consequences for the discussion in hand.

computational system operates, but rather part of the specification which its design must meet. Given the requirement that language be able to interact with the conceptual-intentional system and the principle of full interpretation which this engenders, the very existence of agreement provides motivation for a feature deletion operation, in much the same way as semantic considerations "provide motivation for the dislocation property" (Chomsky, 2000:121). In the context of the consideration of dislocation, however, Chomsky argues that empirical motivation of a property is not the same as identifying its mode of implementation, going on to say explicitly that "it would remain to find the mechanisms employed to implement it" (Chomsky, 2000:121). Equally then, it is clear that the answer to the question of how it is that checked uninterpretable features are deleted while checked interpretable ones are not must consist of more than just "interpretable features cannot be deleted".

The nature of the problem consists in the paradox that uninterpretable and interpretable features must be formally identical if they are to enter into checking relations with each other, but at the same time formally different if checked interpretable features are to be preserved without reference to the interfaces. It is to the second part of this paradox that Chomsky alludes when he observes that "[i]nterpretability of features is determined in the lexicon, by Universal Grammar (UG) we assume, and the distinction must be indicated not only at that stage but throughout the derivation" (Chomsky, 2001:5) and the solution he proceeds to propose in this later work develops an idea first advanced on conceptual grounds (Chomsky, 2000:124) that the intuitive asymmetry of the agreement relation – namely, that verbs agree with nouns and not vice-versa – is naturally expressed by treating features as attribute-value pairs and allowing the φ-features of verbs to be valued by those of nouns as part of the derivation. He then goes on to propose a biconditional relationship between valuedness and interpretability, stating that "[t]he natural principle is that the uninterpretable features, and only these, enter the derivation without values, and are distinguished from interpretable features by virtue of this property. Their values are determined by Agree, at which point the features must be deleted from the narrow syntax (or they will be indistinguishable from interpretable features at LF)" (Chomsky, 2001:5). This has the desired effect of making the status of a feature with respect to the interface accessible to the computation, whilst at the same time avoiding any kind of look-ahead mechanism[4].

[4] The problem of distinguishing the two types of features after uninterpretable features have been valued does in fact persist in the phase-based model of Chomsky (2001), since they are not spelled out and deleted until the end of a phase. For a theory that circumvents this problem see Epstein and Seely (2004), discussed in section 2.1.

1.3 Problematic Data (Baker, 2003, 2006)

This move from a theory in which operations could apply freely and representations were regulated by output filters to one in which they are instigated by unvalued features in need of a category with matching valued features has consequences for the way in which the relationship between agreement and dislocation is construed and makes different empirical predictions as a result. In the earlier theory, features were checked and deleted when they stood in a particular structural configuration (spec-head, canonically) with a matching feature and since (given the VP-internal subject hypothesis) such configurations were typically the result of the application of *Move α*, there is a sense in which movement was logically prior to the checking of agreement features, even if, strictly speaking, it was not a prerequisite. Agreement with an associate in an expletive construction or with a nominative object in quirky subject constructions was accommodated by appeal to covert movement, allowing the formal features of the agreed-with element to move into the required configuration whilst leaving the phonological features behind. However, making the application of a movement operation dependent on the presence of an unvalued feature reverses the condition, thereby admitting of the possibility that agreement could obtain without movement, covert or overt. Viewed in this way, the patterns of agreement in expletive and quirky subject constructions simply represent the case in which agreement takes place without movement and another category satisfies the EPP-condition on the subject position (a solution in fact argued to be more economical than that involving movement).

There are, however, languages whose patterns of agreement sit ill with this later model. As Baker (2003, 2006) notes, for example, it is typical of Niger-Congo languages that their canonical subject agreement cross-references the φ-features of whatever happens to occupy the SpecTP position, as the following examples from Kinande show. In the unmarked case, the verb agrees with the subject, as it would in Indo-European (1); however, in the subject-object reversal construction, in which the object is preposed, it agrees not with the postverbal subject but rather with the fronted object (2), and the same is true of a clause-initial locative.

(1) Omukali mo-a-seny-ire olukwi
woman(I) AFF-I.SUBJ.PAST-chop-EXT wood(XI)
'The woman chopped wood' (Baker, 2003:11)

(2) Olukwi si-lu-li-seny-a bakali
wood(XI) NEG-XI.SUBJ-PRES-chop-FV women(II)
'Women do not chop wood' (Baker, 2003:11)

(3) Oko-mesa kw-a-hir-aw-a ehilanga
LOC.XVII-table XVII.SUBJ-PAST-put-PASS-FV peanuts(XIX)
'On the table were put peanuts.' (Baker, 2003:27)

As long as *Move α* operates freely, these examples are unproblematic. In (1), the operation happens to apply to the subject, in (2) to the object. All that is important is that the endpoint of the movement is inside the checking domain of the target T, in this case its specifier position. If, on the other hand, the operation is driven by the unvalued φ-features of T and these constitute a probe which "locates the closest matching G[oal] in its domain" (Chomsky, 2000:135), then it should always be the subject, located in Spec*v*P under the conventional assumptions about the assignment of θ-roles which both Chomsky and Baker adopt, that triggers agreement, incorrectly predicting that (2) is ungrammatical and that the prefixes should cross-reference the postverbal subject rather than the preverbal category. Two ways of accommodating these data seem to present themselves. The first is to propose that the subject-object reversal construction is the consequence of object shift to a specifier of *v* above the thematic subject position prior to the probe being merged, such that the object will indeed be the closest matching goal in its domain. Alternatively, the minimality condition could be suspended altogether in languages exhibiting the Niger-Congo pattern of agreement, allowing the φ-features of T to locate not just the closest, but any matching goal in its domain (a property which would presumably have to be parameterised to explain why the same agreement patterns are not available in Indo-European). However, consideration of a wider range of data shows that neither of these proposals is empirically adequate.

It is not necessarily in itself a problem that the object never surfaces in the *v*P-internal position to which it can purportedly shift, since the all the languages of this type that Baker discusses have an EPP-condition, manifest in the fact that all verb-initial constructions with an overt subject are sharply ungrammatical[5], as the following example from Kinande shows.

[5] Niger-Congo languages typically do allow verb-initial constructions where the argument cross-referenced by the subject agreement is null. For the time being it will be assumed that these are not verb-initial (at least at LF) and that a null pronominal *pro* (or a pronoun which is subsequently deleted) occupies the SpecTP position. See chapter six for a discussion of the status of such arguments.

(4) *A-gul-a omukali eritunda
I.SUBJ.PAST-buy-FV woman(I) fruit(V)
'The woman bought a fruit.' (Baker, 2003:13)

This being the case, the highest argument in the *v*P, whether subject or shifted object, is predicted never to surface in its base position, since it must always raise to SpecTP to satisfy the EPP-condition. On the basis of the data considered thus far alone, then, it is impossible to determine whether the φ-features of T establish an agreement relation with a matching category, forcing it to move (as the probe-goal account would predict), or whether the category first moves to SpecTP for independent reasons, in which position it is then able to trigger agreement on T (as earlier theories of agreement would have it). Kinande, however, has a kind of impersonal construction which constitutes a revealing exception to this rule and demonstrates unequivocally that the more recent formulation cannot be correct. In (5), subject agreement is absent, the position that it canonically occupies in the series of verbal prefixes being obligatorily realised as the affix (which Baker describes as a "pleonastic locative") *ha* instead.

(5) Mo-ha-teta-sat-a mukali omo-soko
AFF-EXPL-NEG.PAST-dance-FV woman(I) LOC.XVIII-market
'No woman danced in the market' (Baker, 2003:13)

Whether this *ha* is an agreement morpheme triggered by a null expletive in SpecTP or itself an expletive element that satisfies the EPP-feature of T (perhaps in the manner suggested by Alexiadou and Anagnostopoulou (1998)) is at present of no consequence. Of far greater import is the fact that the verb may not agree with the postverbal subject, despite this being unambiguously the highest matching category in its c-command domain, at variance with the prediction of Chomsky's probe-goal theory of agreement.

Interestingly, neither Baker (2003) nor Baker (2006) jettisons the probe-goal model of agreement (indeed Baker (2006) explicitly retains it), but neither account accords agreement the central place that it enjoys in Chomsky's own versions. Baker (2003) suggests that the difference between Niger-Congo languages and Indo-European languages is reducible to whether φ-agreement is packaged with the EPP-property (as in Niger-Congo) or with Case-

assignment (as in Indo-European). Baker (2006), on the other hand, invokes two separate parameters, the first a "Direction of Agreement Parameter", according to which some languages (Niger-Congo) but not others (Indo-European) are subject to the restriction that a "F[unctional head] agrees with DP/NP only if DP/NP asymmetrically c-commands F" and the second a "Case-Dependency of Agreement Parameter", which states that "F agrees with DP/NP only if F values the case feature of DP/NP or vice versa"[6] holding of Indo-European but not Niger-Congo (Baker, 2006:Ch5p2)[7]. What is significant about these formulations for the discussion in hand is the fact that both view agreement (even in languages of the Indo-European type) as only being possible where another syntactic relation (Case, EPP, c-command) also obtains and that it is agreement that is dependent on that other relation and not the other relation that is dependent on agreement.

Of particular importance to the present discussion of the relationship between agreement and dislocation is the claim that functional heads in Niger-Congo can only agree with nominals situated higher up the structure and this conclusion has two important consequences for the Chomskyan theory of agreement. Firstly, it appears to falsify the hypothesis that dislocation is dependent on agreement. For if a functional head in Niger-Congo languages can only establish an agreement relation with a category that asymmetrically c-commands it, then it follows that that category must have moved there before the agreement operation takes place and hence (avoiding look-ahead) that it cannot have been agreement that instigated that movement in the first place. If agreement does not drive syntactic operations as these data suggest may be the case, then it may after all constitute a *bona fide* imperfection in language design. Secondly, it suggests that there exists a form of agreement that is effected other than by means of a probe searching its c-command domain for a matching goal, since at the point at which the operation takes place, the goal in question is no longer in the c-command domain of the probe. Section 3 of this chapter will consider the precise nature of this agreement and examine the extent to which theories other than Chomsky's own are able to account for the patterns observed and the matter is taken up again in chapter three. Of more immediate importance at this juncture, however, is the question of what else it could be, if not agreement,

[6] The qualification "or vice versa" is included in order to subsume concord of nominals and adjectives under the same theory of agreement. For details see Baker (2006:§5.3).

[7] I am very grateful to Mark Baker for allowing me to see pre-publication chapters of his forthcoming book on the syntax of agreement. Since, at the time of submission of this dissertation, the book had not yet gone to press, the page numbers refer to the manuscript version, in which the pagination restarts at the beginning of each chapter.

that drives movement in the problematic Niger-Congo structures. In fact, as will become evident in the next section, the real question is broader than this, since it is only the assumption that θ-roles are configurations which must be preserved at LF that renders a theory of A-movement necessary at all. What is really at issue is the mechanism by means of which the argument in SpecTP, standardly assumed to be a non-θ-position, comes to be interpreted as an argument of the predicate. The most widely accepted answer to this question is, of course, that it receives a θ-role in a position inside the maximal projection of its predicate and subsequently moves to SpecTP, but other explanations are also possible, particularly if θ-roles are treated as formal features rather than configurations. The next section therefore considers a number of versions of θ-Theory, showing first that the Chomskyan analysis cannot be easily reconciled with minimalist principles, before considering a range of alternatives which call into question whether movement need play a part at all.

2 Θ-THEORY IN MINIMALIST SYNTAX

While work in minimalist syntax has adopted the terminology of Government and Binding Theory, informally speaking of both θ-roles and Case as being "assigned", Chomsky makes it clear that he considers the two to be very different entities, stating simply that "θ-roles are not formal features in the relevant sense" with the consequence that "there should be no interaction between θ-theory and the theory of movement" (Chomsky, 1995:312). Under a configurational theory of thematic structure of the kind Chomsky assumes, there is, strictly speaking, no need for any operation of θ-role assignment, the way in which an argument is interpreted in relation to a predicate at LF simply being a direct consequence of the structural configuration in which they stand to each other. Syntactic theory in this tradition has therefore tended to draw a distinction between the thematic and functional domains of a sentence, the former being the place where thematic relations are expressed and the latter the locus of Case assignment, checking of agreement features and the like. The widespread adoption of the VP-internal subject hypothesis facilitated the complete topographical separation of these two domains, the thematic domain consisting of anything within VP (or, more recently, *v*P) and the functional domain of anything outside it. One important consequence of this model of thematic structure is that, where an argument has moved from its base position, this configuration must be preserved at the LF-interface by means of a trace or (according to current thinking) copy of the argument, occupying the θ-position and forming a chain with the

moved element and in this way the structural effects of the projection principle, abandoned as an axiom of grammar on conceptual grounds, are preserved in minimalist theory.

It is interesting to note that the widespread currency enjoyed by configurational theories of thematic structure belies the scant empirical basis on which they rest. That Chomsky should be willing to retain *any* component of grammar inherited from Government and Binding Theory without discussion is in itself surprising; that Θ-Theory should be one of the areas that escapes the scrutiny to which the principles of other modules are subjected (cf. Chomsky, 1995:126) all the more so for the fact in the *Lectures on Government and Binding* the possibility of empirically adequate alternative formulations is explicitly acknowledged. Comparing his own account with a hypothetical alternative, which does not respect the projection principle and allows assignment of θ-roles to arguments not in θ-positions etc., Chomsky concedes that the two would differ "not so much in their coverage of data – presumably either can be developed in such a way as to deal in some manner with phenomena that are at all well-understood – but in their frameworks of unifying principles and assumptions about the nature of UG" (Chomsky, 1981:92). This seems to suggest that whether or not a configurational view of thematic structure is correct is less an empirical question than a theoretical one, the answer being determined ultimately by conclusions about other properties of the computational component.

This section explores in greater detail the implications of incorporating configurational theories of thematic structure into contemporary models of syntax and the adequacy of alternative proposals. After arguments have been presented in section 2.1 that the concept of A-chain on which configurational theories crucially rely is not compatible with the basic tenets of minimalist syntax as proposed in Chomsky (1995), section 2.2 reviews a number of alternative accounts of dislocation, all of which dissociate it from the overt movement of arguments (in their original formulations) and from any kind of movement, overt or covert, when recast in the calculus of Chomsky (2000, 2001). Section 2.3 then considers the implications of allowing θ-roles to be assigned to what have traditionally been thought of as non-θ-positions for the theory of agreement.

2.1 Problems with A-Chains (Epstein and Seely, 2004:Ch.2)

The question of the legitimacy of A-chains is of paramount importance to the discussion in hand, since this is the syntactic entity by means of which relationships between thematic and

surface positions are expressed. Retaining a configurational model of thematic structure therefore forces Chomsky to retain the concept of A-chain, and this too he does without discussion, stating simply that "[t]he operation Move forms the chain CH = (α, t(α)), t(α) the trace of α [fn omitted]" (Chomsky, 1995:250). However, as Epstein and Seely show, such an assumption is far from innocent and in fact results in a "theory-internal inconsistency" (Epstein and Seely, 2004). While the revisions they propose are perhaps too radical a reaction to this discovery (and are indeed themselves not beyond reproach from a conceptual point of view), their objections to any kind of formal status being accorded to A-chains nevertheless remain valid and will be considered in detail in the following sections.

2.1.1 A-Chains are not Syntactic Objects

Epstein and Seely begin their argument against A-chains by demonstrating that they do not conform to Chomsky's definition of syntactic object, which they quote as follows.

(6) "Syntactic Objects:

a. Lexical items [(Chomsky, 1995:243)]

b. K = {γ, {α, β}}, where α, β are objects and γ is the label of K [(Chomsky, 1995:243)]

c. K = {γ, {α, β}}, where α, β are features of syntactic objects already formed [(Chomsky, 1995:262)]" (Epstein and Seely, 2004:14-15)

Since a chain is not drawn from the lexicon, it does not fall under (6a), but it is equally clear that it cannot be formed by either of the operations Merge and Move[8] as formally defined in (6b) and (6c) respectively. For while each position in a chain is occupied by a syntactic object (providing an α and a β in the case of a two-membered chain, in the terms of the definition above) neither the moved element nor its copy projects to create a label for the chain as a whole (with the consequence that the category lacks a γ). If the computational component operates by manipulating syntactic objects, and chains are not syntactic objects as defined in (6), then it follows that they are inaccessible to the computational component, a conclusion at odds with the repeated references to them throughout Chomsky (1995) (see Epstein and Seely (2004:19) for specific references).

[8] There is of course a sense in which chains are created by the operation Move, as the citation from Chomsky (1995:250) at the start of this section suggests. It is clear though that the syntactic object created by Move as defined in (6c) consists of the moved element and the structure with which it remerges, not the moved element in its pre- and post-movement positions.

2.1.2 A-Chains are not Visible at LF

Of course, it is conceivable that such operations as need to make reference to chains could be reformulated in different terms, indeed the fact that, once formed, a chain cannot, as a whole, participate in either of the core syntactic operations Merge and Move suggests that this might be the correct way to proceed and that, far from being problematic, it is the very fact that chains are not syntactic objects that explains this aspect of their behaviour. Since the function of a chain is simply to preserve to LF structural configurations lost through movement, there is indeed no reason to assume that the computational component could not create objects at variance with the definition in (6), provided they were visible for interpretation at LF. Epstein and Seely concede this point, but proceed to show that chains, as defined in Chomsky (1995) are not visible at LF either.

The difference between chains as construed in Government and Binding Theory and chains as construed in Minimalism is a consequence of the inclusiveness condition, that states that "any structure formed by the computation ... is constituted of elements already present in the lexical items selected for [the numeration]; no new objects are added in the course of computation apart from rearrangements of lexical properties" (Chomsky, 1995:228). Classical chain formation violated this principle on two counts, since neither the trace left behind in the base position nor the indices, by means of which the relationship between the trace and its antecedent was expressed, were present in the lexicon. By treating the elements in the positions related by Move as two instances of the same lexical item rather than two distinct categories with different grammatical properties, copy theory (Chomsky, 1995:202ff.) avoids the need for indices by deriving identity of reference in the lexicon, which is now also the source of the element in the lower position. This move in turn complicates the definition of chain, since the constituents of a chain are no longer distinct in any formal sense, such that a chain that might previously have been expressed as $\{Mary_i, t_i\}$ now has the form $\{Mary, Mary\}$, which, by virtue of its members being identical, is indistinguishable from the unit set $\{Mary\}$ (cf. Epstein and Seely, 2004:16-17). Chomsky's solution to this problem is to "take the chain CH that is the object interpreted at LF to be the pair of positions" (Chomsky, 1995:252). However, since it is always the target of movement (the probe, in the terminology of Chomsky (2000, 2001)) that projects for reasons given in Chomsky (1995:§4.4.2) the head of the chain will always occupy a specifier position with the consequence that the formal description of the position of this constituent in terms of its sister will have to make reference to an X'-level category. Since such categories are, in Chomsky's own words, "invisible at the

interface and for computation" (Chomsky, 1995:242-243), it follows that an object that makes reference to such a category in its formal description will also be invisible (or at best only partially visible) at LF.

2.1.3 The Creation of A-Chains Cancels the Derivation

The arguments presented in the previous two sections have shown that chains are not (according to Chomsky's own definition) syntactic objects and that even if this conclusion should in fact prove to make correct predictions about their behaviour with respect to the computational system, they remain inaccessible to the interface and hence unable to communicate to the conceptual-intentional system the relationship between a moved element and its θ-position, which it is their function to preserve. Of course, the point can be fairly made that this argument rests on an assumption about the interpretability of X'-level categories and would dissolve should that assumption turn out to be incorrect, or indeed if information about the position of the elements of a chain could be expressed differently (a possibility explored with more success than Epstein and Seely give him credit for in Chomsky (2001)). However, as they also demonstrate, it is not merely the inability of chains to interact with the computational component and LF-interface that is at issue, but the more fundamental question of whether chains can exist at all. Elsewhere, in the context of the discussion of how uninterpretable features are manipulated in order to achieve convergence at LF, Chomsky allows uninterpretable features to be deleted (that is, marked as invisible at LF) without being erased (eliminated from the structure altogether), where doing so would create an illegitimate object, singling out "erasure of an entire term α of a syntactic object Σ" as "[t]he crucial case" (Chomsky, 1995:281). He then goes on to say that erasure of the term α from the syntactic object $\{\gamma, \{\alpha, \beta\}\}$ would result in "$\{\gamma, \{\beta\}\}$, which is not a legitimate syntactic object" and "cancel the derivation" (Chomsky, 1995:281), and while he stops short of stating that this is a direct consequence of the creation of a non-syntactic-object, it is difficult to see what else could be intended, as Epstein and Seely point out. If this inference is correct, the question of LF-interpretability never arises, since the formation of a chain, creating as it does something which is not a syntactic object, would cause the derivation to be cancelled altogether before it even reaches the interface.

2.1.4 The Redundancy of Chains

Epstein and Seely conclude from these arguments that chains can play no part in minimalist syntactic theory, but this does not answer the question of how it is that moved arguments are related to a θ-position, such that their thematic status is accessible at LF. In this regard they

observe that the problematic positional information included in Chomsky's definition of chain "entirely restate[s] the relations established by the application of the rules Merge and Move" (Epstein and Seely, 2004:28) and that this is hardly surprising, given that the *raison d'être* of a chain in earlier representational models of syntax adhering to the projection principle was to be "the S-structure reflection of a 'history of movement'" (Chomsky (1986a:95), quoted in Epstein and Seely (2004:44)). Thus, even if chains did have a legitimate place in the theory, eliminating them would be desirable in the interests of avoiding redundancy. They adopt what they call "the null-hypothesis assuming phases, namely that each rule application is a self-contained Y-model derivation (phase) of its own" (Epstein and Seely, 2004:12) and that "each representation generated is interpreted by PF and LF" (Epstein and Seely, 2004:13). Under such a view, the thematic relation of an argument to its predicate need not be accessible to LF at any point in the derivation other than that at which it is established (the position of first-merge under standard assumptions); indeed, in the case of arguments merged in a spec-head relationship with their predicate, it is only at this point that they are accessible (under X'-invisibility), since the projection of the θ-assigning head ceases to be maximal as soon as a label is projected for the syntactic object thus created. Furthermore, a system of this kind resolves the residual problem of look-ahead identified in footnote 4, allowing uninterpretable features to be deleted as soon as they are valued and hence remain formally distinguishable from their interpretable counterparts by means of this property as long as is necessary without recourse to diacritics of any kind. These advantages come at the expense of weakening the principle of full interpretation to allow "non-fatal crashing, which can be overcome by subsequent operations yielding convergence in a derivation containing a crashing subderivation" (Epstein and Seely, 2004:12). The details of that particular revision and the extent to which it is empirically and conceptually defensible need be of no present concern, however, since the model retains movement as an essential part of its explanation of how thematic and surface positions are related, but sheds no light on how that movement might be induced other than as a consequence of an agreement relation in the problematic cases discussed in section 1.3. The following section does not propose any alternative ways of inducing movement, but rather explores the possibility that movement of an argument from a θ-position to a Case-position does not necessarily play any direct role in establishing agreement relations.

2.2 Alternative Accounts of Dislocation

According to the model implicit in Chomsky (1995), a chain consists of two positions in a syntactic structure, the categories occupying which are co-referential by virtue of being instances of the same lexical item, first merged in the lower position and then moved from there to the higher. As such, chain formation is by no means a simple procedure and it would be well to consider at this point precisely which aspects of the process it is that are incompatible with minimalist principles in the light of Epstein and Seely's arguments and which can be retained. Clearly it cannot be the movement operation that is the source of the problem, since this aspect of the theory is retained in their model, but neither can it be the fact that two positions in a syntactic structure are occupied by co-referential elements, since a restriction of this kind would rule out dislocation structures of the *John, I can't stand him* type, perhaps only a peripheral matter in configurational languages such as English, but one with profound implications for polysynthetic languages, if Baker's (1996) theory is correct. It seems then that problems only arise when the two coincide and it is by means of identity that co-referentiality is effected, since in this case alone must the elements be construed as a single syntactic object, being instances of a single lexical item, and therefore distinguished by the additional positional information, shown in 2.1.2 to be so problematic. Epstein and Seely's response is to abandon all levels of representation, such that no copy is left in the lower position, and modify the architecture of syntactic theory in such a way as to ensure that no semantic information is lost by so doing. There is, however, no reason not to explore the alternative, whereby arguments come to be associated with a θ-role by mechanisms other than through first being merged in a θ-position and subsequently moving to their surface positions[9] and it is accounts of this kind that will now be examined. The first of these is Williams' (1994) theory of thematic structure, which maintains the premise that θ-role assignment is strictly local, but, by treating the argument structure of a predicate as an X-bar theoretic construct, allows a θ-role to be assigned to a position with which it is not canonically associated, hence obviating the need for movement. Bošković and Takahashi (1998), on the other hand, drawing on data from Japanese, reject Chomsky's assertion that θ-roles are not formal features and allow them to trigger covert downward movement of scrambled arguments, argued to be first merged in the position in which they are spelled out, to a

[9] Note that these theories still consider the dislocated nominal to be an argument of the verb, not merely coindexed with one, and as such are distinct from proposals in the spirit of Jelinek (1984) and Baker (1996), which hold that such nominals to occupy adjoined positions from which they bind either a pronominal affix or a null pronominal argument (see section 3.1 below).

θ-position. Manzini and Savoia's (2002) analysis of overt subjects in Italian dialects is in a similar vein, but rather than having nominals moving to check a verbal feature, they suggest that a thematic feature moves from the verb to each nominal category (including agreement affixes and clitics). Finally, a fourth alternative is considered, which, rather than allowing θ-roles to be assigned at a distance in this way, proposes that predicate heads need not assign their θ-roles from their base position, but may do so from the position of a higher head to which they have moved.

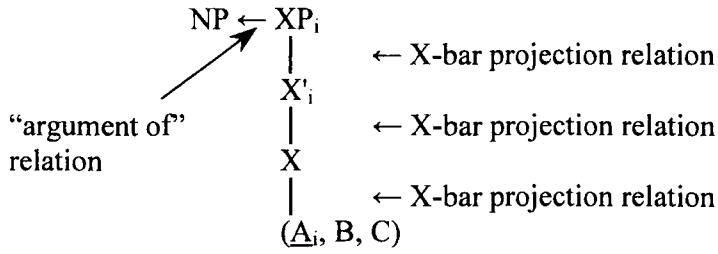
2.2.1 Dislocation without Movement (Williams, 1994)

The specific problems of compatibility of the copy theory of movement with minimalist principles do not arise with the trace theory inherited from Government and Binding Theory, since the categories in the two related positions have distinct formal properties, but it is precisely on this point that trace theory is at variance with another tenet of Minimalism, since the empty category it introduces into the structure is not a lexical item and as such violates the inclusiveness condition. As it happens, the claim that the empty category in the canonical object position is not the consequence of movement but rather selected from the lexicon is an important part of the analysis of passives that Williams develops in the context of his 1994 theory of thematic structure. While this analysis was motivated more by the desire to show that A-movement is superfluous than specifically in order to address the problem of inclusiveness, the fact that it does so renders the wider theory in which it is couched worthy of closer consideration.

Williams assumes that θ-role assignment takes place in the most strictly local configuration possible, namely immediate sisterhood (or possibly m-command, if all branching is binary). The number of internal arguments a predicate may have is (in principle at least) unlimited, but the number of external arguments is limited to a maximum of one and this argument is also exceptional to the extent that it is sister to the maximal projection of the verb and not to the verb itself[10]. Williams proposes that the external argument is head of the argument structure of a predicate in an X-bar theoretic sense, by virtue of which property its index percolates to the maximal projection of that predicate as shown in (7). The maximal projection XP is consequently a one-place predicate, taking the NP with which it is merged as its argument.

[10] Strictly speaking, it is in fact sister to a projection of the functional head immediately above the maximal projection of the verb I', but since I does not have any thematic properties of its own, it can inherit those of the VP in the manner described below. Williams (1994:§4.3) explicitly argues against various formulations of the VP-Internal Subject Hypothesis.

(7)

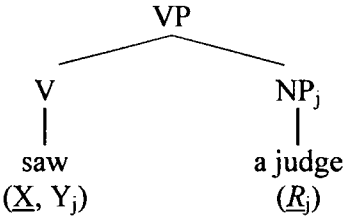


(Williams, 1994:33)

Observing that any major category can also project a predicative expression, Williams proposes that they too must also have a thematic structure consisting at least of an external argument and it is this argument that is ultimately identified with the subject *John* in absolutive expressions such as (8). In the case of nouns, this argument is designated as (*R*) and becomes co-indexed with an argument of the verb, as shown in (9), when used referentially.

(8) With John happy, ...
With John a judge, ...
With John in the Netherlands, ... (Williams, 1994:34)

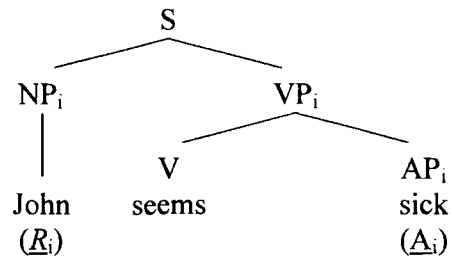
(9)



(after Williams, 1994:35)

Eliminating NP-movement relies crucially on the notion of "relativised head" whereby a property of an element other than the categorial (or "absolute") head may project to the phrase level in cases where the absolute head is not specified for that property. If, as is standardly assumed, raising verbs such as *seem* do not have an external argument, then merging them with an adjective will result in the external argument of the adjective percolating to the maximal projection of the verb, enabling it to be assigned to the subject under sisterhood without that nominal having to have moved from a lower position.

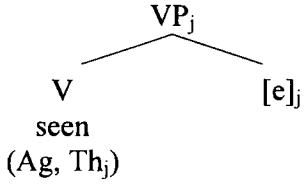
(10)



(after Williams, 1994:46)

Recognising the well-known similarities between the two types of construction, Williams extends this analysis to passives, but in so doing encounters a problem. For while in (10) it is a simple matter to allow the external argument of the adjective *sick* to percolate in the absence of an external argument of *seem*, in the case of a passive construction it is the internal argument of the verb that projects. Williams retains the familiar assumptions about passives that they have no external argument and do not assign accusative Case, but still considers the internalised argument to be part of the thematic structure of the predicate, with the consequence that even if the theory of relativised heads had a mechanism for allowing internal arguments to project, there would be no reason not to allow the internalised AGENT[11] role of a passive to percolate and be assigned to the nominal in subject position. Williams' solution is to posit an empty nominal category [e] with an external argument in the canonical object position (11). This category (which Williams continues to refer to as NP-trace, despite it not being the result of a movement operation) becomes co-indexed with the object θ-role of the verb in the usual way and in the absence of an external argument of the verb, its index percolates to the VP node, from where it can be assigned to the subject in the usual way.

(11)



(Williams, 1994:119)

It is therefore other than by classical NP-movement that the nominal in subject position is assigned the THEME role of the verb, but the presence of an empty category in the object position is still indispensable, since it plays an essential part in the externalisation of the internal argument. The theory is powerful enough to allow the internal θ-role of a verb to be (ultimately) assigned to a nominal outside its maximal projection, but only where it has first

[11] Williams suggests that the "realisation conditions" of an internalised argument are different from those to which it is subject in active constructions (typically being dependent on a *by*P rather than structural Case in English). Elsewhere (Williams, 1994:§6.1.1) he argues that implicit arguments are unassigned θ-roles.

been assigned to an element in the position with which it is canonically associated, leading to the interesting conclusion that showing A-movement to be superfluous does not necessarily require (or, in this particular case, even allow) that the configurational theory of thematic relations also be abandoned.

2.2.2 Covert Movement to Θ-Positions (Bošković and Takahashi, 1998)

Desirable as reconciling a movement-free analysis of dislocation with a conservative model of argument structure might be, it also has the negative consequence of requiring Θ-Theory to be elaborated with a rich system of indices and percolation of the kind that has, for sound reasons, fallen from favour in contemporary syntactic theory. Bošković and Takahashi also argue that a dislocated argument need not be first merged in the position to which the θ-role it receives is canonically assigned, but instead of implementing this by means of mechanisms specific to Θ-Theory, they exploit the calculus of feature manipulation already in place and treat θ-roles as formal features able to trigger movement like any other.

Their paper addresses two problems posed by Japanese scrambling structures for the principle of Last Resort (Chomsky, 1995), which essentially allows movement of a category only when it is needed in order to check (and hence facilitate deletion of) uninterpretable features. If θ-roles are assigned configurationally, sentence (13) must be derived from the underlying structure (12) through movement of the embedded object *sono hono* 'that book' to the front of the sentence and this is the analysis that has been defended in the literature (Fukui, 1993, Saito, 1989, 1994).

(12) John-ga [Mary-ga sono hon-o katta to] omotteiru
John-NOM Mary-NOM that book-ACC bought that thinks
'John thinks that Mary bought that book' (Bošković and Takahashi, 1998:349)

(13) Sono hon-o_i John-ga [Mary-ga t_i katta to] omotteiru
that book-ACC John-NOM Mary-NOM bought that thinks
'John thinks that Mary bought that book' (after Bošković and Takahashi, 1998:349)

However, the very fact that scrambling is optional, as the grammaticality of (12) demonstrates, means that there can be no uninterpretable feature left in that structure (since it would otherwise not be able to converge without further operations first applying), predicting incorrectly that the movement required to derive (13) is unmotivated and hence illicit.

Bošković and Takahashi's solution to this problem exploits differences between minimalist and pre-minimalist conceptions of the architecture of the language faculty, particularly the reduction in the number of representational levels to a single phonetic level (PF) and a single semantic level (LF). They argue that the ban on movement into θ-positions in Government and Binding Theory was a direct consequence of the interaction of the θ-criterion and projection principle, requiring that all thematic relations be encoded at D-structure and was hence motivated theory-internally: movement into a θ-position was not possible for the simple reason that there were no empty θ-positions for an element to move to. However, once the projection principle is abandoned and with it the representational level dedicated to the expression of thematic relations, then the only point at which the θ-criterion need hold is LF, with the consequence that there is no *a priori* reason why an element should not be merged in a non-θ-position, provided there is a way for it to receive a θ-role at a later stage in the derivation. This in turn admits of an alternative account of Japanese scrambling structures, in which the dislocated object originates in its PF position rather than being moved there from a θ-position, and this is the analysis that Bošković and Takahashi propose for (13). On the question of how this argument is assigned a θ-role, Bošković and Takahashi adhere more closely to a configurational view of thematic structure than Williams does, to the extent that they have no recourse to mechanisms akin to Williams' rules of percolation that enable θ-roles to be assigned to positions outside the maximal projection of the predicate. Instead, they propose that the object argument in (13) moves covertly from the position in which it is pronounced to the same VP-internal position as it occupies in (12). Of course, this account will be no superior to existing analyses unless the movement can be shown to be motivated by concerns of interpretability, but this is now possible, since an argument base-generated in a scrambled position will not have a θ-role. By construing them as formal features of the verb that must enter into a checking relation with a nominal argument, θ-roles are empowered to trigger movement of the dislocated nominal to a θ-position and the problematic data can be assimilated without the need for construction-specific rules.

Aside from the theoretical advantage over previous analyses of being able to reconcile apparent optional movement with the principle of Last Resort, the authors show that it also resolves a number of other properties of Japanese scrambling that are puzzling if the construction is considered to be a case of overt Ā-movement as the standard analyses would

have it. Firstly, it explains Saito's (1989) observation that scrambling can be undone at LF, allowing a scrambled argument to take embedded scope.

(14) Nani$_i$-o John-ga [Mary-ga t_i katta ka] sitteiru
what$_i$-ACC John-NOM Mary-NOM bought Q knows
'John knows what Mary bought' (Bošković and Takahashi, 1998:353)

Indeed, since movement of the argument is now construed as obligatory, Bošković and Takahashi's system actually strengthens this claim, predicting that this is the only possible reading. This is borne out by constructions with scrambled embedded quantifiers, which cannot take scope over a quantified subject argument.

(15) Daremo$_i$-ni dareka-ga [Mary-ga t_i atta to] omotteiru
everyone$_i$-DAT someone-NOM Mary-NOM met that thinks
= for some x, x a person, x thinks that for every y, y a person, Mary met y
≠ for every y, y a person, there is some x, x a person, such that x thinks that Mary met y
(Bošković and Takahashi, 1998:354)

It also facilitates an explanation of why a scrambled argument cannot bind an anaphoric subject (16) that does not rely on drawing a distinction between A- and Ā-positions and of why adverbials, not being θ-marked, cannot be scrambled and must take scope over the clause immediately preceding which it is spelled out (17).

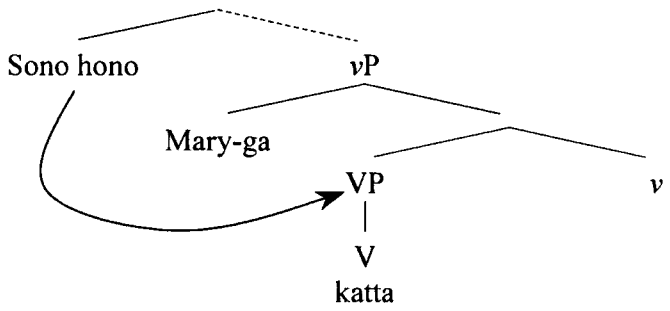
(16) *[Mary to Pam]$_i$-ni [otaga$_i$-no hahaoya]-ga [John-ga t_i atta to] omotteiru
[Mary and Pam]$_i$-DAT each.other$_i$-GEN mother-NOM John-NOM met that think
Intended: 'Mary and Pam, each other's mothers think that John met'
(Bošković and Takahashi, 1998:355)

(17) [Riyuu-mo naku]$_i$ Mary-ga [John-ga t_i sono setu-o sinziteiru to]
[reason-GEN without]$_i$ Mary-NOM [John-NOM that theory-ACC believes that
omotteiru
thinks
*'Without any reason, Mary thinks that John believes in that theory'
'Mary thinks that John believes in that theory without any reason'
(after Bošković and Takahashi, 1998:355)

Bošković and Takahashi defend the fact that the movement their theory entails is almost invariably downward by observing that a theory that does not explicitly exclude downward movement is less stipulative than one that does and that the burden of proof lies with a theory that would restrict the operation *Move α* in such an arbitrary way. Indeed, since the majority of lowering operations are ruled out for independent reasons (they cite, among other things, considerations of linear ordering and the Proper Binding Condition on traces), such a restriction would be not only stipulative but also vastly redundant. Lowering of scrambled arguments is, they argue, one of the few cases of downward movement not excluded by the independent principles: being covert, considerations of linear ordering do not apply and if, as the data in (14) to (17) suggest, the operation does not leave a trace, then the Proper Binding Condition will also be irrelevant.

For all its empirical success, however, the movement operation that Bošković and Takahashi propose is not as unproblematic from a theoretical point of view as they would have us believe and closer consideration of its precise implementation reveals it to be at variance with principles more fundamental to the minimalist enterprise than those that rule out other instances of lowering. If scrambled arguments are base-generated in their PF-position, then it seems reasonable to suppose that their LF-position is not projected in the first instance. Lowering the scrambled argument to its thematic position presumably entails remerging it with the VP node, as shown in (18). However, this takes place at a stage in the derivation when the VP node is no longer the root, with the consequence that the operation violates the Extension Condition.

(18)



Similarly, requiring the object not to leave any kind of trace in the position from which it has moved is tantamount to saying that the higher copy is not only deleted, but erased (to use the terminology of Chomsky (1995)). However, that copy forms a syntactic object with the clause

to which it is adjoined, is therefore a term of that object and as such cannot be erased without cancelling the derivation (cf. section 2.1.3 above and Chomsky (1995:281)).

The theory of feature checking through movement in which Bošković and Takahashi's analysis of Japanese raising is couched has, for reasons discussed in section 1.2, been superseded by the operation *Agree*, allowing features to interact at a greater distance than was possible in earlier versions of the theory. However, while this makes it possible to establish the necessary thematic relations without violating the Extension Condition or requiring erasure of terms, it does so at the expense of empirical coverage. Taking the verb to have an unvalued THEME-feature which probes and is valued by referential features of the scrambled nominal would indeed enable that argument to be assigned a θ-role in its surface position, thereby obviating the need for illicit merger with the lower verbal projection, but doing so would also leave the argument in the left-peripheral position at LF, desirable to the extent that it does not entail erasure of a trace or copy in that position, but problematic to the extent that this will make the same incorrect predictions about the scopal properties of such arguments as the theories upon which Bošković and Takahashi claim to improve.

Perhaps the most important consequence of recasting Bošković and Takahashi's account of θ-role assignment in the model of feature manipulation expounded in Chomsky (2000, 2001) is the departure that it entails from a configurational view of thematic structure, since in this version of Θ-Theory, unlike any other considered up to this point, there is no requirement that any argument, internal or external, stand in a local configuration with a verbal predicate from which it receives its θ-role at any stage in the derivation. The standard approach to the interpretation of thematic relations, by contrast, requires that the local configuration be preserved at LF, since it is by inspection of this configuration that the interpretation is supplied. However, just as the direction of the covert movement in their original proposal was anomalous, so also the θ-features of the verb under such a revision must be assumed to probe in the opposite direction from that standardly assumed. Although the idea that features may probe upwards is not without precedent – indeed, this is a possibility that Baker explicitly allows for φ-features – there is no reason not to explore the more widely accepted alternative that it is the higher of two categories participating in *Agree* (in this case the argument) that carries a feature in need of valuation by matching features of the lower (the verb). The theory of thematic relations on which Manzini and Savoia (2002) relies, although not expressed in

Chomsky's terminology, is very much in this vein and it is to a consideration of their model that the next section is devoted.

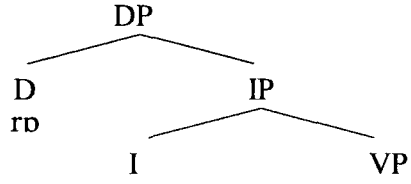
2.2.3 Movement of Aspectual Features to Dislocated Nominals (Manzini and Savoia, 2002)

Manzini and Savoia's (2002) account of variation in the patterns of agreement in Italian dialects is based on the assumption that clause structure is universal and that "languages can differ only as to how they lexicalise a given feature" (Manzini and Savoia, 2002:165, emphasis removed). The relevant feature for the data under consideration is the D-feature associated with a clausal subject, which they take to be lexicalised in the form of φ-agreement on the verb in null-subject languages such as Standard Italian, but by an overt subject DP in non-null-subject languages such as English. While the pattern of agreement in southern Italian dialects is essentially the same in Standard Italian in this respect, northern Italian dialects have an obligatory subject clitic in addition to subject agreement on the verb and lexical subject (if there is one), as the following example from the Castellazzo Bormida dialect illustrates.

(19) kulɒ 'dɔnɒ rɒ='drwɔm
that woman 3SG.F=sleeps
'That woman is sleeping' (Manzini and Savoia, 2002:159)

The fact that raising of the finite verb to C in questions and comparable environments strands the clitic leads the authors to conclude that it cannot simply be a second instance of agreement or even adjoined to the finite verb (if excorporation is prohibited) and must therefore head a projection of its own (cf. Manzini and Savoia, 2002:160). Acknowledging Chomsky's objections to heads that serve no purpose other than to realise agreement features, they treat these clitics as referential categories, proposing that they reveal a third way of lexicalising the D-feature, namely as a head in its own right.

(20)



(after Manzini and Savoia, 2002:160)

Southern Italian dialects and Standard Italian differ from northern Italian dialects in not overtly realising the D-position and allowing the D-feature to be lexicalised by the φ-agreement on the finite verb (in the terms of Chomsky (1995), the feature is weak). English

shares with northern Italian dialects the property of having a strong D-feature, but differs from them in not having in the lexicon a set of dedicated D-heads to realise it, with the consequence that an overt DP must be merged in its specifier position instead. This leads in turn to the conclusion that overt subjects in Italian differ from overt subjects in English to the extent that their presence cannot be motivated by the need to realise the D-feature, since this has already been achieved by the verbal agreement (southern dialects and Standard Italian) or the clitic (northern dialects)[12]. Observing that preverbal subjects in general function as topics, while postverbal subjects must be the focus or part of the focus of a sentence in Italian, Manzini and Savoia conclude that overt subjects realise a topic or focus feature instead and do not interact with the D-feature at all.

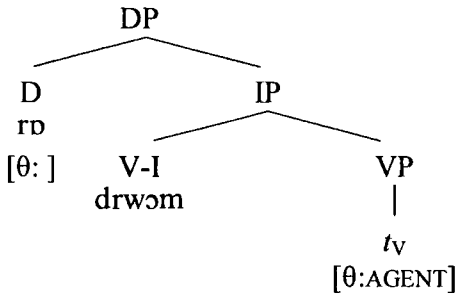
This model of clause structure shares an important point of departure from configurational theories of thematic structure with the one reviewed in the last section in proposing that subjects are first merged in their surface positions and the arguments that Manzini and Savoia present for favouring this alternative, indeed for admitting it at all, have much in common with those given by Bošković and Takahashi. However, the account they offer of how such subjects are assigned a θ-role is somewhat different, emphasising that part of the Θ-Criterion which requires that all nominals be assigned a θ-role, rather than imposing a formal requirement that all θ-roles be assigned, as is implicit in Bošković and Takahashi's version. Rather than proposing that θ-features of the verb instigate a thematic relationship with the subject (either through covert movement or by means of Agree), they suggest that it is the nominal features of the subject that "attract" θ-features[13] of the verb. Reformulating this idea in terms of the probe-goal model of Chomsky (2000, 2001) is simply a matter of supposing that the subject has an unvalued θ-feature which scans its c-command domain for a matching

[12] This raises the question of why it is that verbal agreement cannot satisfy the D-feature in northern Italian dialects as well (by movement of the verb from I to D, since the feature is strong). The fact that the negation clitic, where present, occurs between the subject clitic and the verb shows that such movement does not take place (Manzini and Savoia, 2002:164), but does not explain why. If Move is a less economical operation than Merge then the availability in the numeration of a clitic head to satisfy the D-feature will block I-to-D movement, but there is nothing to prevent a numeration being constructed without a subject clitic, in which case the same movement operation should be possible, under the assumption that the reference set for comparing derivations is the numeration.

[13] Following Borer (1994) and Arad (1998), Manzini and Savoia assume that thematic properties are aspectual in nature and hence refer to aspectual features rather than θ-features in their paper. The differences between the two are of no consequence for the present discussion, however.

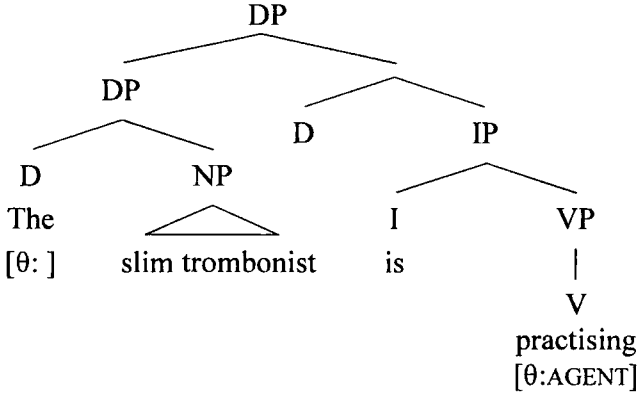
valued feature and locates a θ-feature with the value AGENT on the verb as shown in (21) for the structure in (20).

(21)



While this proposal avoids the difficulties associated with downward movement and upward-probing heads discussed in the last section, it is not without problems of its own. Firstly, if unvalued features are also uninterpretable, then D's θ-feature will be deleted under Agree and this, combined with the fact that its interpretable counterpart on the verb remains unchanged under the same operation, results in no formal record of the θ-role assignment remaining in the structure at LF[14]. Furthermore, while it is a simple matter to allow the clitic in (21) to act as a probe, the matter is not so straightforward where the subject is a phrasal constituent, for if features are properties of heads then it follows that only heads can probe. Strictly speaking then, it is the determiner *the*, not the DP *the slim trombonist*, that has an unvalued θ-feature in (22) and since the verb is not within the c-command domain of that head, it does not constitute an accessible goal, predicting, counter to fact, that θ-role assignment should fail.

(22)



It is perhaps for these reasons that Manzini and Savoia choose to replace Chomskyan Agree in their theory with a new operation *Attract* (distinct from Agree's predecessor of the same

[14] In section 3.2 below, the biconditional relationship between interpretability and valuedness will be questioned, with the consequence that this obstacle is perhaps not as great as it might at first appear.

name). Since their system does not distinguish features on the basis of their interpretability there is no reason why a θ-feature attracted to the subject should have to be deleted, allowing it to form a kind of "θ-chain" with the verb and the heads between them, while the very fact that DP subjects (and indeed topics and foci) attract θ-features in the same way as clitics do suggests that this operation does allow the equivalent of probing by a phrasal category. In the absence of a detailed exposition of the principles according to which this operation works and in particular a demonstration that the greater freedom with which it allows features to move does not come at the price of overgeneration, it is difficult to evaluate this alternative proposal further. However, what is clear from this and the preceding section is that even if it is by means of formal features that thematic relations are established, the operation of θ-role assignment cannot reduce to classical Agree, in which unvalued and uninterpretable features of a head probe the valued and interpretable features of a category in its c-command domain. The theory developed in the following section does not propose revisions to Agree or seek to formalise the precise nature of whichever other operation on features it might be that constitutes θ-role assignment, but rather takes as its starting point the fact that assignment unequivocally does take place in particular configurations and seeks to account for θ-role assignment in other situations, by showing that these configurations can be shown to obtain in a wider range of contexts than was previously thought.

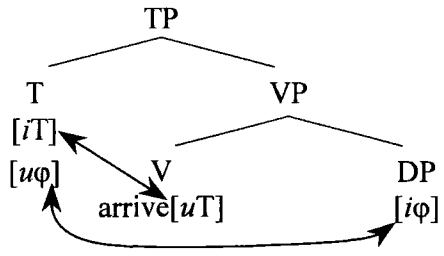
2.2.4 A Fourth Possibility

The theories of θ-role assignment reviewed in the preceding three sections deviate from the assumption that thematic relations between a predicate and its arguments are a function of the structural configuration in which they stand. Curiously, all three do so in the same way, extending the set of positions deemed to be local enough to receive a θ-role from a head such that in all the examples considered, it was the position of the argument receiving the θ-role rather than that of the predicate assigning it that was claimed to differ from that assumed under familiar configurational theories. This section will seek to redress the balance by exploring the possibility that the position in which a particular argument of a predicate is merged relative to that predicate is the same as in configurational theories, but that the predicate head itself may move to a higher position before discharging its θ-roles, such that the configuration obtains in a different place in the structure.

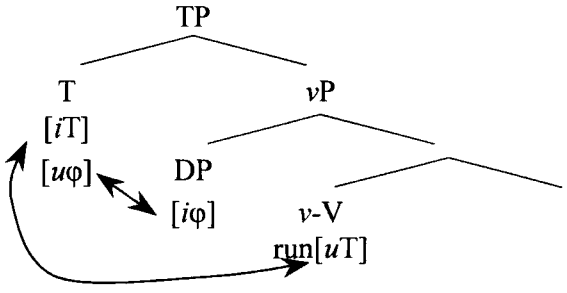
As long as thematic relations are construed as the consequence of particular structural relations obtaining at LF, the only formal relations established in the course of the derivation with a monadic predicate are between the verb and the T-head on the one hand and between

the T-head and the nominal argument on the other. In the case of an unaccusative verb such as *arrive*, the first of these relations is established in as local a configuration as possible, the maximal projection of the verb being the sister of T and there being no phrasal categories intervening between the two heads, while the second is established at a distance (23). There is, however, no reason in principle why the relationship between T and the nominal should not be the more local, with the relationship between T and V being established at a distance as is standardly assumed to be the case for unergatives (24).

(23)

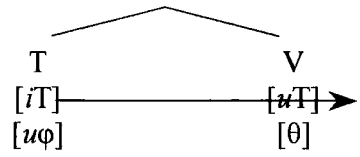


(24)



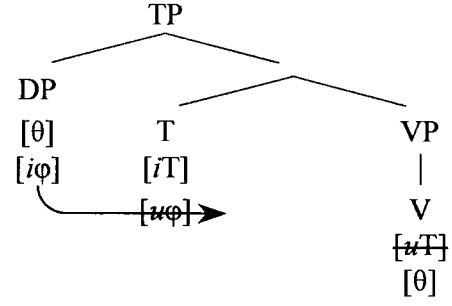
Construing θ-roles as formal features on a par with T- and φ-features complicates the picture somewhat, for a verb must now also enter into a formal relationship not only with the T-head, but also with the nominal argument and if, as is standardly assumed, the features of a category interact with matching features of another category as soon as the second is merged, then the assumption implicit in both (23) and (24) is that the thematic features of the verb establish a relationship with the nominal category first before the need for a T-head is satisfied. However, if θ-roles are formal features, there is no reason why the relationship between V and T should not be established first, in which case the first syntactic object created by the operation merge would be as shown in (25). Since it was not possible to resolve the issue of whether it is the verb that is in need of an argument (as Bošković and Takahashi's theory implies) or the nominal that is in need of a θ-role (as Manzini and Savoia would have it), the θ-feature is shown without any diacritic, so as not to prejudice the ensuing discussion.

(25)



The question now arises as to which of these heads projects. It clearly cannot be V, for if it were, the Extension Condition would prevent any further material being merged within the search space of T's uninterpretable φ-features, which would consequently be inaccessible to any further operations and precipitate a crash at the LF-interface. But if T projects, it is also not clear how the derivation could proceed felicitously either. For while the φ-features of T could be satisfied by merging the resultant structure with the nominal argument, as shown in (26), describing the assignment of the θ-role falls at the same hurdles as did the analyses above when formulated in terms of probes and goals. If it is the DP-argument that has the uninterpretable θ-feature, that feature, being a property of the D-head rather than of the DP-node will not be able to probe a matching interpretable feature on V, which is not within its c-command domain. Equally though, if it is V that is the θ-probe, then allowing it to be valued by a nominal in SpecTP will not be possible under the standard assumption that the search space for a probe is its c-command domain.

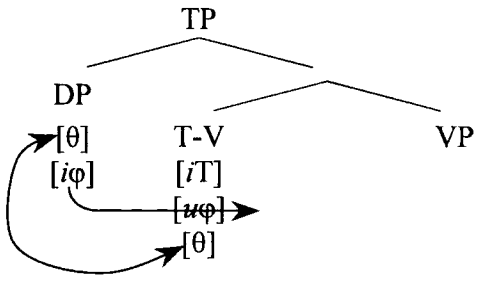
(26)



It is important to note at this point that exactly the same problems with the formalisation of θ-role assignment apply to the structure in (24), since the shortcomings of this alternative could otherwise be taken to mean that the derivation can only converge when the arguments are merged first and hence as evidence that the base-position is necessarily the position of θ-role assignment. The significant difference between the two seems to be the fact that in (24) but not in (26) the argument is within the maximal projection of the verb, albeit not within its c-command domain, a configuration that seems, for some reason, to be local enough for assignment of the θ-role to be successful. If θ-roles are to be accorded the same formal status as φ-features, then it must also be possible for φ-features to interact in that configuration, as has indeed already been tacitly assumed for the φ-features of T and the DP in (26). The

problem with (26) is that only one of the heads V and T can project, with the consequence that the argument, being merged after both of them, cannot interact with the features of whichever head does not. What is needed is a mechanism that enables features of both heads to project and indeed this is precisely what Williams' concept of relativised head was designed to achieve. However, a simpler alternative is available, not requiring the elaborate system of indices that that theory entailed, namely that when V moves to T, it takes its features with it, such that they are able to interact with the DP in the same way as T's own features.

(27)



In this way, the nominal and the verb of which it is an argument have the same structural relationship in (27) as they do in (24), with the consequence that, irrespective of the precise formal mechanisms involved, if θ-role assignment possible in one case, it should also be possible in the other. Taking the availability of expletive constructions as confirmation of the standardly accepted assumption that θ-roles are assigned in the configuration in (24), it follows that, if a verbal head may carry its θ-assigning properties with it when it moves, there is no reason to prevent it assigning that same θ-role in the configuration in (27).

2.3 Consequences for the Theory of Agreement

The previous section examined four alternative versions of Θ-Theory, each of which allowed a θ-role to be assigned to a position other than that with which it is associated under the Chomskyan assumption that θ-roles are configurations rather than formal properties. Since this opened up the possibility that preverbal arguments are first merged in their surface positions, movement from a θ-position became superfluous in three of the four models in their original formulations and in the fourth also, when reformulated according in terms of the probe-goal model of agreement of Chomsky (2000, 2001). This possibility has important implications for the way in which the relationship between agreement and movement is construed, in particular for the conclusions reached in section 1.3. There it was argued on the basis of data from Niger-Congo languages that movement could not, contrary to Chomsky's conjecture, be dependent on establishing an agreement relation between a functional head and

a nominal category it cross-references, since only when movement was supposed to take place prior to the agreement relation being established could the full range of data be satisfactorily accounted for. However, if the preverbal argument could be first merged in SpecTP and, through one of the mechanisms considered in section 2.2, receive its θ-role in that position, then no movement need be assumed to have taken place at all, with the consequence that the properties of the construction do not bear on the conjecture and true movement might indeed be dependent on agreement after all. By contrast, the second conclusion drawn in section 1.3, namely that it must be possible in principle for a functional head to agree with a category that it does not c-command, remains unaffected by this revision, and it is to a consideration of the properties of such structures and the wider implications they have for the theory of agreement that the following section is devoted.

3 A DIFFERENT KIND OF AGREEMENT

The properties of the functional head on which verbal φ-features are realised in Niger-Congo language are different from those of comparable heads in Indo-European languages to the extent that such heads are unable to establish an agreement relationship with a category within their c-command domain. As noted in section 1.3, Baker retains the idea that the φ-features of an agreeing head are formally identical in all languages and accommodates the differences between the two types of agreement pattern by explicitly excluding the c-command domain from the search space of a probe in some languages. While parameterising the Agree operation in this way facilitates an accurate account of the data, such an exclusion really does no more than stipulate that formally identical objects in identical contexts behave differently in different languages, without explaining why this should be the case. This section examines the consequences of an alternative proposal, which does consider the agreement heads in the two types of language to be formally different. Section 3.1 explores the hypothesis that the affixes in question are actually pronominal affixes rather than true agreement markers and reviews two implementations of this idea within the minimalist paradigm. These analyses tacitly assume a biconditional relationship between interpretability and valuedness. Section 3.2 questions the validity of this assumption and shows that rejecting it makes available an alternative account of the Niger-Congo data.

3.1 Argumental Agreement Hypotheses

If there is a formal difference between agreeing functional heads in Niger-Congo and Indo-European languages then it should follow from that difference that such heads can agree with

a matching category in their c-command domain in the latter but not in the former. When formulated in this way, it is clear that this amounts to whether functional heads can probe or not and the fact that current feature theory does make a formal distinction between probes and non-probes suggests that the mechanisms needed are already available. If Chomsky's (2000, 2001) assertion that it is the property of being unvalued that enables a feature to probe is correct and functional heads in Niger-Congo languages cannot probe, then their φ-features must be lexically valued. Furthermore, if the biconditional relationship between interpretability and valuedness holds, then it follows that these features are also interpretable, leading to the conclusion that the agreement affixes are, to all intents and purposes, bound pronouns. This in turn means that any overt nominal with which an agreement affix is co-referential cannot also be an argument and must be in a dislocated position rather than in SpecTP as has been assumed up until this point. Baker himself adopts a somewhat different analysis, choosing to analyse the heads in question as agreement morphemes that are incompatible with an overt subject, but some of the data he presents in support this hypothesis are equally compatible with the claim that it is the agreement morpheme itself that functions as the argument.

The most obvious kind of evidence that a nominal is dislocated, namely that it enjoys greater freedom as far as its position in the clause is concerned, is not really available in Kinande, the language from which most of the data in Baker (2003) are taken, because general restrictions on dislocation in the language prevent it from occurring in a right peripheral position and the left peripheral position in which it might potentially occur cannot be distinguished from the argument position SpecTP on the basis of linear order alone. In the case of objects, however, it is very clear from the data in (28) and (29) that dislocation is possible (obligatory, in fact) only when an object agreement marker is present.

(28) N-a-(*ri)-gul-a eritunda
1SG.SUBJ-PAST-(*V.OBJ)-buy-FV fruit(V)
'I bought a fruit' (Baker, 2003:7)

(29) Eritunda, n-a-*(ri)-gul-a
fruit(V) 1SG.SUBJ-PAST-*(V.OBJ)-buy-FV
'The fruit, I bought it' (Baker, 2003:7)

The differences in the syntactic behaviour of preverbal and postverbal objects can therefore be used to determine the properties of dislocated and non-dislocated arguments in general and the extent to which nouns in other positions exhibit the same properties taken as a diagnostic of whether they are dislocated or not. One way in which these two positions differ is in their ability to host non-specific and indefinite arguments, distinguished from specific, definite arguments by the absence of the initial vowel, known as the augment. Augmentless nouns may occur in the postverbal argument position (30), but not in the preverbal, dislocated object position (31).

(30) Omukali mo-a-teta-gul-a kindu
woman(I) AFF-I.SUBJ-NEG/PAST-buy-FV thing(VII)
'The woman didn't buy anything' (Baker, 2003:7)

(31) *(E)-kindu, omukali mo-a-teta-ki-gul-a
*(AUG)-thing(VII)woman(I) AFF-I.SUBJ-NEG/PAST-VII.OBJ-buy-FV
'Anything, the woman didn't buy it' (Baker, 2003:7)

The following examples show that subjects pattern in a similar way. When the subject occurs postverbally, as is the case in the impersonal construction in (32), it cannot carry the augment, while preverbally the augment is obligatory (33), suggesting that a subject occurring to the left of the verb is in a dislocated position. This corroborates the hypothesis that Kinande subject agreement is argumental, since it is only when the verb cross-references the φ-features of the subject that it may occupy this dislocated position.

(32) Mo-ha-sat-ire (*o-)mukali muyima
AFF-EXPL-dance-EXT (*AUG-)woman(I) one
'Only one woman danced' (Baker, 2003:21)

(33) *Mukali mo-a-teta-gul-a eritunda
woman(I) AFF-I.SUBJ-NEG/PAST-buy-FV fruit(V)
Intended: 'No woman bought a fruit' (Baker, 2003:21)

This conclusion also has important consequences for Chomsky's claims about the role of agreement in driving movement. It has already been argued (in section 2.2) that there are

plausible alternatives to configurational theories of thematic structure and that adopting one of these could facilitate an analysis of dislocation structures in Niger-Congo languages that did not necessarily involve movement. If a verbal prefix that cross-references the φ-features of the subject is a bound pronoun rather than the phonetic reflex of an operation that facilitates the deletion of uninterpretable features, then it is not an instance of agreement in Chomsky's sense, with the consequence that the data identified in section 1.3 as apparent counterevidence to the hypothesis that agreement is not an imperfection do not in fact bear on the question at all. If it could be shown that all such problematic cases can be analysed in this way, then the hypothesis could, after all, be upheld. This section therefore examines two formal implementations of the idea that verbal agreement satisfies nominal requirements of functional heads, one treating this as a parametrically determined property of null-subject languages, the other as a universal property of agreement morphology in all languages.

3.1.1 Alexiadou and Anagnostopoulou (1998)

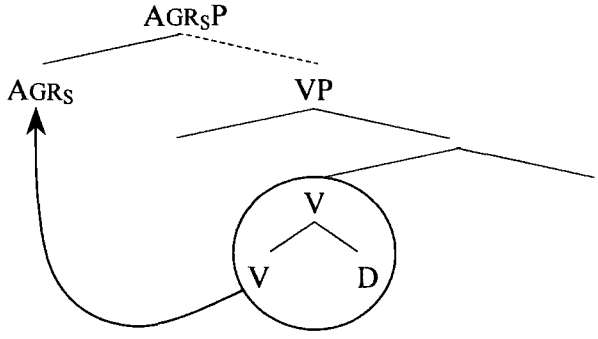
The main claim of this paper is that the EPP, construed as D-feature checking by a nominal lexical category following Chomsky (1995), is a linguistic universal but that languages vary parametrically according to whether it is satisfied by an X^0-level category or by an XP-level one, merged in or moved into the maximal projection of AGR_S, where the D-feature needing to be deleted is assumed to reside. Verbs in null-subject languages are taken to have a D-feature, such that the EPP is satisfied when the verb raises to AGR_S, without there being any need for a nominal category to move to or be merged in SpecAGR_SP. In a language in which the verb does not have this feature, on the other hand, there will be no X^0-level category with a D-feature that can raise to AGR_S, with the consequence that a referential DP or expletive must always occupy SpecAGR_SP instead. A principle of "Economy of Projection" (Alexiadou and Anagnostopoulou, 1998:519), favouring operations which do not extend the phrase-marker over ones which do, explains why this latter option, although in principle available, can never be chosen in null-subject languages.

It is important to note at this point, however, that while the agreement morpheme has the nominal qualities necessary to satisfy the EPP in their system, the authors are careful not to commit themselves on the question of whether it should be taken to function as a true argument of the verb or not. While it is true that they state explicitly that "the verbal agreement affixes in, for instance, the Greek paradigm ... have *exactly* the same status as the pronouns in the English paradigm" (Alexiadou and Anagnostopoulou, 1998:516, emphasis mine), they also make it clear in the last section of the paper that "proposing that the AGR affix

counts as a θ-bearing argument in N[ull] S[ubject] L[anguage]s, replacing null referential *pro*" (Alexiadou and Anagnostopoulou, 1998:531) is a matter on which "one cannot take a position ... before having calculated all the consequences" (Alexiadou and Anagnostopoulou, 1998:533). Among the reasons for this reticence is the fact that in Romance and Greek (their examples of languages with nominal agreement), postverbal subjects do not have the same properties as they take to be diagnostic of dislocation in the case of preverbal subjects, many of which are the same or similar to those used by Baker to argue for dislocation in the Niger-Congo data. The crucial difference between Niger-Congo languages and Romance/Greek is that, while verbs in the former may not agree with a postverbal subject, in the latter they typically do, such that non-dislocated subjects and agreement are not in complementary distribution in the same way. If this matter could be resolved (part of a broader question of why it is that Romance/Greek subjects do not exhibit more of the properties of non-configurational languages, a discussion which will not be entered into here), then all that would be needed in order for agreement to be treated as fully referential would be a theory of how a θ-role can be assigned to an affix.

Despite assuming that agreement heads are listed separately in the lexicon and numeration in pro-drop languages, it is clear that the merge operation that combines them with the verb must be morphological, resulting in an X^0-level syntactic object (34), for if the operation were syntactic, movement of the resultant object (35) would violate the Structure Preservation Hypothesis (originally formulated by Emonds (1976) and derived from minimalist principles in Chomsky (1995)), which prohibits elements from adjoining to a category of a different bar level.

(34)



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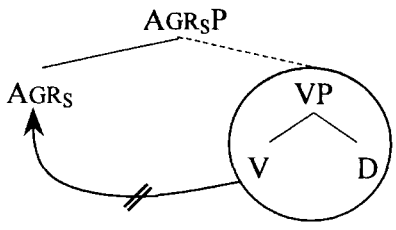
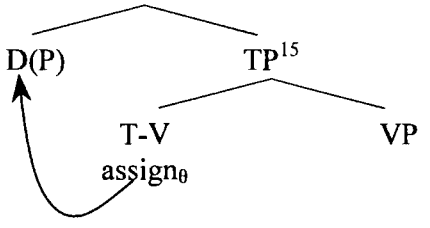


Proposing that agreement can be fully argumental would therefore entail allowing the θ-criterion to be met morphologically rather than syntactically, as Alexiadou and Anagnostopoulou note, for if the internal structure of X^0-level syntactic objects is not visible to the syntax, then it follows that the configuration in which the θ-role is assigned to D is not preserved at the LF-interface. This specific observation pertains to a configurational theory of thematic structure and while all the alternatives considered in section 2 also took θ-role assignment to take place in the syntax, the mechanisms they propose are better able to accommodate X^0-level arguments than more conventional models. Indeed, re-expressing Manzini and Savoia's analysis in minimalist terms was least problematic where the subject was a head rather than a phrasal category, since in this case alone could the valued θ-features of the predicate, being within the c-command domain of the argument, be successfully probed by the unvalued θ-features of the nominal. For the analysis presented in 2.2.4, this would entail allowing a subject θ-role to be assigned not only to the specifier position of a head, but also to the head to which its maximal projection is a sister, but far from being problematic, this is to be expected. Recall from section 2.1.2 that assignment of a θ-role must take place while the projection of the assigning head is still maximal (that is, before the object created by the merge operation projects a label). At the point at which the θ-role is assigned, then, the structure of the two types of construction (36) is identical in all relevant respects, the only difference being that an affix is both minimal and maximal, while a DP-argument is maximal only.

(36)



Alexiadou and Anagnostopoulou mention another alternative, whereby agreement in null-subject-languages is treated "as an incorporated pronoun that leads an independent syntactic life up to the point of incorporation", but note that such an analysis would not obviously be able "to account for configurational effects in constructions where an overt DP co-occurs with

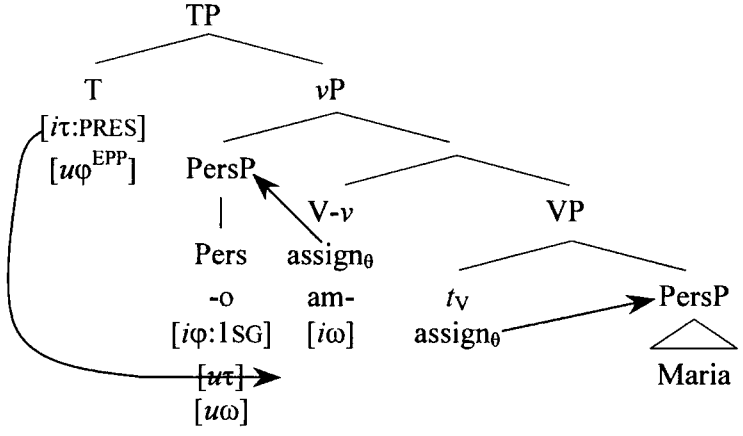
[15] There is, of course, no reason why V should not assign the subject θ-role to a DP in its base-position, with both V and the DP subsequently raising, as the standard analysis would have it. That both options are in principle available will become important when accounting for the patterns of possessor agreement in different Finnish non-finite clauses in section 3.4.1 of the next chapter.

an agreement affix" (Alexiadou and Anagnostopoulou, 1998:533). Although he does not address this specific problem, this is the way in which Platzack (2003, 2004) chooses to treat verbal agreement and it is to a consideration of his proposals that the next section is devoted.

3.1.2 Platzack (2003, 2004)

The basis of Platzack's system is the proposal that a person phrase (PersP) is the highest projection of any argument nominal and optionally selects as its complement a DP. Free pronouns and agreement affixes alike are merged in this position, the difference between the two being not their syntactic category, but rather whether they are bound morphemes or not, expressed formally by the presence or absence of an "uninterpretable affix feature [*u*ω]" (Platzack, 2004:93), of which the interpretable counterpart is a feature of the verb. These PersPs are merged in θ-positions and receive a θ-role according to the position in which they are merged (AGENT or CAUSE in Spec*v*P etc.) such that the structure of the Italian sentence *Amo Maria* 'I love Mary' would be as shown in (37) at the stage in the derivation where the T-head is merged.

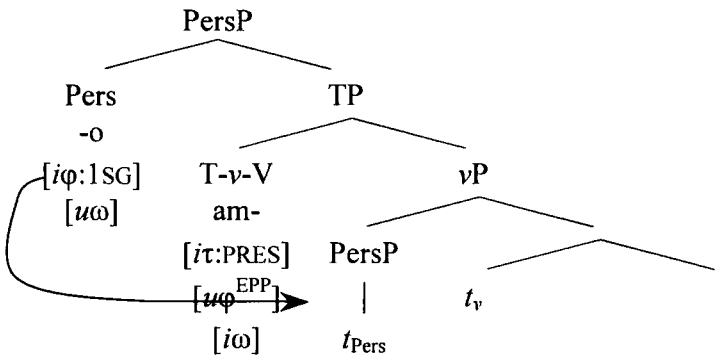
(37)



(after Platzack, 2004:87)

Platzack adopts Pesetsky and Torrego's (2001, 2004) proposal that Case is an instance of an unvalued tense feature [τ] on a nominal and assumes with them that T has unvalued φ-features with an EPP-diacritic that requires movement to take place in order to eliminate the feature with which it is associated. When this head is merged, its φ-features probe its c-command domain and locate the head Pers as the closest matching category, which must therefore move to the vicinity of T. However, rather than having it adjoin to the head itself, Platzack suggests that it merges with the root of the structure and, still having an uninterpretable affix feature, must project.

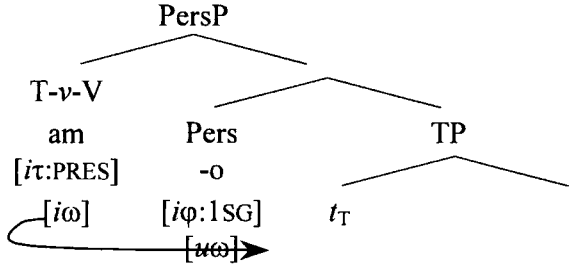
(38)



(after Platzack, 2004:93)

In this way, what started out as a nominal projection is transferred to the clausal level such that its uninterpretable ω-feature is now in a position to probe its c-command domain for a matching category. The verbal complex in T is the closest such element, and this consequently merges with PersP to give the structure in (39)[16]. Morphological merger (in the sense of Matushansky (2006)), which combines two syntactically adjacent X^0-level categories morphologically into a single head, then applies to the verbal complex and the Pers-head[17].

(39)



(after Platzack, 2004:93)

Platzack's theory differs from Alexiadou and Anagnostopoulou's in proposing this structure for all languages with subject-verb agreement, not just those that allow null subjects, and is therefore able to account for V-to-T movement cross-linguistically in a uniform way, without recourse to alternative mechanisms in languages such as French and Icelandic in which verb raising is obligatory but null subjects are not permitted. Of course, one consequence of this is that an alternative account of the differences between null-subject and non-null-subject languages is needed and this too Platzack derives by exploiting further the proposed nominal character of the Pers-head, suggesting that, like morphologically free pronouns, agreement

[16] Although Platzack does not say as much, the uninterpretable ω-feature of Pers presumably carries an EPP-diacritic, since it triggers movement.

[17] Platzack assumes that it is Pers rather than the verbal complex that projects, "[s]ince V and Pers must form a word for [uω] to be eliminated" (Platzack, 2004:93), but offers no further explanation of why this should follow. Indeed, if the verbal complex were to project, then Pers could adjoin to it through head movement without the need to invoke Matushansky's less widely accepted morphological merger.

affixes may be either pronominal or anaphoric and hence subject to Principle A or B of the Binding Theory. Quoting examples from Alexiadou and Anagnostopoulou (1998), he follows their conclusion that preverbal overt subjects in null-subject languages are in an Ā-position and are hence able to bind pronominal affixes without violating Principle B. Subject-verb agreement in non-null-subject languages, on the other hand, is considered to be anaphoric, with the consequence that overt subjects in these languages must be in an A-position in order to satisfy Principle A.

Treating agreement as a uniform phenomenon in null-subject and non-null-subject languages alike is conceptually appealing, but closer consideration of the data reveals a number of problems with this approach. Firstly, Platzack is forced to acknowledge that there are languages without verb raising in which the verb form is not invariant throughout the paradigm and these he accommodates by stating simply that agreement in such languages "is a form of the verb without syntactic consequences" (Platzack, 2004:89) and should not be assigned argument status. Precisely what is meant by "syntactic consequences" is never made explicit, however, and one could be forgiven for suspecting a certain circularity of argument in the absence of any difference between languages with and without "active agreement" other than the position of the verb. Certainly, agreement in English, a language standardly assumed not to have V-to-T raising, does have syntactic consequences of other kinds, of which the restrictions placed on the grammatical properties of the category occupying the subject position in the presence or absence of the third person inflectional *–s* in the present tense is the most obvious example[18]. It is clear then that Platzack's system cannot dispense

[18] A more intriguing syntactic property of inflectional *–s* can be observed in the pseudo-coordination structure *try and do*. Most speakers accept *try and* as an equivalent of *try to* (i), but this reading is accepted by fewer speakers when *try* is inflected for person (ii) and not acceptable at all when inflected for tense (iii).

(i) Police officers try and catch criminals red-handed
Police officers try to catch criminals red-handed

(ii) *%This police officer tries and catches criminals red-handed
This police officer tries to catch criminals red-handed

(iii) *Police officers tried and caught/catch criminals red-handed last weekend
Police officers tried to catch criminals red-handed last weekend

For such speakers as reject (ii), the syntactic status of the inflectional *–s* would appear to be the same as that of the tense morphemes in (iii). See Johns (1998) and references cited there for further discussion.

with Chomskyan Agree (or something similar) if such elementary data are to be accounted for, with the result that agreement, as standardly construed, is no more of a unified phenomenon in this system than it is under Alexiadou and Anagnostopoulou's proposals.

This analysis is less easily able to deal with constructions in non-null-subject languages that do, in a restricted set of circumstances, allow (or even require) subjects to be null. One such language appears to be German, in which a dative experiencer may be the only nominal in a sentence (40). The fact that such constructions cannot be embedded under control verbs (41) and cannot be omitted in coordinate sentences (42) suggests that experiencers of this kind are not subjects, but rather occupy an Ā-position, with the result that the anaphoric agreement with which they co-occur is not A-bound, in violation of Principle A of the Binding Theory.

(40) Mir wurd-e geholfen
I.DAT became-3SG help.PTCP
'I was helped' (Platzack, 2003:347)

(41) *Ich hofft-e geholfen zu werden
I.NOM hoped-1SG help.PTCP to become.INF
Intended: 'I hoped to be helped' (Platzack, 2003:347)

(42) Er kam und *(ihm) wurde geholfen
he.NOM came.3SG and *(he.DAT) became-3SG help. PTCP
'He came and was helped' (Platzack, 2003:347)

In Icelandic, such experiencers are, by the same tests, genuine subjects, but that language also allows constructions without any overt subject, where again there is no binder for the supposed anaphoric agreement.

(43) Í gær ringd-i
yesterday rained-3SG
'It rained yesterday' (Platzack, 2004:101)

(44) Ekki má gleyma ráðherran-um
not may.3SG forget.INF minister-DEF
'The minister must not be forgotten' (Platzack, 2004:102)

Platzack deals with this problem by suggesting that while regular subject-verb agreement is anaphoric in Icelandic and German, default agreement is pronominal. Recognising that allowing the two kinds to occur in the same language appears to weaken the proposal, he defends the move by arguing that it is precisely this possibility that is realised in languages which allow null subjects in some contexts but not others. In Celtic languages, for example, the affix which does not encode φ-features, known as the analytic form, must be accompanied by an overt subject, suggesting that it is anaphoric, while the synthetic forms, which do encode φ-features, allow (and in some languages require) a null subject and must therefore be pronominal. Similarly in Hebrew, the fact that null subjects are possible in the first and second persons but not the third person in past and future tenses can be captured by saying that the first and second person verbal affixes are pronominal, while the third person affixes are anaphoric. However, this argument is misleading, since the respective situations in the languages discussed are not comparable. Indeed, having acknowledged that such duality of function for a particular morpheme constitutes a weakness, it would be surprising if they were, for this would mean that the case in support of the proposal consisted in presenting further apparent counterexamples to the stronger version of the theory. Since a language may have both free pronouns and free anaphors, there is no reason in principle why bound pronouns should not be able to coexist with bound anaphors in a language, but, by the same token, the fact that free anaphors and free pronouns typically have distinct phonetic forms (even if one set is often morphologically derived from the other), suggests that this should also be expected for their bound counterparts. While this is the case in Hebrew, the purported pronominal agreement morphemes in Icelandic and German are identical in form to the third person singular anaphoric affix, something that is unlikely to be coincidental, as an analysis that treats them as distinct grammatical entities would have to claim. Were this problem confined to the third person singular cross-linguistically, it might be possible to derive the ambiguous behaviour of the affix from the fact that it is unmarked and perhaps therefore underspecified in some way. As will be seen in the next chapter, however, Finnish possessor agreement also appears to behave pronominally in some contexts and anaphorically in others, the difference between the two being greatest in the first and second persons. There it will be argued that the null hypothesis that identical phonetic forms do have identical lexical representations can be upheld, contrary to the opinions expressed in previous work on that particular paradigm.

3.2 Dissolving the Biconditional

The failure of both Chomsky's and Platzack's models to account satisfactorily for all forms of what is intuitively thought of as agreement suggests that it is not in fact a unified phenomenon, in some cases being an argumental affix and in others the phonetic reflex of an Agree operation. If Chomsky's hypothesis that the status of a feature as interpretable or uninterpretable is reflected formally in whether or not that feature is lexically valued is correct, then these are the only two possibilities and they are distinct; if interpretability and valuedness are not as closely related as Chomsky claims, however, then other possibilities emerge and it is to the implications of this that this section is devoted. Section 3.2.1 examines Pesetsky and Torrego's reasons for calling this biconditional into question and shows how they exploit the availability of interpretable unvalued features to account for subject-verb agreement in languages which do and do not allow null subjects. Section 3.2.2 begins by showing that the mechanisms needed to handle the types of features that the biconditional prohibits are required even in the system that seeks to uphold it and that taking some instances of verbal agreement to originate as valued uninterpretable features faciliates a plausible alternative analysis of the problematic Niger-Congo data.

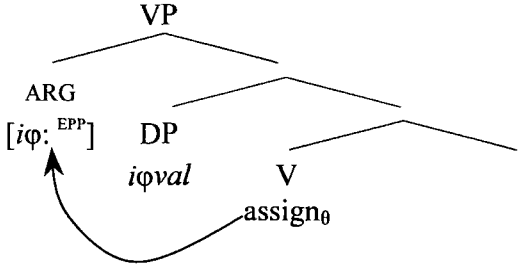
3.2.1 Pesetsky and Torrego (2005a)

Recall from section 1.2 that the proposal that uninterpretable features enter the derivation unvalued was made only to facilitate a formal distinction between the two without looking ahead to the interfaces: while the computational system can reasonably be expected to distinguish an unvalued formal feature [F:] from a valued instance of the same feature [F*val*], the difference between *u*F and *i*F is determined at LF and should hence be invisible to the computation. However, as Pesetsky and Torrego observe, there is no *a priori* reason why properties as distinct as whether a lexical item has a message to send to the semantics and whether any of its syntactically relevant properties are left unspecified should be coupled (cf. Pesetsky and Torrego, 2005a:3). Should valuedness and interpretability not be biconditionally related, this would admit of the possibility of valued uninterpretable and unvalued interpretable features, of which they argue tense features of V and clause-typing features of C respectively to be examples.

As far as subject-verb agreement is concerned, the authors maintain the standard assumption that verbal φ-features enter the derivation unvalued, defending this position on the basis of the fact that the φ-features of nouns but not of verbs may exhibit idiosyncratic behaviour. Specifically, while there are nouns in some languages which must always be plural in form,

such as *moenia* 'town walls' in Latin or *scissors* in English, there are no verbs which exist only in the singular or only in the second person[19]. If the dependency of the feature values of one category on those of another is taken to be indicative of the dependent category having entered the derivation with unvalued features, then it follows that it is the φ-features of the verb that are valued by the noun and not vice versa. In more recent work, however, these and similar data have been invoked to emphasise more that φ-features of nouns are lexically valued than that the φ-features of verbs are not. That is not to say that the authors' position has changed on this matter, indeed, an important part of their latest proposals relies on verbal φ-features being able to probe, but in this work they now serve as the vehicle for the merge operation between the verb and its complements rather than having anything to do with the relationship between the verb and its subject and as such are not phonetically realised in languages without object agreement. In their published work, Pesetsky and Torrego have had little to say about the syntactic status of subject agreement morphology, but ideas expounded in their oral presentations (Pesetsky and Torrego, 2005b) suggest that their position on this matter is not dissimilar to Platzack's, the principal difference lying in the way in which they distinguish null-subject and non-null-subject languages. In null-subject languages, they too propose that the subject agreement morpheme (which they call ARG) has interpretable valued φ-features and is merged in SpecVP, where it receives a θ-role from the verb and forms a morphological word with it by virtue of morphological merger (in the sense of Matushansky (2006)). For non-null-subject languages, however, they exploit the possibility that their system affords of ARG having interpretable unvalued φ-features and consequently acting as a probe. If these features are to be valued, then there must be a category (the overt subject) with valued φ-features within its c-command domain as shown in (45) and an EPP-diacritic ensures that this DP moves to a higher position.

(45)



(after Pesetsky and Torrego, 2005b:§20)

[19] Pesetsky and Torrego acknowledge the existence of defective paradigms, but say that they are "unaware of verbs that have, for example, only first person forms – i.e. both first person singular and plural, but not other persons" (Pesetsky and Torrego, 2005a:fn3). To take this as the sole argument in favour of the φ-features of verbs being unvalued seems rather tenuous, indeed, it will be argued in what follows that such features are, in the contexts discussed at least, lexically valued.

This structure leaves open a number of questions (most notably, why it is ARG rather than the DP that receives the θ-role, given that the DP is closer to the assigner and why φ-features of ARG should have to have an EPP-diacritic), but this is to be expected, given that it is part of work in progress. What is interesting is that, in common with Platzack's system, the more stringent locality requirements (compared with null-subject languages) on the subject and verb are the result of a deficiency in the referential capacity of the agreement morpheme.

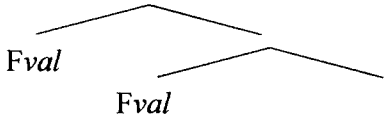
3.2.2 An Alternative

While Pesetsky and Torrego's observation that valuedness does not inextricably reflect interpretability is valid, the argument they present in support of dissolving the biconditional is more empirical than theoretical in nature, consisting of examples of relationships that might plausibly involve the two types of feature (interpretable unvalued and uninterpretable valued) that are not allowed in Chomsky's system. As things stand then, it would seem that which of the two models is preferable depends ultimately on whether the less restrictive nature of Pesetsky and Torrego's version is justified by a superior account of the data. However, the assumption that Chomsky's system is less complicated as a result of retaining the biconditional relationship between interpretability and valuedness is incorrect, since closer consideration of its finer workings reveals that it also requires there to be mechanisms for deleting valued features. If such mechanisms are able to delete features that are valued in the course of the derivation, then there is no reason why it should not also delete lexically valued features. Indeed preventing it from doing so would constitute an additional, unmotivated stipulation.

From the point of view of achieving interpretability at the LF-interface, there is no reason why unvalued uninterpretable features should have to be valued before they are deleted, indeed there is every reason for them to remain unvalued, since it would be more economical for a probe to identify a matching goal and delete without the extra computational cost of the valuation operation. Empirical considerations from languages on the basis of which the probe-goal model of agreement was developed show that this cannot be the case, for if it were, agreement would never be overtly spelled out. This suggests that the processes of valuation and deletion are logically distinct, with valuation taking as its input non-distinct features and making them identical and deletion taking identical features as its input and marking one set invisible at LF. Since the output of valuation and the input to deletion are the same kinds of features, valuation can (and typically does) feed deletion, but if the deletion operation is blind

to the provenence of the features on which it operates, then there is no reason why it should not also delete lexically valued uninterpretable features (should they exist). Furthermore, if the operation takes only pairs of identical features as its input, but deletes only one set, it follows that it must also make reference to the structural configuration in which the categories carrying the features stand. Since only one set of features deletes, this configuration must be asymmetrical, so the most restrictive hypothesis would be that one is the closest c-commanding category to the other, with no intervening material[20].

(46)



The question as to which set of features deletes and which remains unchanged is now an empirical matter on which the Niger-Congo data presented in 1.3 can shed some light. In 3.1 it was suggested that the fact that the φ-features of T in these languages cannot probe was due to their being lexically valued, such that when they co-occur with an overt subject they stand in precisely the configuration in (46). Where the subject preceded an agreeing verb the structure was well-formed, but when it followed it, the structure was sharply ungrammatical as (1) and (4), repeated here as (47) and (48), show.

(47) Omukali mo-a-seny-ire olukwi
woman(1) AFF-1.SUBJ.PAST-chop-EXT wood(XI)
'The woman chopped wood' (Baker, 2003:11)

(48) *A-gul-a omukali eritunda
1.SUBJ.PAST-buy-FV woman(1) fruit(V)
'The woman bought a fruit.' (Baker, 2003:13)

This suggests that, as was assumed in theories of agreement that make reference to the spec-head configuration, it is the lower set of features that deletes. In (47), the φ-features of the DP subject c-command the φ-features of the verb, the uninterpretable features are deleted and the

[20] Of course, the spec-head relationship, thought to be a prerequisite for agreement in earlier models of syntactic theory, is one instance of this configuration, but if operations of the computational component cannot make reference to bar-levels it will also obtain when the higher category is minimal and the lower one maximal, and indeed when both are maximal or both minimal.

the structure is grammatical, while in (48), where the reverse is the case, the interpretable φ-features of the subject are deleted by the uninterpretable φ-features of the verb with the result that the derivation crashes at LF.

In section 3.1, the fact that agreement in Niger-Congo languages was lexically valued was taken to be indicative of its status as an argumental affix and evidence presented in support of this that suggested that overt subjects occupy dislocated, Ā-positions. However, this analysis leaves restrictions on the relative position of dislocated arguments in Kinande unexplained, for where both subject and object are preverbal, the subject must be closest to the verb.

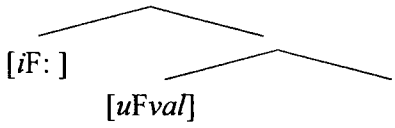
(49) Eritunda, omukali a-ri-gul-a
fruit(V) woman(I) I.SUBJ.PAST-V.OBJ-buy-FV
'The fruit, the woman bought it' (Baker, 2003:15)

(50) *Omukali, eritunda, a-ri-gul-a.
woman(I) fruit(V) I.SUBJ.PAST-V.OBJ-buy-FV
'The woman, the fruit, she bought it' (Baker, 2003:16)

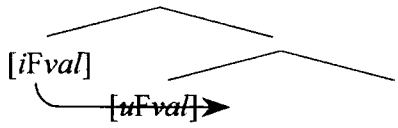
If the verbal φ-features of T are valued and interpretable, then this can only be accounted for by stipulating that the object moves to a different preverbal position from the subject. However, if the same valued features are not interpretable, then they will require there to be a category with identical valued φ-features (i.e. the subject) in an immediately c-commanding position so that they can be deleted in accordance with the proposals above. In (50), where the object intervenes between the verb and the subject, this configuration does not obtain, with the result that the uninterpretable features remain and the derivation crashes.

The calculus of feature manipulation developed above admits of a second way to eliminate valued uninterpretable features, namely by having them enter into an Agree relation with a category with unvalued interpretable features. For this operation to be successful, the configuration must obtain as the result of the category with unvalued interpretable features being merged with a projection of the category with the valued uninterpretable features (51), since if it were brought about by movement, the uninterpretable features would c-command the interpretable ones, leading to the wrong set being deleted (52). This amounts to saying that an interpretable unvalued feature can never have an EPP-diacritic.

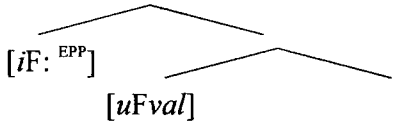
(51) *Valuation*



Deletion



(52) *Valuation*



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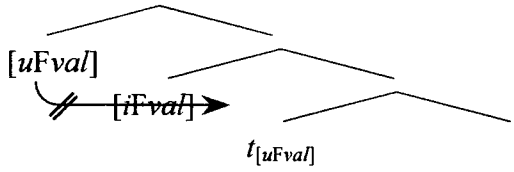


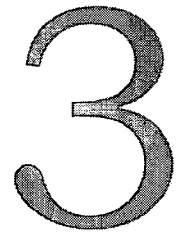
4 AIMS OF THE PRESENT WORK

It is not my goal to uphold any one of the theories of agreement reviewed in this chapter and amend or revise it in such a way as to accommodate the data that favour its competitors, nor will I attempt to refine existing typologies which categorise languages according to whether their subject agreement morphology is argumental or the result of an agreement operation by separating the dimensions of interpretability and valuedness. My claim is bolder, namely, that variation in the status of verbal affixes both cross-linguistically and within a single language is not encoded in the lexicon, as all the analyses reviewed above would have it, but is rather determined in the syntax as a product of the interaction of lexical features with general principles. The principal argument in support of this position comes from cases of functional ambiguity of the kind invoked by Platzack to account for the fact that default agreement exhibits pronominal qualities, while the phonetically identical third person singular agreement morpheme is anaphoric. As long as the binding theoretic properties of nominals are assumed to be determined in the lexicon, the only way to account for such discrepancies is to propose a lexical split, such that two lexemes with distinct grammatical properties just happen to have the same phonetic form. If certain properties of nominals could be determined at or after the point at which they are introduced into the derivation, however, this would open the possibility that phonetically identical (and, it should be noted, grammatically very similar) morphemes are instances of one and the same lexical entry.

Chapter three is a detailed study of Finnish possessor agreement morphemes, a *prima facie* case of functional ambiguity, since the whole paradigm exhibits different syntactic behaviour in different constructions. Rather than propose a lexical split, as previous analyses have done in some form, I show that it is possible to predict whether an affix will behave like a bound

argument or an agreement morpheme on the basis of whether it is merged in a θ-position or not and that this variation can be formalised by taking the affix to have lexically valued φ-features which are interpretable when the affix receives a θ-role and uninterpretable when it does not. Chapters four and five apply this analysis to two more languages in which verbal φ-morphology has been argued both to be argumental and to instantiate agreement. In Modern Standard Arabic, affixes appear to be functionally ambiguous and I show that here too their behaviour in different contexts can be derived from whether or not they are merged in a θ-position, provided an version of θ-theory akin to that outlined in 2.2.4 above is accepted. For contexts where doubling of an affix with interpretable φ-features by a pronominal argument is allowed, in apparent contravention of what is claimed in Chapter three, I show that the properties of such "corroborative pronouns" (as they are known in traditional Arabic grammar) are distinct from those of genuine arguments and that a strong case can be made for assuming them to occupy adjoined positions. In Irish, on the other hand, the properties of the affixes in question are, broadly speaking, those of pronominal affixes and this is the conclusion I draw, showing that apparently problematic data from coordination structures are amenable to an analysis no less satisfactory than that needed if they are treated as agreement morphemes. Chapter six turns to optional arguments and, taking as its starting point the parallels between the Finnish constructions tackled in Chapter three and finite clauses in the same language, shows that there is strong empirical (particularly distributional) evidence to support the existence of a Rizzian *pro*. The problems which such a category, being dependent for its interpretation on a category with uninterpretable φ-features, poses for the Chomskyan model of agreement disappear if the biconditional relationship between interpretability and valuedness is abandoned.

Finnish Possessor Agreement



This chapter deals with a set of suffixes encoding φ-features in a range of contexts in Finnish. These suffixes may appear on nouns (cross-referencing the possessor), non-finite verbs (cross-referencing the subject) or attached to the reflexive *itse*, but their behaviour across these constructions is not uniform. The aim of this chapter is to account for the distribution and interpretation of these suffixes in each context on the basis of independently defensible assumptions about other syntactic properties of the construction. Section 1 presents the raw data, showing how possessor agreement in the possessive construction differs from subject-verb agreement in finite clauses. Section 2 reviews three different analyses of this construction, each of which makes reference to other contexts in which possessor agreement is found, but none of which is able to provide a principled account of the phenomenon applicable to all the contexts listed above. Section 3 deals with possessor agreement in non-finite clauses, where the restrictions on the co-occurrence of possessor agreement and overt pronouns are more varied than elsewhere. It is argued that this can be more satisfactorily explained in a model treating Case-assignment and agreement as properties associated with two distinct heads than by one positing a single head to perform both functions. Restrictions on the relative ordering of subject and verb are found to correlate with the patterns of agreement in the different types of clause and the most elegant account of this turns out to be one exploiting the hypothesis advanced in section 2.2.4 of the last chapter that θ-roles are not invariably assigned from the base position of a predicate. The case for the dissolution of the biconditional relationship between interpretability and valuedness as advanced in section 3.2 of the same chapter also receives empirical support from the fact that an analysis taking the interpretability of φ-features to be determined in the syntax according to whether or not they are merged in a position where they can receive a θ-role (rather than in the lexicon according to whether or not they are valued) is better able to account for these correlations, for only where the possessive suffixes are assumed to enter the derivation with valued φ-features do the differences between the various structures follow without an excessive degree of stipulation.

1 THE DATA

In common with many languages, Finnish has a set of morphemes which may be attached to the possessum in a nominal phrase and cross-reference the person and (in the first and second

persons) number features of the possessor. The phonetic exponents of these morphemes, printed in bold typeface in (1) to (6), are phonetically distinct from the markers of subject-verb agreement in finite clauses[1].

(1) Minu-n vaimo-**ni** voitt-i auto-n
I-GEN wife-**1SG.PX**[2] win-PAST[3SG] car-ACC
'My wife won a car'

(2) Sinu-n velje-**si** asu-u Jyväskylä-ssä
you.SG-GEN brother-**2SG.PX** live-3SG Jyväskylä-INE
'Your brother lives in Jyväskylä'

(3) Häne-n laps-e-**nsa**[3] lähett-i-vät kirje-i-tä joulupuki-lle
he/she-GEN child-PL-**3.PX** send-PAST-3PL letter-PL-PAR Santa.Claus-ALL
'His/her children sent letters to Santa Claus'

(4) Mei-dän vene-**mme** makso-i 5000 Euro-a
we-GEN boat-**1PL.PX** cost-PAST[3SG] 5000 Euro-PAR
'Our boat cost 5000 Euros'

(5) Tei-dän auto-**nne** on sininen
you.PL-GEN car-**2PL.PX** be[3SG] blue[NOM]
'Your car is blue'

(6) Hei-dän hevose-**nsa** on nopea-mpi kuin minu-n
they-GEN horse-**3.PX** be[3SG] fast-CMPR than I-GEN
'Their horse is faster than mine'

---

[1] The first person plural marker is actually the same in both sets of agreement morphemes, but this has no consequences for its syntactic behaviour.

[2] In common with most of the existing literature on the subject, the abbreviation *Px* is used to denote a possessive suffix.

[3] The third person possessive suffix has two allomorphs *–Vn* and *–nsA*. The first of these is the preferred form when it follows a case suffix ending in a short vowel and the graph *V* indicates lengthening of this vowel. The vowel of the second form (which is occasionally possible in this same environment and is the only possible realisation in all others) and is determined by vowel harmony: a stem containing back vowels takes the suffix *-nsa*, one containing front vowels takes *–nsä*. This summary is based on Karlsson (1999:100).

Despite being exponents of the same class of morphosyntactic properties as subject-verb agreement (namely φ-features), the syntactic behaviour of the possessive suffixes differs in some important respects, with the result that it is not possible simply to apply familiar models of agreement developed on the basis of data from finite clauses to the possessive construction without any kind of modification. That is not to say that there are not also striking similarities between the two kinds of agreement. First and second person possessors can be freely omitted from structure of the kind exemplified in (1) to (6) without affecting the interpretation (7-8) in exactly the same way as first and second person subjects are optional in finite clauses (9-10). A third person possessor may be omitted on the condition that the sentence contains an antecedent to identify its reference (11) and here too there are similarities with finite constructions, in which a third person antecedent my identify the null subject of an embedded clause (12).

(7) (Minu-n) vaimo-ni voitt-i auto-n
(I-GEN) wife-1SG.PX win-PAST[3SG] car-ACC
'My wife won a car'

(8) (Sinu-n) vaimo-si voitt-i auto-n
(you.SG-GEN) wife-2SG.PX win-PAST[3SG] car-ACC
'Your wife won a car'

(9) (Minä) voit-i-n auto-n
(I[NOM])win-PAST-1SG car-ACC
'I won a car'

(10) (Sinä) voit-i-t auto-n
(you.SG-NOM) win-PAST-2SG car-ACC
'You won a car'

(11) Matti_i kadott-i hattu-nsa_i loma-lla
Matti[NOM] lose-PAST hat-3.PX holiday-ADE
'Matti lost his (own) hat on holiday'

(12) Matti_i kadott-i hattu-nsa, kun $(\text{hän}_{i/j})$ ol-i loma-lla
Matti[NOM] lose-PAST[3SG] hat-3.PX when (he/she) be-PAST[3SG] holiday-ADE
'Matti lost his (own) hat, when he was on holiday'

However, while the presence of an overt *hän* in the subject position of the embedded clause in (12) does not preclude the possibility of co-reference with the matrix subject, in the possessive construction, the overt third person pronoun in (13) must have disjunct reference.

(13) Matti$_i$ kadott-i häne-n$_{*i/j}$ hattu-nsa loma-lla
Matti[NOM] lose-PAST he/she-GEN hat-3.PX holiday-ADE
'Matti lost his/her (somebody else's) hat on holiday'

One other striking difference between agreement in finite clauses and possessor agreement is that while in the former the verb is inflected in the same way, regardless of whether its subject is human, pronominal, neither or both (14), only a pronominal human[4] subject may co-occur with overt suffixation in the latter (15) and this suffixation is obligatory (16).

(14) Tuija/Koira/Hän/Se nukku-u
Tuija/dog/(s)he/it[NOM] sleep-3SG
'Tuija/the dog/(s)he/it is sleeping'

(15) *Tuija-n/*Koira-n/Häne-n/*Se-n päivällise-nsä on keittiö-ssä
Tuija/dog/(s)he/it-GEN dinner-3.PX be.3SG kitchen-INE
'His/Her dinner is in the kitchen'

(16) Tuija-n/Koira-n/*Häne-n/Se-n päivällinen on keittiö-ssä
Tuija/dog/(s)he/it-GEN dinner[NOM] be.3SG kitchen-INE
'Tuija's/The dog's/Its dinner is in the kitchen'

2 THREE ACCOUNTS OF THE POSSESSIVE CONSTRUCTION

In this section, three different accounts of these differences are reviewed. Pierrehumbert (1980) proposes a syntactic doubling rule targeting only pronouns to account for the fact that no other category of possessor may trigger agreement, but in allowing the possessive suffix also to be introduced into the structure as an anaphoric category in its own right, locates the differences in interpretation of null and overt third person possessors in the lexicon. For

[4] This generalisation is not strictly accurate as the "neuter" pronoun *se* is used alongside *hän*, particularly in colloquial varieties, to refer to people. Whatever the correct nomenclature, it is clear that there are two kinds of nominals, one triggering agreement, the other not.

Trosterud (1993), it is the lexical property of not needing Case that allows only pronouns to co-occur with possessor agreement, while his explanation of the differences in the binding theoretic properties of the doubled and undoubled suffixes is given in terms of a set of principles governing the way certain combinations of features are spelled out and as such is morphological in nature. Toivonen (2000), on the other hand, argues that no purely morphosyntactic analysis assuming a single set of lexical properties for all the possessive suffixes can account for both the optionality of pronouns in the first and second person and the restrictions on interpretation in the third person. This leads her to posit two morphosyntactically distinct sets of morphemes with coincidentally identical phonetic forms, one marking agreement with an independent pronoun and the other itself pronominal. She adduces independent support for this hypothesis from the fact that the two kinds of third person suffix differ in other respects as well and that there is a non-finite verb form (the participial construction) to which the pronominal but not the agreement suffixes may attach.

2.1 Pierrehumbert (1980)

2.1.1 The Status of the Affixes

The central claim in Pierrehumbert's analysis is that the possessive suffixes are not forms of agreement triggered by genitive nominals, as tacitly assumed in traditional grammar, but rather allomorphs of the reflexive pronoun *itse,* inflected for case and themselves carrying a possessive suffix. The main empirical argument offered in support of this approach is the elegant explanation it facilitates of the complex relationship between non-human and/or non-pronominal elements and possessor agreement. As was shown in (15) and (16) above, only pronominal human possessors can control possessor agreement on a nominal category. However, comparison of these examples with (17) shows that the same is not true where a third-person possessor is expressed by an affix alone. In such instances, it may be non-pronominal, non-human or both.

(17) Tuija$_i$/Koira$_i$/Hän$_i$/Se$_i$ sö-i päivällise-nsä$_i$ keittiö-ssä
Tuija/dog/(s)he/it[NOM] eat-PAST[3SG] dinner-3.PX kitchen-INE
'Tuija/The dog/(S)he/It ate his/her/its dinner in the kitchen'

To the extent that third person pronouns may generally be co-referent with full NPs (indeed, this is arguably their *raison d'être*), accounting for the grammaticality of non-pronominal antecedents could be as simple a matter as positing a null pronoun in the specifier position of

päivellinen, such that it is this pronoun rather than the matrix subject that controls the possessor agreement in (17). If that is the case though, the null counterpart of the non-human pronoun *se* 'it' must differ from the overt version not only with respect to the restrictions on co-reference of the kind illustrated for the human pronouns in (11) to (13), but also in its ability to co-occur with possessor agreement. If, on the other hand, the possessive suffixes are allomorphs of full reflexives, then it suffices to show that reflexive objects may also take non-human (and non-pronominal) antecedents. (18) shows that this is indeed the case.

(18) Koira$_i$/Matti$_i$ pes-i itse-nsä$_i$ järve-ssä
Matti/dog[NOM] wash-PAST[3SG] self-3.PX lake-INE
'The dog/Matti washed itself/himself in the lake'

The morphological similarity of the full reflexives and the possessive suffixes – as (18) shows, the form of this pronoun found in active clauses is itself inflected with possessor agreement[5] – is another reason offered by Pierrehumbert for treating the two as equivalent. Perhaps surprisingly, she chooses not to exploit this similarity directly and derive the bound forms from the full forms by means of a deletion rule, but rather sees them as alternative realisations of a pronominal node with the features [+REFLEXIVE] and [+GENITIVE]. The choice between the two is determined by an allomorphy rule referring to the structural position of this element: it is realised as the possessive suffix alone in the specifier position of a nominal head and as the full form *itse*-CASE-*Px* in all other contexts[6]. According to this analysis, then, the syntax of (11) and (18) differs only in the internal composition of the element in the object position of the verb. In (11), where it has the structure shown in (19), the reflexive genitive pronoun is in SpecNP and is hence realised as *–nsa*, onto which the head noun subsequently cliticises. In (18), where it has the structure shown in (20), it is itself the head of the nominal phrase and hence surfaces as *itsensä*.

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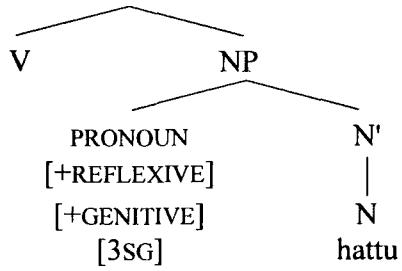
[5] It is also marked for morphological case in the same way as other nominals, with the case-marker preceding the possessive suffix. This is not evident in (18), as the accusative marker is suppressed in the presence of possessor agreement.

[6] The exact formulation of the allomorphy rule is as follows (Pierrehumbert, 1980:610), where POSS is simply the gloss used for the possessive suffixes and X''' designates a maximal projection in Jackendoff's (1977) "Uniform Three Level Hypothesis", in which Pierrehumbert's analysis is couched.

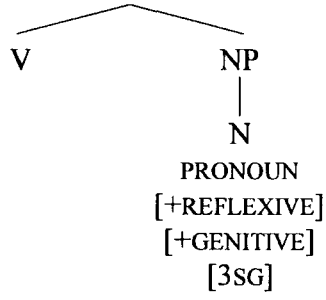
$$\begin{bmatrix} \text{PRO} \\ +\text{reflexive} \\ +\text{genitive} \end{bmatrix} \rightarrow \text{POSS} / X''' \text{ [(article) \_\_\_\_\_}$$

$$\rightarrow \textit{itse} + \text{case} + \text{POSS} / \text{elsewhere}$$

(19)



(20)



2.1.2 Agreement with Pronouns: The Doubling Rule

Assuming that it is only the feature [+REFLEXIVE] that distinguishes the feature specification of the possessive suffixes from that of the genitive pronouns and that both feature matrices occupy the same position underlyingly (SpecNP), this analysis does not allow the same possessor to be expressed simultaneously by a genitive pronoun and possessor agreement. For in the case where the possessor is distinct in reference from (and hence not bound by) the matrix subject, there should be no pronominal node with the features [+REFLEXIVE] and [+GENITIVE] that could be realised as a possessive suffix, predicting, counter to fact, that (21) should be grammatical and (22) not.

(21) *Matti$_i$ kadott-i häne-n$_j$ hatu-n loma-lla
Matti[NOM] lose-PAST he/she-GEN hat-ACC holiday-ADE
Intended: 'Matti lost his/her (somebody else's) hat on holiday'

(22) Matti$_i$ kadott-i häne-n$_j$ hattu-nsa loma-lla
Matti[NOM] lose-PAST he/she-GEN hat-3.PX holiday-ADE
'Matti lost his/her (somebody else's) hat on holiday'

Pierrehumbert accounts for this by means of a doubling rule which applies obligatorily to a genitive pronoun in a specifier position, making a copy of its feature matrix to its immediate right. In addition to this, the rule adds the feature [+REFLEXIVE] to the copy, since failure to do

so would result in it being bound by the pronoun that served as the input to the doubling rule, and hence in breach of Principle B of the Binding Theory. The composition of the feature matrix thus introduced is identical to that of a reflexive pronoun and hence subject to the same morphological rule that determines the realisation of reflexive pronouns in other contexts. In (22) then, it is realised as the possessive suffix and subsequently cliticises onto the head noun in the same way as it does in the absence of a genitive pronoun. In section 3.2 the similarities between this doubling rule and Chomskyan Agree will be explored and the allomorphy rule determining how the resultant feature matrices are realised will be construed as a spell-out rule belonging to the morphological component.

2.1.3 Null First and Second Person Pronouns: The Deletion Rule

The one nominal construction involving possessor agreement which Pierrehumbert's doubling and allomorphy rules cannot account for is that in which a first or second person possessor remains unexpressed despite there being no overt antecedent.

(23) Serkku-ni kanssa on aina hauskaa
cousin-1SG.PX with be.3SG always fun
'With my cousin, you always have a good time' (Pierrehumbert, 1980:619)

The absence of an antecedent means that the feature matrix underlying the possessive suffix in (23) cannot have been introduced into the structure as a reflexive, but neither can it be the output of the doubling rule, as there is no pronoun in the structure from which to copy the features. These data are accommodated by appeal to a generalised pronoun deletion rule, allowing first and second person pronouns to be dropped "whenever the deletion is recoverable" (Pierrehumbert, 1980:619). Underlyingly then, (23) contains the genitive pronoun *minun* 'my' which is targeted first by the doubling rule (creating the reflexive copy realised as the possessive suffix) and then by the deletion rule. While such a principle appears to be intuitively correct (and, as was observed in section 1.2 of the last chapter, is not infrequently invoked as a principle of grammar), it is not unproblematic from a theoretical point of view, since it necessarily allows properties of a construction that cannot be determined without reference to the neighbouring cognitive systems to influence the course of the derivation[7]. Pierrehumbert justifies this otherwise *ad hoc* stipulation by demonstrating that it makes correct predictions about the optionality of subject pronouns in finite clauses if

[7] This matter is taken up further in section 1 of chapter six.

allowed to target nominatives as well as genitives. For, as was mentioned in section 1 above, Finnish also allows first and second but not third person referential subjects to be dropped in finite main clauses[8].

(24) (Minä) mene-n katso-ma-an
(I.NOM) go-1SG look-INF3-ILL
'I am going to look' (Pierrehumbert, 1980:619)

(25) Poro-ja (te) varmasti näe-tte
reindeer-PAR (you.PL.NOM) certainly see-2PL
'You will certainly see some reindeer' (Pierrehumbert, 1980:619)

(26) *(He) mene-vät katso-ma-an
(they.NOM) go-3PL look-INF3-ILL
'They are going to look'

2.2 Trosterud (1993)

Whereas Pierrehumbert distinguishes two sources of possessive suffixes (either they are genitive reflexives in their own right, in which case they have nominal status, or they are copies of a genitive pronoun, in which case they are more like agreement morphemes), Trosterud considers them to be the primary means of expressing possession by a pronominal element in all contexts and explains the fact that they may co-occur with an overt pronoun by exempting pronouns from the Case Filter. One consequence of this is that the different binding theoretic properties of doubled and undoubled possessive suffixes can no longer be a function of how they are introduced into the derivation and the greater part of this paper is devoted to developing an alternative analysis. Drawing on parallels with the reflexive, which must be accompanied by a pronoun in a similar range of contexts, Trosterud accounts for the distribution of the doubled and undoubled forms in terms of two binary features [±p] and [±c], which formalise whether or not the antecedent is a predication subject and/or a co-argument of the position to be realised. Which lexical item is inserted in this position depends on the interaction of the lexical features of the anaphoric suffixes and their pronominal doublers with a "principle of unique assignment" according to which lexically unspecified features are

[8] Such parallels between agreement in Finnish finite and non-finite clauses, as well as some important differences, are discussed in chapter six.

provided with a value. This predicts the complementary distribution of pronouns, anaphors and anaphors doubled by pronouns found in the majority of contexts. This section first presents the details of this analysis, before examining the implications of some apparent counterexamples and evaluating the success of Trosterud's own proposals for accommodating these.

2.2.1 The Status of the Affixes

Trosterud's explanation of the fact that only human pronouns may co-occur with possessor agreement is no less stipulative than Pierrehumbert's, but tackles the problem from the opposite angle, treating the bound morphemes as the primary way of expressing possession and defining the syntactic properties of their free counterparts in such a way as to allow no other nominal categories to be introduced into a structure in which the possessive suffixes are already present. Following Borer (1984), Trosterud draws a distinction between clitics and affixes in terms of the Case Filter: clitics have argument status and must be assigned Case if their θ-role is to be visible, while agreement affixes are non-argumental and may therefore remain Caseless. The grammaticality or otherwise of a freestanding nominal category doubling an affix is diagnostic of the argument status of that affix. In languages such as Hungarian and Eskimo (27), which allow doubling, the affix cannot have absorbed the Case assigned by the head to which it is attached[9], with the consequence that this Case remains available for subsequent assignment to another nominal category.

(27) Angutem angaya-a
man.GEN boat-3.POS
'The man's boat' (Trosterud, 1993:229)

Where Case is absorbed by the affix, on the other hand, it cannot be assigned a second time, such that any nominal subsequently introduced will remain Caseless and its θ-role therefore invisible. Such is the case in Modern Hebrew, where the possessive affix *–a*, if present in (28), would receive the Case otherwise be assigned to *ha-mora*. Where another head, such as the preposition *sel* 'of' is present in the structure to assign Case to the possessor, the structure is grammatical (29).

[9] Trosterud assumes nouns to assign genitive Case to their possessors.

(28) beit(*-a_i) ha-mora$_i$
house(*-3.POS$_i$) DEF-teacher$_i$
'The teacher's house' (Trosterud (1993:229), quoting Borer (1984))

(29) beit-a_i sel ha-mora$_i$
house-3.POS$_i$ of DEF-teacher$_i$
'The teacher's house' (Trosterud (1993:229), quoting Borer (1984))

2.2.2 Agreement with Pronouns: Exemption from the Case Filter

The problem posed by Finnish possessor agreement is that both patterns are attested. As illustrated in (14) and (15) above, where a syntactically local[10] possessor is anything other than a human pronominal, Finnish patterns with Modern Hebrew in not allowing the possessum to bear possessor agreement, while human pronominals must be cross-referenced by a suffix on the noun. In order to avoid an analysis positing two sets of phonetically identical morphemes[11], one of these two patterns of behaviour must be construed as the norm, revealing most transparently the true thematic status of the affix, and the other either derived in such a way that this property is obscured or simply deemed exceptional by stipulation. If the possessive suffixes are agreement markers, then genitive Case is assigned and agreement triggered in a uniform fashion, regardless of whether the possessor is a human pronominal or not, subject to the stipulation that the agreement triggered by non-humans and/or non-pronominals is either a phonetically null morpheme or just not spelled out. If the presence of agreement is dependent upon another element providing the values for the features cross-referenced by the agreement morpheme, then a null pronoun must be posited, receiving genitive Case in the same way as its overt counterpart, even where the suffix is the only overt expression of the possessor. Pursuing the alternative, whereby the possessive suffixes are clitics requiring Case, genitive human pronouns must, given the absence of any other Case-assigning head in the structure[12], be exempted from the Case Filter. This is the solution that

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[10] This qualification excludes counterexamples such as (12), where the only overt expression of the possessor apart from the possessive suffix is the (non-pronominal) subject *Matti*. Such examples do not bear on the present discussion, however, since this noun is assigned nominative Case in the subject position and can therefore be realised regardless of whether the genitive Case assigned by the possessum to its possessor has been absorbed by the possessive suffix or not.

[11] As we shall see in section 2.3.3, this is the solution advocated by Toivonen (2000).

[12] A third alternative not considered by Trosterud would be to posit a null Case-assigning head in such structures. This possibility is explored in more detail in section 3.3.

Trosterud advocates, observing that this single exemption can account for all the data, whereas the alternative must not only stipulate the contexts in which agreement is not spelled out but also posit the existence of a null category for which he believes there to be no independent evidence.

A further advantage of this approach is that the optionality of first and second person pronouns follows without the need for a deletion rule of the kind proposed by Pierrehumbert. Indeed, since the construction with only a single exponent of the possessor is more basic (to the extent that it need not make reference to the stipulation), the question is not so much why certain pronouns may be omitted, but rather why one of the suffixes (the third person marker *–nsa*) must be doubled in certain circumstances and it is the restrictions on this doubling and its semantic effects to that constitute the focus of Trosterud's paper.

2.2.3 Deriving the Properties of Doubled and Undoubled Possessive Suffixes

Like Pierrehumbert, Trosterud also makes reference to constructions involving the reflexive *itse* in developing his analysis of possessor agreement, but considers a wider range of elements and contexts and draws different parallels. In addition to constructions in which genitive pronouns may co-occur with agreement in possessive constructions, Trosterud also examines doubling of the full reflexive *itse*-CASE-*Px* by a pronoun, which is obligatory where it is bound by an argument other than the subject.

(30) Muistut-i-n professori-a_i [*(häne-stä) itse-stä-nsä]$_{i/*j}$
remind-PAST-1SG professor-PAR$_i$ [*(he-ELA) self-ELA-3.PX]$_{i/*j}$
'I reminded the professor about himself/herself' (Trosterud, 1993:235)

An object with a third person pronominal possessor is subject to similar restrictions. Where the possessive suffix is the only exponent of the possessor, it must be interpreted as co-referential with the subject (31), while the object is the only possible antecedent in the sentence when the suffix is doubled by a genitive pronoun (32)[13].

[13] Of course, the reading of (30) in which the reflexive is subject bound is not available, even in the absence of the doubling pronoun *hänestä*, because the φ-features of the subject and the reflexive are not congruent.

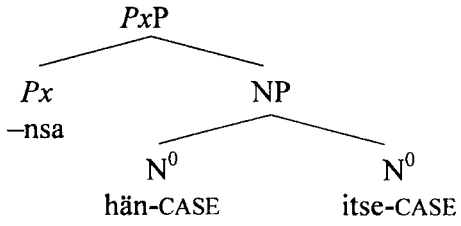
(31) Maija$_i$ esittel-i Arja-n$_j$ miehe-lle-nsä$_{i/*j}$
Maija[NOM]$_i$ present-PAST[3SG] Arja-ACC$_j$ husband-ALL-3.PX$_{i/*j}$
'Maija presented Arja to her (Maija's) husband' (Trosterud, 1993:240)

(32) Maija$_i$ esittel-i Arja-n$_j$ häne-n$_{*i/j/k}$ miehe-lle-nsä
Maija[NOM]$_i$ present-PAST[3SG] Arja-ACC$_j$ he/she-GEN$_{*i/j/k}$ husband-ALL-3.PX
'Maija presented Arja to her (Arja's/somebody else's) husband' (Trosterud, 1993:241)

There are, however, two important differences between the two constructions. Firstly, as the indices in the examples above show, the overt pronoun in a possessive construction can take either a non-c-commanding antecedent in the sentence or a discourse antecedent not syntactically represented in the sentence at all, while the latter is not an option for the doubled reflexive. Secondly, the pronoun in a possessive construction always appears in the genitive, regardless of the Case of the possessum, whereas a reflexive and any pronoun doubling it exhibit the same Case morphology, determined by the position they occupy.

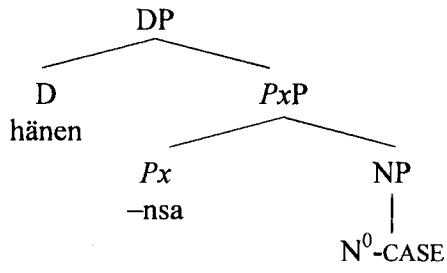
On the basis of these differences, Trosterud proposes a different structure for each type of construction. If it is accepted that the properties of a head are shared by its maximal projection, then the binding-theoretic properties of the doubled reflexive suggest that it has an anaphoric element (i.e. the possessive suffix) as its head (33). This entails positing that the doubling pronoun originates in a position below the possessive suffix and taking this position to be within the maximal projection of the reflexive provides an elegant explanation of why the two elements are marked for the same Case. By the same argument, the pronominal properties of the possessive construction suggest that it is the genitive pronoun and not the suffix that is the head of the structure (34) and this is congruent with the fact that it is Case-marked independently of the possessum and hence would not be expected to originate in the same maximal projection.

(33)



(Trosterud, 1993:232)

(34)



(Trosterud, 1993:232)

Having acknowledged and accounted for the possibility of an unbound reading for the pronominal possessor, Trosterud turns his attention to readings of each kind of sentence in which the possessor/reflexive is interpreted as co-referential with another argument in the clause, and considers the restrictions on the range of possible antecedents for each of the doubled and undoubled constructions. Since the patterns of co-reference are more or less the same for possessives and reflexives, an analysis broadly applicable to both is developed and explanations offered for the few instances in which the two constructions do differ. In the remainder of this section, I follow Trosterud in using the reflexives to illustrate the behaviour of both kinds of construction and it may be assumed (except where otherwise stated) that the analysis developed is also applicable to bound possessors.

2.2.4 The Features [±p] and [±c]

It should be noted that while the doubled reflexive is anaphoric, to the extent that it requires a linguistic antecedent, it is not an anaphor in the classical sense of the term, since it need not be c-commanded by its antecedent. It is probably for this reason that Trosterud rejects the traditional definition of binding as "c-command and co-reference within some domain" from the outset, adopting instead a version of Binding Theory that defines 'anaphor' and 'pronominal' simply as phrasal elements that respectively must and may have their reference "determined by some other element ... within a linguistically specified domain" (Trosterud, 1993:225). Rather than being dependent exclusively on the structural relation of c-command, his analysis appeals to two other relations, *predication command* (which obtains when the reference of an element may or must co-vary with that of a predication subject) and a *co-argument relation* (which, as its name suggests, obtains between co-arguments of a predicate). An object bound reflexive thus bears the same co-argument relation to its antecedent as does a subject bound reflexive, the difference between the two being that a subject bound reflexive also bears a predication command relationship to its antecedent. Trosterud formalises these relationships in terms of the features [±p] and [±c]: the pronominals *hän* and *hänen* are lexically specified as [–p] and the anaphoric forms *itsensä*

and N-*nsa* as [+c], indicating that the former "demand a non-predication-command relation" and the latter "demand a co-argument relation, relative to a syntactic binder" (Trosterud, 1993:238). The properties of *hän itsensä* and *hänen* N-*nsa* are assumed to derive from a simple additive process, combining the feature matrices of their component morphemes, resulting in [–p,+c]. A "principle of unique assignment" then prevents this matrix from being assigned to any other lexical entry, with the result that the c-feature of *hän* receives a negative value, giving [–p,–c], and the p-feature of *itsensä*/N-*nsa* a positive value, giving [+p,+c], when they are inserted into the syntactic structure. Providing values for lexically unspecified features in this way means that only one of them will ever be able to match the feature matrix associated with a given position, predicting that the three forms will occur in complementary distribution and this prediction is borne out by the data.

(35) Maija$_i$ pes-i itse-nsä$_{i/*j}$
Maija[NOM]$_i$ wash-PAST[3SG] self-3.PX$_{i/*j}$
'Maija washed herself' (Trosterud, 1993:232)

(36) Maija$_i$ pes-i häne-t$_{*i/j}$
Maija[NOM]$_i$ wash-PAST[3SG] (s)he-ACC$_{*i/j}$
'Maija washed her' (Trosterud, 1993:232)

(37) *Maija$_i$ pes-i [häne-t itse-nsä]$_{i/j}$
Maija[NOM]$_i$ wash-PAST[3SG] [(s)he-ACC self-3.PX]$_{i/j}$
Intended: 'Maija washed herself' (Trosterud, 1993:232)

The subject and object can only be construed as co-referential in (35) where the [+p,+c] matrix of the object is realised as *itsensä*. Similarly the only way of getting the reading under which the subject and object are disjunct in reference (i.e. where the object is not co-referential with a co-argument or a predication subject and hence has the features [–p,–c]) is given in (36). In the case of an anaphor with the features [–p,+c] (i.e. bound by a non-subject co-argument), the complex form *hänet itsensä* must be used as has already been observed in (30). Where there is no such binder, the sentence is ungrammatical (37).

2.2.5 Three Problematic Cases for this Analysis

This model predicts that pronouns, reflexives and doubled reflexives (and, by extension, their possessive analogues) will be in complementary distribution. A consequence of this is that any instances of non-complementarity call into question the validity of the system as whole. In this section three such cases identified by Trosterud are critically examined along with the revisions and extensions he proposes to accommodate them.

2.2.5.1 The Problem of the Fourth Environment

Of the four logically possible combinations of the binary features [±p] and [±c], the process just described provides exponents for all except [+p,–c]. In contexts corresponding to the fourth, complementarity breaks down altogether, and *hän*, *itsensä* and *hän itsensä* are all possible.

(38) Maija$_i$ pyys-i mei-tä pese-mä-än itse-nsä$_i$
Maija[NOM] ask-PAST[3SG] we-PAR wash-INF$_3$-ILL self-3.PX
'Maija asked us to wash her' (Trosterud, 1993:236)

(39) Maija$_i$ pyys-i mei-tä pese-mä-än häne-t$_i$
Maija[NOM] ask-PAST[3SG] we-PAR wash-INF$_3$-ILL he/she-ACC
'Maija asked us to wash her' (Trosterud, 1993:236)

(40) Maija$_i$ pyys-i mei-tä pese-mä-än häne-t itse-nsä$_i$
Maija[NOM] ask-PAST[3SG] we-PAR wash-INF$_3$-ILL he/she-ACC self-3.PX
'Maija asked us to wash her' (Trosterud, 1993:237)

Trosterud suggests that this breakdown in complementarity is a direct consequence of the fact that the interaction of the principle of unique assignment with the lexical properties of *hän* and *itsensä* does not generate the matrix [+p,–c], but he does not explain how this follows, simply stating that if "complementarity comes as a result of the procedure described above, we would expect the [+p,–c] configuration to disobey the demand for complementarity altogether" (Trosterud, 1993:239). However, for all the empirical accuracy of this observation, it is far from clear how the free variation exemplified in (38) to (40) can be made to follow from the absence of a lexical unit with the feature matrix [+p,–c] without seriously

undermining the elegant account of the distribution of the same three forms in short-distance binding contexts.

Although Trosterud at no point elaborates on precisely how the principle of unique assignment gives rise to the complementarity observed in (35) to (37), it is clear that the grammaticality of all three lexical forms in [+p,–c] contexts can only be accurately predicted given certain assumptions about the interaction of the features [±p] and [±c] with the morphological component, from which the distribution of forms in the other three contexts must also follow. The very fact that categories with the properties [–p,–c], [–p,+c] and [+p,+c] are all allowed to realise a feature set other than their own (i.e. [+p,–c]) in (38) to (40) suggests a version of morphology that considers the binding theoretic properties of a given position to be determined in the syntax independently of lexical insertion, for if this were not the case, the absence of a lexical exponent of [+p,–c] would result in long distance binding being ungrammatical altogether. Suppose then that morphology selects the most highly specified of two or more lexical entries all having feature matrices compatible with the properties of the position they are to spell out (as is generally assumed in late insertion models, of which Halle and Marantz's Distributed Morphology (Halle and Marantz, 1993) is the best known). Given a category that is to be co-referential with a non-subject co-argument (i.e. that is in a position with the values [–p,+c]), the availability of *hän itsensä*, which has exactly these properties, will block the insertion of the compatible but less highly specified *hän* [–p] or *itsensä* [+c] alone. In the case of a [–p,–c] position, both *hän itsensä* and *hän* have one matching feature value ([–p]), but *hän itsensä*'s [+c] feature renders it incompatible with the [–c] specification of the position, with the consequence that only *hän* may appear in these contexts, and by the same argument only *itsensä* will be able to occur in [+p,+c] positions. The effects of the principle of unique assignment (specifically the complementary distribution of *hän*, *itsensä* and *hän itsensä* in all contexts except [+p,–c]) therefore arise from the interaction of morphological spell-out rules with the lexically given feature values and the possibility of creating the composite category *hän itsensä* by simply combining the feature values of its components.

If this the correct articulation of what Trosterud means when he says that "each NP is assigned a full [±p,±c] matrix" when the lexical entries *hän* = [–p] and *itsensä* = [+c] are inserted in the syntactic structure (Trosterud, 1993:238), then the free variation in (38) to (40) is in fact completely unexpected. For at least one feature value of each of the three lexical

items that may appear in [+p,–c] contexts is in direct conflict with those of the position and in every case it is lexically determined feature values, not those assigned at the point of lexical insertion, that do not match. If the principle adopted in the last paragraph that predicted the distribution of forms in (35) to (37) by preventing *hän itsensä* from occurring in [+p,+c] and [–p,–c] contexts is valid, then this should not be possible.

To circumvent this problem, it could be argued that the principle of unique assignment is an irreducible principle of lexical organisation, rather than its effects being a surface reflex of the insertion of underspecified lexical forms into fully specified syntactic positions, as was suggested above. Accommodating the free variation in (38) to (40) in such a model still entails revising the condition on morphological spell-out rules that prevents lexical items from occupying a position with feature values that directly contradict those of the lexeme, perhaps to one that selects the lexeme with the fewest conflicting features. While this would correctly predict that both the [+p,+c] element *itsensä* and the [–p,–c] *hän* can spell out a [+p,–c] position, each having one matching and one conflicting feature value, it still predicts (incorrectly) that the [–p,+c] element *hän itsensä*, both of whose feature values contradict those of the position to be spelled out, should be impossible, since it will always be less optimal than both *itsensä* and *hän*. Even if there were a simple way of explaining this fact, the data in (41) and (43) present further problems, which are not as easily solved. Suppose that the intended reading of (41) and (42) is the one where the element printed in bold refers to *Maija*. In that case, the position it occupies is bound by a predication subject which is not its co-argument and hence has the features [+p,–c], which Trosterud claims is realisable as any of *itsensä*, *hänet* or *hänet itsensä*. However, as Trosterud himself notes, this pattern of co-reference is only possible in (42), with the only possible reading of (41) being that in which the undoubled reflexive is construed as co-referential with the embedded genitive subject *Pekan*.

(41) *Maija$_i$ käsk-i Peka-n$_j$ pes-tä itse-**nsä**$_i$
Maija[NOM]$_i$ order-PAST[3SG] Pekka-GEN$_j$ wash-INF$_1$ self-3.PX$_i$
Intended: 'Maija ordered Pekka to wash her' (after Trosterud, 1993:237)

(42) Maija$_i$ käsk-i Peka-n$_j$ pes-tä **[häne-t itse-nsä]**$_i$
Maija[NOM]$_i$ order-PAST[3SG] Pekka-GEN$_j$ wash-INF$_1$ s/he-ACC self-3.PX$_i$
Intended: 'Maija ordered Pekka to wash her' (after Trosterud, 1993:237)

This is indeed a strange state of affairs. The undoubled reflexive *itsensä* is not only less preferable than the doubled form *hänet itsensä* for this reading, it is not possible at all, despite having one feature in common with the position to be realised, unlike the doubled form, both of whose features are the opposite of those to be spelled out.

The reasons for this are intuitively fairly clear: consideration of (43), in which *itsensä* must be bound by the matrix subject, suggests that it is the availability of *Pekka* as a [+p,+c] antecedent in (41) that blocks binding by a more remote antecedent.

(43) Maija$_i$ käsk-i minu-n pes-tä itse-nsä$_i$
Maija[NOM]$_i$ order-PAST[3SG] I-GEN wash-INF$_1$ self-3.PX$_i$
'Maija ordered me to wash her' (after Trosterud, 1993:237)

While there is nothing in Trosterud's system of features that actually facilitates a formal account of this complementarity, one could envisage a system by which the lexical properties of the elements that may appear in a particular position could be exploited to disambiguate two available antecedents, but here again the data are at odds with the predictions of such a system. In (41) and (42), the possible antecedents have in common the property of being subjects and differ in that the embedded subject but not the matrix subject is a co-argument of the element in question. This being the case, it might be expected that the value of the [±p] feature, being common to both, would be ignored, with the [±c] feature being used to disambiguate the two readings: [+c] elements would be bound by the embedded subject and [–c] elements by the matrix subject, regardless of the value of their [±p] feature. However, this predicts that both *itsensä* and *hänet itsensä* should be bound by the embedded subject, with *hänet* alone being used to refer to the matrix subject. As we have seen, it is in fact the [±p] feature that is used to disambiguate, the [+p] *itsensä* being used when the anaphor is bound by a [+c] subject and the [–p] *hänet* and *hänet itsensä* being used when it bound by a [-c] subject.

2.2.5.2 Apparent Feature Mismatches in Grammatical Constructions

A second instance of complementarity breaking down arises in the grammar of speakers for whom the null possessor construction is more widely available than the undoubled reflexive.

For such speakers, the possessor in (44) can be object bound and hence have the same interpretation as (45).

(44) %Muistut-i-n professori-a$_i$ luenno-sta-**nsa**$_i$
remind-PAST-1SG professor-PAR$_i$ lecture-ELA-3.PX$_i$
'I reminded the professor about his/her lecture' (Trosterud, 1993:235)

(45) Muistut-i-n professori-a$_i$ **häne-n**$_i$ luenno-sta-**nsa**
remind-PAST-1SG professor-PAR$_i$ s/he-GEN$_i$ lecture-ELA-3.PX
'I reminded the professor about his/her lecture' (Trosterud, 1993:236)

Upon initial consideration, these data do not appear to pose any great problem to the theory as outlined so far, since the position occupied by the element printed in bold typeface is bound by a non-subject co-argument and hence has the feature specification [–p,+c] and the elements spelling out this position in the examples above both have feature matrices compatible with these values. Even speakers who accept (44) consider the exact match in (45) to be better and the only possible surprise is perhaps that *luennostansa*, being less highly specified than another form available in the lexicon, is only considered inferior rather than completely ungrammatical. What the model does not predict is that the reflexive should be able to behave differently from the possessive construction: (46) shows that an undoubled reflexive is not an option, even for speakers who accept (44).

(46) *Muistut-i-n professori-a$_i$ **itse-stä-nsä$_i$**
remind-PAST-1SG professor-PAR$_i$ **self-ELA-3.PX$_i$**
Intended: 'I reminded the professor about himself/herself'

Trosterud deals with this by suggesting that, for speakers who accept (44), *itsensä* has the lexical value [+c] as before, while N-*nsa* is fully unspecified, leading to overgeneration (Trosterud, 1993:240). Although no details are given of the precise consequences of such overgeneration, it seems that, by virtue of having no lexically determined features, N-*nsa* can spell out a wider range of feature matrices, including the combination [–p,+c], enabling it to function as an object bound anaphor in (44).

2.2.5.3 Ungrammatical Constructions with Matching Features

Allowing this kind of overgeneration to make certain forms available in positions for which they would otherwise not be eligible creates further problems, however, with data related to those just discussed. For if the features of the undoubled possessive suffix are such that it may be bound by a non-c-commanding co-argument for some speakers in a sentence such as (47), there is nothing in Trosterud's account as it stands to prevent it also being object bound in (48). The only possible reading for this sentence, however, even for speakers who accept (47), is the one in which *Maija* is interpreted as the possessor. In order for the anaphor to be interpreted as object bound, the doubled form must be used (49).

(47) %Esittel-i-n Arja-n_i miehe-lle-nsa_i
present-PAST-1SG Arja-ACC husband-ALL-3.PX
'I presented Arja to her husband' (Trosterud, 1993:240)

(48) Maija$_i$ esittel-i Arja-n_j miehe-lle-$nsä_{i/*j}$
Maija$_i$[NOM] present-PAST[3SG] Arja-ACC$_j$ husband-ALL-3.PX$_{i/*j}$
'Maija presented Arja to her (Maija's) husband'

(49) Maija$_i$ esittel-i Arja-n_j häne-$n_{*i/j}$ miehe-lle-nsä
Maija$_i$[NOM] present-PAST[3SG] Arja-ACC$_j$ s/he-GEN$_{*i/j}$ husband-ALL-3.PX
'Maija presented Arja to her (Arja's) husband'

The reason for this is intuitively clear: a subject binder with compatible φ-features, where present, must be chosen ahead of an object binder. Trosterud formalises this by introducing a "principle of prominent binder", favouring an antecedent which has more binding relations with a particular anaphor over one which has fewer, to regulate the overgeneration mentioned above. In (48), *Maija* bears both a [+p] and a [+c] relation to *miehellensä* and is therefore a more prominent binder than *Arjan*, which bears only a [+c] relation to the same element. In (47), on the other hand, there is no [+p,+c] antecedent available, with the result that the [+c] element *Arjan* is the most prominent binder. While this principle does indeed capture the intuition that subject binders are preferred to object binders, it is difficult to see how it is compatible with the mechanisms of lexical insertion on which the whole model relies, since it chooses not between possible exponents of a particular combination of feature values, but rather between possible sets of feature values for a given lexeme. Recall from section 2.2.5.1

above that the complementary distribution of *hän(en)*, *itsensä*/N-*nsa* and *hän itsensä/hänen* N-*nsa* was dependent on the assumption that the feature values of the position in which they were merged had been determined in advance of lexical insertion. Suppose then, that the derivation of (48) and (49) has reached the stage where a lexical item is to be selected to realise the object bound anaphor, which has the feature matrix [–p,+c], one of the possible exponents of which, for a speaker who accepts (47), is *miehellensä*. If this form is chosen, implementing the principle of prominent binder amounts to preventing the anaphor from taking on the negative value for its underspecified [±p] feature, just in case the subject of the sentence happens to be third person, a rather *ad hoc* stipulation.

2.2.6 Summary

One consequence of Trosterud's focus on the difference in interpretation associated with the doubling or otherwise of a possessive suffix is that in a wider range of constructions containing such morphemes is discussed than in either of the other papers reviewed in this chapter. While the derivation of doubled reflexives is not *per se* incompatible with Pierrehumbert's model, the restrictions that classical Binding Theory (Chomsky, 1981, Chomsky, 1986) imposes on such categories are such that they can never be introduced into a larger syntactic structure. As a projection of an anaphor, the doubled reflexive is subject to Principle A, which (roughly speaking) requires such categories to be bound in their minimal tensed clause. However, the doubling pronoun is subject to Principle B, which requires pronominals to be free in the same domain. The version of Binding Theory adopted by Trosterud facilitates an elegant account of the complementary distribution of the three forms discussed in short-distance binding contexts, but runs into difficulties in cases of long-distance binding where there is more than one compatible antecedent. Close scrutiny of the ways in which three kinds of such problematic data are accommodated reveals that, for all their intuitive appeal, they are rather *ad hoc* and, more seriously, not mutually compatible.

2.3 Toivonen (2000)

Underlying the papers by Pierrehumbert and Trosterud is the assumption that the relationship between the form and function of Finnish possessor agreement is biunique and each accordingly attempts to derive differences in the distribution of each suffix from the interaction of general principles of the language with the lexical properties of the elements with which it co-occurs in a given context. Toivonen's aim is the exact opposite, namely to show that such an account, attempting to discover a single set of lexical properties for the set

of possessive suffixes, is not possible and that a lexical split must be assumed, whereby each suffix is ambiguous between two different feature bundles. While the difference is minimal in the case of the first and second person affixes, consisting in the presence or otherwise of a feature PRED, the difference between the two sets of features realised as *–nsa* is more pronounced. Toivonen takes this and the fact that participial forms in *va/nut* allow only one of the two kinds of suffix as confirmation of this hypothesis.

Toivonen criticises three different kinds of uniform analyses of possessor agreement on three specific counts. First of all, she argues that regardless of whether the morphemes in question are treated as incorporated reflexive pronouns, incorporated pronouns with indeterminate binding theoretic status or agreement markers, no existing account can explain satisfactorily why it is that human pronouns are the only elements with which possessor agreement can occur in a local configuration. She then goes on to claim that they are also not able to predict accurately the optionality of first and second person pronouns, or the restrictions on the reference of third person possessors that depend on whether the suffix *–nsa* is doubled by an overt pronoun or not. In this section, I shall review her arguments, showing that many of the claims she makes concerning the empirical inadequacy of the papers by Pierrehumbert and Trosterud discussed above are in fact inadequately substantiated. While the stipulative element of each of these analyses is perhaps larger than is desirable, it turns out that her own analysis is far from exempt from the same criticism and in some respects relies on a greater degree of stipulation than the accounts to which she considers her own superior.

2.3.1 The Problem of Accounting for Special Status of Pronouns

According to analyses which consider possessive suffixes to be reflexives (of which the papers reviewed above are two examples), the morpheme *–nsa* in (50) is obligatorily bound by the sentential subject *Pekka*.

(50) Pekka$_i$ pese-e auto-a-nsa$_i$
Pekka[NOM]$_i$ wash-3SG car-PAR-3.PX$_i$
'Pekka is washing his (own) car' (Toivonen, 2000:590)

It is therefore possible in principle for possessor agreement to be bound by a non-pronominal[14]. Given this possibility, Toivonen considers the sentence in (51) to be problematic, since the very same NP is, for some reason, not available as a binder, despite occupying a position from which a pronoun could bind the same affix (52).

(51) Minä pese-n Peka-n auto-a(*-nsa)
I[NOM] wash-1SG Pekka-GEN$_i$ car-PAR(*-3.PX$_i$)
'I am washing Pekka's car' (Toivonen, 2000:590)

(52) Minä pese-n häne-n$_i$ auto-a*(-nsa$_i$)
I[NOM] wash-1SG s/he-GEN$_i$ car-PAR*(-3.PX$_i$)
'I am washing his car'

While it is true that a theory that treats possessor agreement as anaphoric cannot on its own provide a solution to this problem, Pierrehumbert and Trosterud do consider these data and offer explanations of them in terms of independently motivated principles of grammar, indeed, both analyses actually predict any kind of doubling to be ungrammatical and invoke specific rules to deal with the exception to this in sentences such as (52). Recall that in Pierrehumbert's model all possessors, whether they be full NPs, pronouns or anaphors originate in the specifier position of the possessum, with the result that if only one such position is available, the co-occurrence of more than one such exponent of the possessor will be impossible, unless a doubling rule applies. Trosterud, on the other hand, invokes the Case Filter, suggesting that the possessive suffix absorbs the genitive Case normally assigned to the possessor, such that *Pekan* in (51) cannot get Case. Of course, in order for these analyses to work, Pierrehumbert must prevent this particular doubling rule from applying to anything other than human pronouns and Trosterud must allow pronouns to evade the Case Filter, but of the three accounts, Toivonen's is without question the most stipulative. For even if they offer no reason as to why these rules apply only to a specific set of categories, Pierrehumbert and Trosterud at least make reference to independently motivated principles of grammar. Toivonen, on the other hand, simply proposes that the phonetic string *–nsa* corresponds to two distinct lexical entries, one of which has a "pronominal feature", the other of which does not. This feature does not enable the affix to function as a pronoun itself, however, but is rather

[14] It can also be bound by a non-human subject (cf. (17) above), although Toivonen's choice of example does not, of course, show this.

just a diacritic that "prevents it from agreeing with anything but pronouns" (Toivonen, 2000:599). Such a proposal does no more than formalise the statement that *–nsa* may occur with or without an overt pronoun and as such is not insightful.

2.3.2 Accounting for Null First and Second Person Subjects

If possessive suffixes are incorporated reflexive pronouns, then there must be a null possessor occupying the same position as *minun* in the version of (53) in which that pronoun is not overtly expressed.

(53) Pekka näke-e (minu-n) kissa-ni
Pekka[NOM] see-3SG (I-GEN) cat-1SG.PX
'Pekka sees my cat' (Toivonen, 2000:591)

Toivonen claims that adopting this analysis would entail abandoning the idea that the subject binds a co-referential possessive suffix in a sentence such as (54) when *minun* is omitted, since, here too, one would have to assume a null possessor (presumably in the interests of uniformity).

(54) Minä näe-n (minu-n) kissa-ni
I[NOM] see-1SG (I-GEN) cat-1SG.PX
'I see my cat' (Toivonen, 2000:591)

But if *pro* can locally bind a possessive suffix in (54), then it should also be able to bind the third person suffix *–nsa* in (55). This sentence is not, however, grammatical.

(55) *pro_i auto-nsa$_i$ on ruma
car-3.PX be.3SG ugly[NOM.SG]
Intended: 'His/her car is ugly' (Toivonen, 2000:591)

For an analysis that treats the suffixes as incorporated pronouns of indeterminate binding theoretic status, it is of no consequence whether a binder is available for the suffix or not. In this case, Toivonen claims, any overt pronoun would have to be construed as an "independent pronominal adjunct ... added for emphasis" (Toivonen, 2000:592) and readily acknowledges that such an analysis would accommodate the data with first and second person possessors. Again, it is the third person genitive pronouns *hänen* and *heidän* that do not fit into this model, since they do not merely add emphasis, but actually change the meaning of the

sentence in which they occur when overtly present. Similarly for an analysis construing the possessive suffixes as agreement morphemes, the optionality of first and second person pronouns can be maintained, if one admits the possibility of phonetically null counterparts of *minun*, *sinun*, *meidän* and *teidän*, but this analysis cannot be extended to the third person, since it is anaphoric (and may refer to a non-human possessor) when null, but pronominal (and obligatorily human) when overt.

The basis of Toivonen's objection to uniform analyses in this regard therefore amounts to the observation that third person possessors do not behave in the same way as the first and second person possessors whose distribution they are able to account for. Criticism of Trosterud in this respect is misplaced, however, since the greater part of his paper is devoted to examining the effects on doubling on the possible interpretations of a construction, indeed, in concentrating on the third person in this way, he neglects to discuss environments in which a third person suffix would have to be doubled but a first or second person possessor could be null. Pierrehumbert accounts for the different properties of doubled and undoubled third person constructions by suggesting that they are derived in completely separate ways. A construction with a doubled possessive suffix is introduced into the derivation as a pronoun (which is subsequently targeted by a doubling rule) and hence has the pronominal property of having to be free in its tensed clause. An undoubled suffix, on the other hand, is introduced into the derivation as a reflexive element in its own right, rather than as the output of a doubling rule, and hence has the anaphoric property of requiring a binder. The rule of pronoun deletion invoked to account for the fact that first and second person suffixes may have pronominal interpretation even in the absence of an overt pronoun is, of course, stipulative to the extent that there is no reason why it should apply only to first and second person pronouns rather than to any other combination, but it is not unique to the possessive construction and as such is independently motivated. Furthermore, if (as her critique seems to imply) Toivonen expects elements within a paradigm to vary only along the dimensions of person and number, then Pierrehumbert's rule will not be reducible to any more basic principle and the criticism is justified. However, as we shall now see, Toivonen's own analysis also fails to live up to these criteria, but without the compensation of capturing the intuition that it is the same principle at work in finite clauses as in possessor constructions.

2.3.3 The Lexical Split

Toivonen argues that, since (in her view) no account of Finnish possessor agreement that treats it as a uniform phenomenon can account for the full range of facts, a lexical split must be posited, whereby each of the phonetic strings corresponds to not one but two morphological feature bundles. In the case of the first and second person, the only difference between what she calls the pronominal suffix and the agreement suffix is that the former has a PRED feature, the value of which is its "semantic form" (Toivonen, 2000:594fn18), which the latter does not. Since an overt pronoun also has a PRED feature, it can only co-occur with the agreement suffix, for a "functional uniqueness violation" would occur if it tried to unify with another category with a PRED feature[15]. In order to account for the availability of non-human and non-pronominal antecedents for the pronominal variant of the third person suffix *–nsa*, the differences between its feature matrix (56) and that of the corresponding agreement affix (57) must be assumed to be more substantial than is the case with first and second person pronouns. (The abbreviations for the features other than PRED are as follows: PERS = person, SB = must be subject bound, DEF = definite, PRO = the 'pronominal feature' mentioned in section 2.3.1 above).

(56) *Pronominal* –nsa

$$\begin{bmatrix} \text{PRED} & \text{'pro'} \\ \text{PERS} & 3 \\ \text{SB} & + \\ \text{DEF} & + \end{bmatrix}$$

(57) *Agreement* –nsa

$$\begin{bmatrix} \text{PERS} & 3 \\ \text{PRO} & + \\ \text{DEF} & + \end{bmatrix}$$

(Toivonen, 2000:599-600)

In itself, of course, this is not a problem. If the two matrices above constitute independent lexical entries with a fortuitously identical phonetic form, there is no more reason for them to share grammatical properties than there is for the English homophones *break* and *brake* to have similar feature matrices and Toivonen even goes so far as to adduce support for the hypothesis of a lexical split from these differences. However, given that one of her criticisms of the other analyses she reviews is that the suffixes are not uniformly pronominal or anaphoric across all three persons (see section 2.3.2 above), it would seem reasonable to expect the binding theoretic properties of the suffixes in Toivonen's analysis within each set

[15] Whether or not a category has a PRED feature in LFG corresponds roughly to whether or not it has a θ-role in Government-Binding/Minimalist syntax and a "functional uniqueness violation" corresponds to a violation of the θ-criterion.

at least, to be the same. The lexical entry given for the pronominal suffixes *–ni* and *–si* is as follows.

(58) *Pronominal* –ni/–si

$$\begin{bmatrix} \text{PRED} & \text{'pro'} \\ \text{PERS} & 1/2 \\ \text{NUM} & \text{SG} \end{bmatrix}$$

(Toivonen, 2000:597)

The presence of a NUM feature in (58) but not in (56) or (57) is simply a reflection of the fact that singular and plural are not distinguished in the third person and is as such insignificant. Similarly, that there is no DEF feature in this matrix is of no great consequence either, since first and second person pronouns are by definition definite and the feature would thus have the same value as that of *–nsa*, but the absence of an SB feature is more problematic. Example (53) shows that the first (and second) person pronominal suffixes need not be subject bound and hence cannot have the feature value [SB +] as the third person does (although (54) shows that it may be so bound and therefore cannot have the value [SB –] either). Allowing first and second person pronominal affixes to differ from the third person affix in this respect amounts to saying that the former may be pronominal or anaphoric but that the latter must be anaphoric, with the result that Toivonen's own analysis is not able to improve upon what she perceives to be the shortfalls of the uniform accounts.

2.3.4 Possessor Agreement on Non-Finite Verbs

Toivonen finds further evidence for a lexical split of the kind just described in the participial construction, which may also host the possessive suffixes under certain conditions. While most non-finite forms which exhibit possessor agreement may carry both pronominal and agreement suffixes, participles in *va/nut* can only host the pronominal forms.

(59) He_i/Poja-t_i sano-i-vat palaa-va-nsa_i iakkoin
they_i/boy-PL[NOM]$_i$ say-PAST-3PL come-PTCP-3.PX_i soon
'The boys said they would return soon' (Toivonen, 2000:605)

That the agreement forms are not grammatical can be seen from the fact that a possessive suffix cannot co-occur with an overt genitive pronoun in a local configuration.

(60) Minä näe-n hei-dän tule-va-n[16]/*-nsa
I[NOM] see-1SG they-GEN come-PTCP-DFT/*-3.PX
'I see that they are coming' (after Toivonen, 2000:605)

Were it not for the existence of a lexical split, the differences in the behaviour of participial forms of the verb and possessed nominals with respect to possessor agreement would be quite unexpected. As it is, Toivonen argues, they follow straightforwardly from the statement that "participles can host pronominal suffixes, but not agreement suffixes" (Toivonen, 2000:605).

Leaving aside the question of why it should be that participles are not able to host agreement suffixes (an issue which Pierrehumbert at least addresses, albeit not entirely successfully), Toivonen's claim that positing a lexical split can account for the distribution of possessive suffixes in the participial construction is oversimplified at best and plain inaccurate at worst. As already observed with respect to the feature matrix proposed for the undoubled first and second person suffixes (58), the absence of a specification for the feature [SB] should allow them to occur both in environments in which they are bound and environments in which they are free. However, while both of these possibilities are realises in the possessive construction (see example (53) above), the same suffixes behave as if they had a positive value for their [SB] feature.

(61) *Pekka näk-i tule-va-ni
Pekka[NOM] see-PAST[3SG] come-PTCP-1SG.PX
Intended: 'Pekka saw me coming'

While a participle with possessor agreement may not be immediately preceded by a genitive pronoun, the subject of the matrix clause must be able to bind the possessive suffix attached to it. In order to account for the fact that first and second person affixes must be bound in this construction, Toivonen's analysis would have to posit a third set of suffixes with the feature [SB +] throughout the paradigm. It is true that her analysis is sufficiently unconstrained as to admit this possibility, but the fact that the suffixes attached to the participle do not have the

[16] Where the verb in the participial construction does not carry a possessive suffix, it takes the ending *–n* instead, taken here to be the result of a default rule and glossed as such. An alternative interpretation is given in section 6.1 of chapter four.

same properties as either the pronominal or agreement suffixes posited for possessive constructions weakens the argument in favour of a split in the first place.

In conclusion, Toivonen's paper, whilst providing a useful overview of the problems associated with the data to be accounted for, does not offer any novel insight into the mechanisms underlying them and indeed relies on stipulation to a greater extent than either of the other analyses reviewed. It is, however, worth noting at this point that the consideration of non-finite verb forms introduces another dimension of complexity into the discussion which neither Pierrehumbert's nor Trosterud's model can accommodate in a straightforward way. In the next section, I conclude this review of the existing literature on possessor agreement by considering how compatible Toivonen's data involving the participial construction are with the assumptions underlying each of the other two analyses, before moving on in section 3 to a more detailed examination of possessor agreement in a range of non-finite verb forms and proposing an analysis that derives the differences in the behaviour of the possessive suffixes, not from lexically determined features, but from properties that they acquire as they are introduced into the derivation.

2.4 Problems of Agreeing Non-Finite Verbs for Pierrehumbert and Trosterud

Although Trosterud does not discuss possessor agreement other than in the context of nominal constructions, the pattern of agreement attested in the participial construction is exactly what an analysis according to which possessive affixes are Case-marked would predict. Similarly, as was observed in 2.2.3 above, Trosterud, in concentrating on third person anaphors, neglects to account for those contexts in which first and second person anaphors are truly pronominal and do not require a binder at all, with the consequence that his model, although not able to capture the full range of possibilities for possessor-noun constructions, does make the right predictions for the participial construction. The problem that this construction presents for Trosterud's analysis arises in connection with the exemption of pronouns from the Case-filter, advocated to account for the co-occurrence of possessor agreement and overt genitive pronouns in a local configuration. Assuming that this exemption does not apply selectively according to the construction in question, there must be something else barring pronouns from such contexts and it is not immediately obvious from the rest of Trosterud's analysis what this property might be.

For Pierrehumbert too, the properties of the agreement affixes in the participial construction (obligatory binding by a c-commanding antecedent, in complementary distribution with overt genitive pronouns) are exactly what her basic analysis of possessive suffixes as reduced reflexives generated in the same position as an overt genitive possessor would lead us to expect. Here again, it is the rule invoked to account for the doubling of possessor agreement by overt genitive pronouns that leads to the wrong predictions in the absence of a second stipulation to prevent it applying in these cases. Pierrehumbert's solution to this problem is to stipulate that the doubling rule applies only to genitives in the specifier position of nominal categories (that is nouns and adjectives, but not verbs). A genitive subject occupying the specifier position of a participle would therefore not be subject to the doubling rule, even when pronominal.

The problem with this analysis is that it oversimplifies the picture. As will be shown in the next section, there are non-finite verbal constructions in which possessor agreement may co-occur with an overt pronoun.

3 POSSESSOR AGREEMENT IN NON-FINITE CLAUSES

The analysis developed in the remainder of this chapter draws on data from four[17] non-finite verb forms that exhibit possessor agreement. In addition to the participial construction already mentioned, the temporal adjunct, the agent construction and the rationale adjunct will be considered and I begin by outlining the relevant characteristics of each for the analysis which follows.

The verb form of the participial construction is formed by adding *–va* (present) or *–nut*[18] (past) to the verb stem according to the temporal relation of the event to that of the matrix clause. It is equivalent in meaning to, and can always be replaced by, a finite embedded clause.

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[17] Two other agreeing infinitives will not be considered here. In common with the temporal adjunct, the manner adjunct is a form of the second infinitive and may optionally display possessor agreement. When it does, it is subject to the same rules as the temporal adjunct. There are also forms of the third infinitive other than the agent construction, which, for some speakers, may also optionally take possessor agreement when in an adjunct position. Such forms are considered archaic and will therefore not be discussed here either.

[18] The morpheme *–nut* is subject to considerable allomorphic variation, the precise details of which need not concern us here. All of these allomorphs will be glossed as –NUT.

(62) He sano-i-vat tul-lee-nsa jo eilen
they[NOM] say-PAST-3PL come-NUT-3.PX already yesterday
'They said they had already come yesterday' (Karlsson, 1999:203)

(63) He sano-i-vat että he tul-i-vat jo eilen
they[NOM] say-PAST-3PL that they[NOM] come-PAST-3PL already yesterday
'They said they had already come yesterday'

The temporal adjunct is morphologically the second infinitive (created by adding *–de* to a verb stem) inflected for inessive case. It is basically equivalent in meaning to a finite clause introduced by *kun* 'when'.

(64) Minu-n korja-te-ssa-ni innokkaasti katto-a tiile-t lentele-vät
I-GEN fix-INF$_2$-INE-1SG.PX enthusiastically roof-PAR tile-PL[NOM] fly-3PL
'While I fix a roof enthusiastically, tiles fly' (Koskinen, 1998:307)

(65) Kun minä korjaa-n innokkaasti katto-a tiile-t lentele-vät
when I[NOM] fix-1SG enthusiastically roof-PAR tile-PL[NOM] fly-3PL
'While I fix a roof enthusiastically, tiles fly'

The agent construction is a form of the third infinitive, being formed by adding *–ma* and a case ending to a verb stem and is equivalent to a clause introduced by one of the accusative relative pronouns *mikä* 'which' and *jonka* 'whom', relativising a direct object.

(66) Meidä-n osta-ma-mme kuka-t o-vat kaunii-t
we-GEN buy-INF$_3$-1PL.PX flower-PL[NOM] be-3PL beautiful-PL[NOM]
'The flowers we bought are beautiful'

(67) Kuka-t, mi<t>kä me ost-i-mme, o-vat kaunii-t
flower-PL[NOM] which<PL[ACC]> we[NOM] buy-PAST-1PL be-3PL beautiful-PL[NOM]
'The flowers we bought are beautiful'

The rationale adjunct takes the form of the first infinitive (in *–ta*) inflected for translative case[19]. It has a range of meanings that are difficult to render by a single English gloss, but can often be translated as 'in order to …'.

(68) Sinä lähd-i-t Hollanti-in levä-tä-kse-si
you[NOM] go-PAST-2SG Holland-ILL rest-INF_1-TRNS-2SG.PX
'You went to Holland in order to rest'

The way in which the possessive suffixes combine with these non-finite verb forms is discussed in the next section for the temporal adjunct and agent construction and in section 3.2.3.1 for the participial construction and rationale adjunct.

3.1 Patterns of Agreement in the Temporal Adjunct and Agent Construction

The behaviour of two of these four constructions with respect to possessor agreement is the same as for possessive constructions. In the temporal adjunct and agent constructions, agreement is obligatory with human pronominal subjects, but not possible with full NP subjects (compare (69) and (70) with (64) and (66)).

(69) Mati-n korja-te-ssa(*-nsa) innokkaasti katto-a tiile-t lentele-vät
Matti-GEN fix-INF_2-INE(*-3.PX) enthusiastically roof-PAR tile-PL[NOM] fly-3PL
'While Matti fixes a roof enthusiastically, tiles fly'

(70) Poik-i-en osta-ma(*-nsa) kuka-t o-vat kaunii-t
boy-PL-GEN buy-INF_3(*-3.PX) flower-PL[NOM] be-3PL beautiful-PL[NOM]
'The flowers the boys bought are beautiful'

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[19] To the extent that the temporal adjunct, agent construction and rationale adjunct are marked for case, it is undeniable that these forms exhibit nominal qualities and a case could therefore be made for considering them to be subject to Pierrehumbert's doubling rule. However, it would be wrong to classify them as nominalisations, as they are modified by the same adverbials as in finite clauses and all except the verb in the agent construction are clearly able to assign the full range of object cases. (In the case of the agent construction, which is basically an object relative, this latter diagnostic is not available, as the element to which case would be assigned is null. Those forms of the third infinitive in *–ma* which do take overt direct objects clearly do assign the full range of object cases.) In both these respects then, non-finite verb forms differ from "true" nominalisations in *-minen*, any overtly expressed arguments of which are always in the genitive and which are modified by the same adverbials as other eventive nouns. See Koskinen (1998:Ch.4) for detailed discussion.

First and second person pronouns may be omitted (71-72) and overt third person pronouns cannot be co-referential with a c-commanding antecedent (73), while null third person pronouns must be (74). An unbound third person subject must be overt, even in the presence of agreement (75).

(71) Vaimo-ni heräs-i (minu-n) tul-le-ssa-ni koti-in
wife-1SG.PX wake-PAST[3SG] (I-GEN) wake-INF$_2$-INE-1SG.PX home-ILL
'My wife woke up when I came home' (Karlsson, 1999:187)

(72) Miksi e-tte aj-a (teid-än) hankki-ma-lla-nne venee-llä?
why NEG-2PL drive-3SG (you.PL-GEN) get-INF$_3$-ADE-2PL.PX boat-ADE
'Why don't you go in the boat you got?' (Karlsson, 1999:209)

(73) Pulmu$_i$ on näh-nyt kaike-n mahdollise-n häne-n$_{*i/j}$
Pulmu[NOM]$_i$ be[3SG] see-NUT everything-ACC possible-ACC s/he-GEN$_{*i/j}$
hoita-e-ssa-an usein naapuri-n kakso-si-a
care-INF$_2$-INE-3.PX often neighbour-GEN twin-PL-PAR
'Pulmu has seen everything possible while s/he (someone else) has been taking care of the neighbour's twins' (after Koskinen, 1998:308)

(74) Maija$_i$ mö-i osta-ma-nsa$_{i/*j}$ auto-n
Maija[NOM]$_i$ sell-PAST[3SG] buy-INF$_3$-3.PX$_{i/*j}$ car-ACC
'Maija sold the car she (herself) bought'

(75) *(Hän-en) osta-ma-nsa auto on sininen
*(s/he-GEN) buy-INF$_3$-3.PX car[NOM] be[3SG] blue[NOM.SG]
'The car s/he bought is blue'

As has already been observed, this pattern is also similar, although not identical, to the subject-verb agreement found in finite clauses and the functional similarities between these non-finite clauses and certain types of finite embedded clause suggest that the same mechanisms may be at work in both types of construction. If parallelisms of this kind are to be pursued, however, it must be explained why only human pronouns may trigger possessor

agreement, whereas both pronouns and full NPs may trigger agreement on a finite verb, and why overt third-person nominative pronouns in finite clauses may be bound by a c-commanding antecedent while overt third-person genitive possessors must be free.

Neither of these problems is insuperable. A possible solution to the first question is to stipulate that only pronouns have person features in Finnish, *hän* 'he/she' and *he* 'they (human)' (in their various case forms) differing from full NP arguments in that the former are valued for third person, whereas the latter have no person feature at all. The paradigm of subject-verb agreement in finite clauses, in which third person pronouns and full NP arguments trigger the same agreement, whilst constituting an apparent counterargument to this hypothesis, could be accommodated by the morphological component: a default rule would specify that an unvalued person feature on finite T is spelled out as third person, whereas an unvalued person feature in the equivalent position in a non-finite clause would be spelled out as *–∅* when part of the string V-*de-ssa*-[φ:] (i.e. in the temporal adjunct construction) and *–n* elsewhere.

The differences between the set of available antecedents for overt third person pronouns also follows if the domain in which restrictions on co-reference apply is the minimal tensed clause, as is the case in traditional Binding Theory. A finite clause introduced by a complementiser will constitute such a domain and a pronominal subject of such a clause may therefore be co-referential with a c-commanding element in the matrix clause. The binding domain of the non-finite clause, on the other hand, is the matrix clause in which it is embedded, with the consequence that co-reference of any pronoun in the embedded clause (including a genitive subject) with a c-commanding antecedent in the matrix clause is ungrammatical[20].

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[20] Note that Binding Theory alone does not predict that null third person subjects should behave any differently from their overt counterparts. As a comparison of (i) and (ii) shows, they must be bound in clauses of both types.

(i) Matti$_i$ kadott-i hattu-nsa, kun *pro*$_{i/*j}$ ol-i loma-lla
Matti[NOM]$_i$ lose-PAST[3SG] hat-3.PX when be-PAST[3SG] holiday-ADE
'Matti lost his hat, when he (himself) was on holiday'

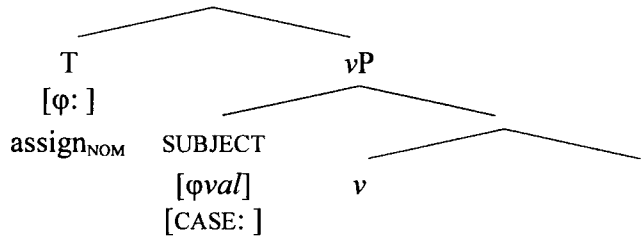
(ii) Matti$_i$ kadott-i hattu-nsa *pro*$_{i/*j}$ ol-e-ssa-nsa loma-lla
Matti[NOM]$_i$ lose-PAST[3SG] hat-3.PX be-INF$_2$-INE-3.PX holiday-ADE
'Matti lost his hat, when he (himself) was on holiday'

An explanation of why this should be the case in non-finite clauses will be given in section 3.3, and in section 2.3.3 of chapter six this analysis will be extended to finite clauses.

3.2 An Agree-Based Analysis of Possessor Agreement

According to the analysis of subject-verb agreement in finite clauses of Chomsky (2000, 2001) discussed in section 1 of chapter two, the φ-features of verbs and auxiliaries are a property of a probe T and, being uninterpretable on that head, enter the derivation unvalued. In order for the derivation to converge at LF, such features must enter into an Agree relation with a goal bearing their interpretable counterparts, in the canonical case the nominal category in Spec*v*P (76). A goal is only active (able to enter into the Agree relation) if it does not have a value for Case and a by-product of the valuing and checking of T's φ-features is the assignment of nominative Case to the subject.

(76)



In the light of the similarities in the patterning of subject-verb agreement in finite and non-finite clauses, a reasonable first hypothesis is that the same kind of Agree operation is also responsible for possessor agreement on non-finite verbs. This section examines distributional evidence for the existence of a head in non-finite clauses analogous to the T of finite clauses and shows that this is also the structure that emerges if Pierrehumbert's doubling rule is recast in minimalist terms and hence is able to account for the same range of data as that theory covers. However, it is also shown not to be able to account for the patterns of agreement in the participial construction and rationale adjunct, opening the way for an alternative analysis to be pursued in section 3.3.

3.2.1 Evidence for a Functional Head above *v*P

The position of adverbials such as *aina* 'always', *usein* 'often', *heti* 'immediately', *pian* 'soon', standardly assumed to adjoin to *v*P, suggests that there is a functional head above this projection triggering raising of non-finite verb forms. In all the constructions presented above except the agent construction[21], these adverbials follow the non-finite verb, suggesting that there is a head to the left of *v*P triggering movement of the verbal complex out of *v*P.

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[21] In the agent construction these adverbs precede the non-finite verb, but there are good reasons to believe that this is due to a poorly understood but empirically robust condition requiring the non-finite verb and the noun it modifies to be adjacent. See Koskinen (1998:§§3.2.3&4.4.3) for details.

(77) *Participial Construction*

Minä tiedä-n ol-lee-ni usein sairas

I[NOM] know-1SG be-NUT-1SG.PX often ill

'I remember often being ill' (after Karlsson, 1999:203)

(78) *Temporal Adjunct*

Pulmu on näh-nyt kaike-n mahdollise-n hoita-e-ssa-an

Pulmu[NOM] be.3SG see-NUT everything-ACC possible-ACC care-INF_2-INE-3.PX

usein naapuri-n kakso-si-a

often neighbour-GEN twin-PL-PAR

'Pulmu has seen everything possible taking care of the neighbour's twins'

(Koskinen, 1998:308)

(79) *Rationale Adjunct*

Möki-lle päas-tä-kse-en aina viikonlopu-ksi, Leo lopetta-a

cottage-ALL get-INF_1-TRNS-3.PX always weekend-TRNS Leo[NOM] stop-3SG

perjantais-i-n työ-nsä kahde-lta

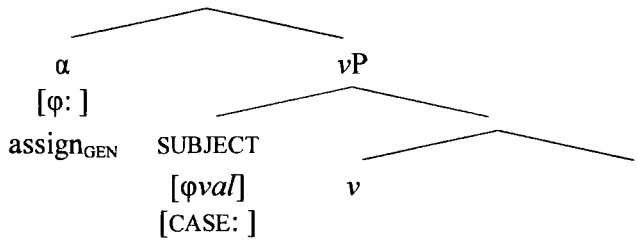
Friday-PL-INS work-3.PX two-ABL

'In order to always get to the cottage for the weekend, Leo quits work at two on Fridays' (after Koskinen, 1998:299)

Let us call the head triggering this movement α and suppose, for want of evidence to the contrary, that it has unvalued φ-features and is thus a probe[22]. This raises the question of which goals may enter into an Agree relation with α. Extending the parallelism between finite and non-finite clauses, a reasonable first hypothesis is to suppose that active goals are nominal categories without Case. However, it is clear that if α assigns Case, it is not nominative but genitive, since this is the morphological form taken by overt, non-quirky subjects of non-finite clauses. If these hypotheses are correct, then the structure of non-finite clauses with possessor agreement will be homomorphous with the structure in (76).

[22] The presence of a functional projection above the VP of non-finite clauses in Finnish was first suggested by Vainikka (1989). See also Manninen (2003) for a minimalist analysis of the relationship between functional heads and adverbials in Finnish.

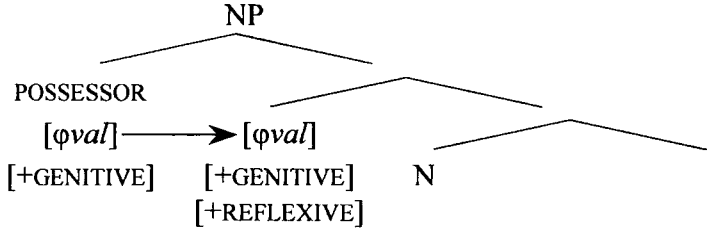
(80)



3.2.2 Recasting Pierrehumbert's Doubling Rule in Minimalist Terms

Recall from section 2.1.2 above that Pierrehumbert accounted for the co-occurrence of possessor agreement with overt pronominal possessors by means of a doubling rule targeting genitive pronouns. It is a fairly straightforward matter to replicate this analysis using the machinery of contemporary syntactic theory, as its purpose is the same as that of the operation Agree, namely, to generate copies of the φ-features of a nominal category, the only difference between possessor agreement and subject-verb agreement being the Case of the goal (nominative in finite clauses, genitive in possessor constructions). There is, however, an important difference between Pierrehumbert's doubling rule and Chomskyan Agree, namely that the copy created by the former is in the SpecNP position of the possessum (81), whereas the features valued by the nominative subject of a finite clause are situated on the clausal head T (76).

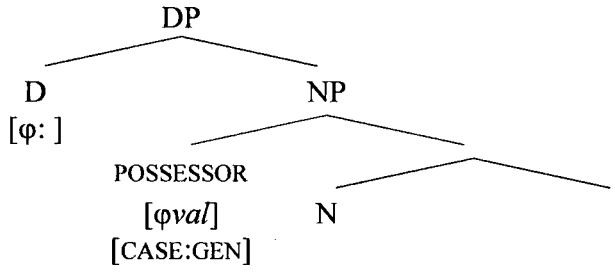
(81)



The difference between the two is only important in Pierrehumbert's analysis to the extent that it distinguishes positions in which reflexives are spelled out as possessive suffixes alone from those in which they are realised as the full inflected form of *itse* and if this allomorphy rule can be dispensed with, then there is little to prevent (81) being recast in the mould of (76). If unvalued features may only probe downwards, then taking Pierrehumbert's reflexive copy of the genitive pronoun in (81) to be a probe means firstly, that it must be a head and secondly, that the possessor must be situated further down the structure. The step from (81) to (82) (with subsequent movement of the possessor to SpecDP) draws on the widely accepted proposal that NPs are dominated by a D-head and is hardly controversial from a theoretical point of view. Furthermore, it circumvents the problem of justifying the otherwise unusual

movement of a head to a specifier position within its own maximal projection (the cliticisation in (81) of the reflexive to N).

(82)



Recasting Pierrehumbert's doubling rule in terms of Chomskyan Agree therefore provides independent support for the existence in the possessive construction of a functional head with φ-features spelled out by the possessive suffixes and the fact that the patterns of agreement in this construction are the same as those found in the temporal adjunct and agent construction suggests that the D in (82) is the same head as the α in (80).

3.2.3 Problems with the Participial Construction and Rationale Adjunct

3.2.3.1 Patterns of Agreement in the Participial Construction and Rationale Adjunct

While this analysis captures similarities in the agreement patterns found in a range of constructions (finite clauses, possessive constructions and two non-finite verb forms, the temporal adjunct and the agent construction), it cannot provide a satisfactory account of the participial construction and rationale adjunct. Of these, only the participial construction can ever have a pronominal subject, in which case the non-finite verb takes the default ending *–n* and may not exhibit possessor agreement with the genitive subject.

(83) Eero muista-a minu-n soitta-nee-n/*-ni haitaria-a
Eero[NOM] remember-3SG I-GEN play-NUT-DFT/*-1SG.PX accordion-PAR
'Eero remembers me playing the accordion' (after Koskinen, 1998:133)

The relationship between possessor agreement and null subjects is also significantly different in these constructions from the relationship between subject-verb agreement and null subjects. Whereas omission of the subject of finite clauses, when possible at all, is always optional, the presence of possessor agreement in the rationale adjunct and participial construction precludes the possibility of an overt subject as a comparison of examples (62) and (68), repeated here as (84) and (85) with close finite-clause counterparts (86) and (87) shows.

(84) He_i sano-i-vat (*hei-dän$_j$) tul-lee-nsa jo eilen
they[NOM]$_i$ say-PAST-3PL (*they-GEN$_j$) come-NUT-3.PX already yesterday
'They said they (someone else) had already come yesterday' (Karlsson, 1999:203)

(85) (Sinä) lähd-i-t Hollanti-in (*sinu-n) levä-tä-kse-si
(you[NOM]) go-PAST-2SG Holland-ILL (*you.SG-GEN) rest-INF$_1$-TRNS-2SG.PX
'You went to Holland in order to rest'

(86) He sano-vat, että (he) tul-i-vat eilen
they[NOM] say-3PL that (they[NOM]) come-PAST-3PL yesterday
'They say that they came yesterday'

(87) (Sinä) lepäs-i-t, kun (sinä) lähd-i-t Hollanti-in
(you.SG[NOM]) rest-PAST-2SG when (you.SG[NOM]) go-PAST-2SG Holland-ILL
'You rested when you went to Holland'

In finite clauses, in which the presence or absence of an overt pronoun has no effect on the grammaticality (or even the interpretation[23]) of the sentence, it is a simple matter to posit an optional deletion rule or a null pronoun, identical to its overt counterpart in all respects except its phonetic features to account for the patterns in (86) and (87)[24]. For a construction in which overt and null subjects do not have the same distribution, the two must differ in more than just their phonetic properties, if the assumption that the narrow syntax makes reference only to syntactic features is to be retained.

The fact that the rules governing the interpretation of the sentences in (84) to (87) above concern issues of co-reference suggests that overt and null subjects could be subject to different principles of the Binding Theory. The null embedded subject in (84) and (85), being obligatorily bound by the matrix subject, therefore appears to be an anaphor, but the data

[23] Unlike classical *pro*-drop languages such as Spanish and Italian, Finnish overt pronouns need not be focussed in any way. Such interpretational differences as there are between versions of the same sentence with and without an overt subject concern sociolinguistic phenomena such as register. First and second person null subjects are more common in formal registers of Finnish than in colloquial varieties (although this itself may be connected with agreement, as the verbal paradigm of colloquial Finnish is less rich than that of the standard language).

[24] Which of these possibilities is correct will be discussed in chapter six.

motivating Pierrehumbert's analysis of possessive suffixes as reduced reflexives suggest that this is unlikely, since it cannot be replaced by a form of *itse*, inflected or otherwise, either.

(88) Hän usko-o (*itse-nsä/-n) ole-va-nsa oikeassa
He[NOM] believe-3SG (*self-3.PX/-GEN) be-VA-3.PX right
'He believes himself to be right' (after Pierrehumbert, 1980:609)

3.2.3.2 A Movement Analysis of Long Distance Agreement with the Matrix Subject

It seems then that possessor agreement in the participial construction and rationale adjunct is not the result of a local relation between unvalued φ-features of a Case-assigning head and a null or deleted pronoun or anaphor in the non-finite clause. By way of alternative, we could consider a model in which it is triggered directly by the subject of the matrix clause which must in any case be co-referential with the null category in question. Assuming that the unvalued φ-features on α cannot probe upwards into the matrix clause[25], pursuing this idea entails adopting an analysis in the spirit of Hornstein (1999), whereby co-reference of matrix and embedded subjects is effected by assuming the two positions to be part of a movement chain. In this case, the subject would be first-merged in the non-finite participial clause, where it would receive a θ-role and value the uninterpretable φ-features of α before moving to the higher clause, where it would receive a second θ-role from the matrix verb and value the φ-features of T.

Hornstein's analysis of control as movement is by no means universally accepted, and while there is good reason to believe that it may be more easily applicable to non-finite constructions in Finnish than to many languages (specifically, the counterparts of the Icelandic data in Sigurðsson (1991), commonly cited by opponents of Hornstein's proposals as evidence that PRO must be Case-marked and hence part of a separate chain from its controller, are not grammatical in Finnish), there is equally good reason to believe that it is not compatible with this version of Agree. Firstly, the structural relation of the subject to the non-finite verb is the same regardless of whether the matrix and embedded subjects end up being co-referential or not, with the result that the patterns of agreement should be the same whether the subject remains in situ (and is disjunct in reference from the matrix subject) or moves to the matrix clause (with the result that matrix and embedded subject co-refer). The

[25] This is a possibility that Baker's (2006) theory of agreement, reviewed in section 1.3 of chapter two would allow.

data presented in the last section show that this cannot be the case for the participial construction. (Since the rationale adjunct can never take an overt pronominal argument, this test is not applicable here.)

Similarly, if a movement analysis is correct for constructions in which a chain receives two θ-roles, then the same patterns of agreement should be found in raising constructions for which a movement analysis is uncontroversial. However, non-finite verbs embedded under predicates such as *näyttää* 'seem', bear the default marking *–n* and may not carry possessor agreement (89). Comparison with the minimally different (90) shows that these two constructions cannot have the same derivation.

(89) Sinä näytä-t unohta-nee-*si/-n kirja-t kirjasto-ssa
you.SG[NOM] seem-2SG forget-NUT-*2SG.PX/-DFT book-PL[ACC] library-INE
'You seem to have left the books at the library'

(90) Sinä tiedä-t unohta-nee-si/*-n kirja-t kirjasto-ssa
you.SG[NOM] know-2SG forget-NUT-2SG.PX/*-DFT book-PL[ACC] library-INE
'You know that you left the books at the library'

Finally, there is the issue of Case assignment. In the control structures discussed by Hornstein, the subject, like the PRO that the analysis seeks to do away with, does not receive Case in the lower clause. The fact that the Finnish structures display possessor agreement suggests, on the other hand, that the Case-assigner α is present with the result that the subject should receive genitive Case and hence have no reason to move to the matrix clause, not to mention the fact that, having Case, it should no longer be an active goal and hence not available for probing by the φ-features of the matrix T. This second objection is in fact less problematic than it might at first appear, since embedded subjects marked for quirky Case under raising verbs such as *näyttää* 'seem' can still move to a position to which nominative Case would usually be assigned, but in such cases they retain their quirky Case and may not surface in the nominative. The quirky elative subject in (91) gives rise to the interpretation of the verb *tulla* as 'become' and this case is preserved when the subject is raised to the matrix clause.

(91) Minu-sta/*Minä näyttä-ä tul-la mummu
I-ELA/*I[NOM] seem-3SG come-INF$_1$ grandmother[NOM]
'I seem to have become a grandmother'

While there is good reason to believe that the Finnish genitive is a structural not inherent Case, there is equally good reason to believe that it is preserved under raising. Certain predicates, including *onnistua* 'to succeed', take a complement in the first infinitive with a genitive subject which is subsequently raised to the subject position of the matrix clause[26]. In this position a nominative subject is ungrammatical.

(92) Minu-n/*Minä onnistu-i löytä-ä avaime-ni
I-GEN/*I[NOM] succeed-PAST[3SG] find-INF$_1$ key-1SG.PX
'I succeeded in finding my keys' (Koskinen, 1998:264)

The fact that the matrix subjects of sentences (84) and (85) must be nominative suggests that an analysis in terms of movement is not correct for the participial construction and rationale adjunct. One solution to this last problem would be to follow Toivonen and opt for a lexical split, positing two different kinds of α head, one assigning genitive Case and one not, but then a third kind would also be needed assigning genitive but not having unvalued φ-features to account for the non-agreeing forms such as the bare first infinitive in (92). Alternatively, what we have been calling α could in fact consist of two separate heads, one assigning genitive Case and one having unvalued φ-features. In the next section it will be shown that the second of these two analyses not only solves the problems that the participial construction and rationale adjunct pose for an Agree-based analysis of possessor agreement in non-finite clauses, but also replicates the structures proposed by Trosterud for possessive constructions and doubled reflexives, hence also accommodating an explanation of their binding theoretic properties.

3.3 Separating Case Assignment From Φ-Valuation

3.3.1 Implications of Doubled Reflexives for a Single-Head Analysis

The data on doubled reflexives discussed by Trosterud calls into question Pierrehumbert's assertion that possessive suffixes are underlyingly genitive and hence by extension the assumption in the previous section that possessor agreement is triggered only by genitives. For the range of constructions which Pierrehumbert considers, it is indeed the case that

[26] See Koskinen (1998:Ch.4) for arguments that these are indeed raising constructions and that the genitive Case is not assigned by the matrix verb.

possessor agreement fulfils the same function as a genitive and cross-references the φ-features of a genitive pronoun when doubled.

(93) Jukka kadott-i Mati-n hatu-n loma-lla
Jukka[NOM] lose-PAST Matti-GEN hat-ACC holiday-ADE
'Jukka lost Matti's hat on holiday'

(94) Matti kadott-i hattu-nsa loma-lla
Matti[NOM] lose-PAST hat-3.PX holiday-ADE
'Matti lost his (own) hat on holiday'

(95) Jukka kadott-i häne-n hattu-nsa loma-lla
Jukka[NOM] lose-PAST s/he-GEN hat-3.PX holiday-ADE
'Jukka lost his/her (somebody else's) hat on holiday'

Reflexives of the kind considered by Trosterud, on the other hand, may alternate with nominals in any morphological case, not just the genitive, and similarly there are no restrictions on the case of a doubling pronoun whose φ-features are cross-referenced by possessor agreement attached to *itse*.

(96) Minä pes-i-n itse-ni järve-ssä
I[NOM] wash-PAST-1SG self-1SG.PX lake-INE
'I washed myself in the lake'

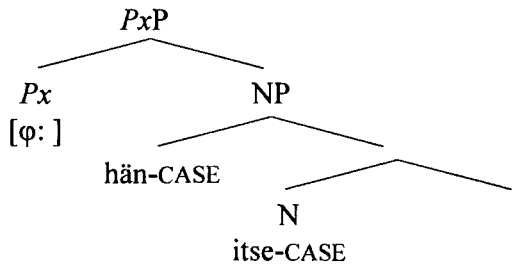
(97) Matti pes-i minu-t järve-ssä
Matti [NOM] wash-PAST[3SG] I-ACC lake-INE
'Matti washed me in the lake'

(98) Muistut-i-n professori-a häne-stä itse-stä-nsä
remind-PAST-1SG professor-PAR s/he-ELA self-ELA-3.PX
'I reminded the professor about himself/herself' (Trosterud, 1993:235)

Doubled reflexives of the kind exemplified in (98) kind are not considered by Pierrehumbert and the fact that they are possible at all, let alone obligatory when object-bound, does not

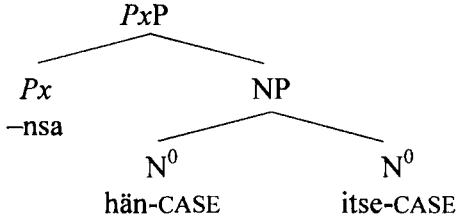
follow from her doubling rule either in its original form, or when recast as an instance of Agree. This is easily resolved, however, if the domain of application of the doubling rule is extended such that it may also target a non-genitive such as the elative *hänestä* in (98), equivalent in minimalist terms to separating valuation of φ-features from Case assignment. Let us suppose then that the head *Px* enters the derivation with unvalued φ-features which may be valued by a category with any morphological Case or none. The structure of the doubled reflexive will therefore be as follows, where the Case assigned to the NP is realised on its head and its specifier.

(99)



This structure is remarkable in its similarity to Trosterud's, given in (33) and repeated here as (100), but has the added advantage of being able to explain why it is the reflexive element *itse*-CASE that carries the possessive suffix. The pronominal *hän*-CASE in (99) is not a head of the NP as it is in (100), with the result that movement to *Px* would violate Travis's (1984) Head Movement Constraint, which requires head movement to be strictly successive-cyclic, prohibiting movement to any target other than the next head up the spine of the structure.

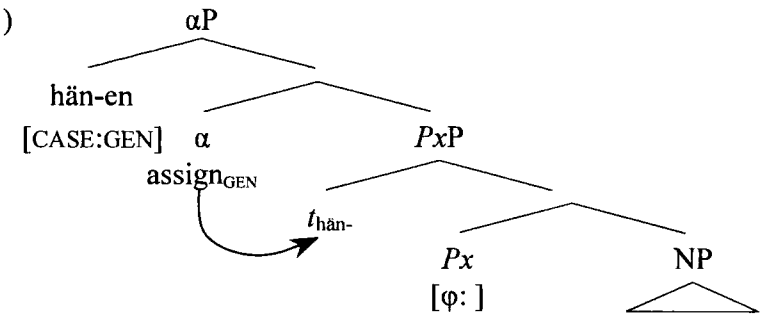
(100)



(Trosterud, 1993:232)

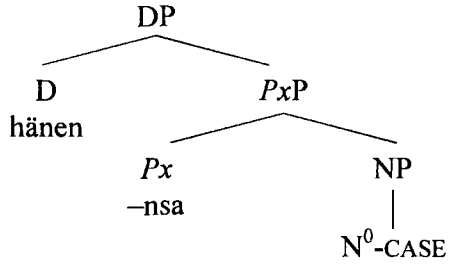
While the pronoun in (99) can presumably get Case in the same way as the reflexive *itse*, in the specifier position of which it originates, in the case of a possessor or genitive subject of a non-finite clause, an additional Case-assigning head α c-commanding the structure in (99) must be assumed.

(101)



With the unvalued φ-features now entering the derivation as a separate head *Px*, the α in (101) as it stands does nothing other than assign genitive Case and the criticism could legitimately be made that, in the absence of independent evidence for its existence, it does not actually improve on previous analyses. Comparison of this structure with that proposed by Trosterud for the same construction, repeated here as (102), again reveals striking similarities. Indeed if it could be shown that α also has whatever feature it is that enables nominals to have independent reference and triggers movement of the pronoun out of the *Px*P then the structures would be all but identical, the only difference being that the genitive pronoun occupies a specifier position in (101), but is a head in (102).

(102)



(Trosterud, 1993:232)

If α is indeed equivalent to D, then this analysis makes certain predictions about correlations between genitive Case-marking and the possibility of independent reference. The next section will show that these predictions are borne out in the two non-finite constructions that proved problematic for the version of Agree that considered the two properties to be mutually dependent.

3.3.2 A Two-Head Analysis of Possessor Agreement in Non-Finite Clauses

Since the patterns of agreement in the temporal adjunct and agent constructions are the same as those found in possessive constructions, it can be safely assumed that they may also have the structure in (101), the only difference being the category of the maximal projection that is sister to *Px*. Since a null first or second person genitive subject need not be bound, it seems that α is present in the structure even when the pronoun is not pronounced, while the fact that

a null third person pronoun may not have independent reference suggests that this head is not projected in such cases and it is, of course possible that it is also absent from structures in which a null first or second person subject is bound. As things stand at the moment[27], a pronoun must always be merged in Spec*Px*P to value the φ-features of *Px*, whether or not α is present. In null-subject constructions, this is either inherently phonetically empty, subsequently deleted or just not spelled out.

3.3.2.1 The Participial Construction

Ascribing the properties of Case-assignment and agreement to separate heads also admits of the possibility of constructions in which the two heads may not co-occur and it is these that appear to be instantiated in the participial construction. Genitive pronominal subjects of participles do not trigger agreement on the verb, suggesting that the participial construction contains an α but no *Px* when its subject is not co-referential with the matrix subject. Where the participle is inflected, an overt pronoun is ungrammatical, suggesting the presence of a *Px* but no α where its subject is bound. This hypothesis receives further support from the existence of other non-finite forms that exhibit the characteristics associated with the presence of one head but not the other. The bare form of the first infinitive, for example, seems to allow α but not *Px* as it may take a genitive subject[28] when embedded under certain verbs, but never shows agreement[29].

(103) Kerttu käsk-i minu-n luke-a(*-ni) tä-tä kirja-a
Kerttu[NOM] order-PAST[3SG] I-GEN read-INF$_1$(*-1SG.PX) this-PAR book-PAR
'Kerttu ordered me to read this book'

On the other hand, as was mentioned in passing in section 3.2.3.1, the rationale adjunct always carries possessor agreement, but may never have an overt subject, even if disjunct in reference from the matrix subject, suggesting that *Px* is obligatory and α not possible.

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[27] This analysis will be substantially revised in section 3.4.3, where it will be argued that the agreeing participial construction and rationale adjunct do not, after all, have a pronoun in Spec*Px*P.

[28] See Koskinen (1998) for arguments that these are indeed subjects of the non-finite clause rather than objects of the matrix verb.

[29] This fact could alternatively be stipulated in the morphological component. Under the proposal here, it is due to a selectional property of the first infinitive, but this is no less stipulative.

(104) Sinä lähd-i-t Hollanti-in (*sinu-n) levä-tä-kse-*(si)
you[NOM] go-PAST-2SG Holland-ILL (*you.SG-GEN) rest-INF$_1$-TRNS-*(2SG.PX)
'You went to Holland in order to rest'

(105) *Sinä lähd-i-t Hollanti-in (minu-n) levä-tä-kse(-ni)
you[NOM] go-PAST-2SG Holland-ILL (I-GEN) rest-INF$_1$-TRNS(-1SG.PX)
Intended: 'You went to Holland so that I could rest'

The question of why certain constructions may only combine with one or the other of these heads and why some constructions which take both do allow them to co-occur (temporal adjunct, agent and possessive constructions) while others allow either but not both (participial construction) is a complicated issue which will be addressed in section 3.4. In the remainder of this section, I return to the data that proved problematic for the single-head analysis of agreement in non-finite clauses and show that it can be handled in a two-head analysis both by the movement account and one that posits an empty category as the subject of the embedded clause.

3.3.2.2 Resolving Problems with the Null Subject and Movement Analyses

It was argued above that the element triggering possessor agreement on the embedded clause could not be an empty category since it did not alternate freely with either an overt pronoun or an overt anaphor in the same way as null subjects of finite clauses do in Finnish. As long as Case-marking and valuation of φ-features were effected by the same head, the Case Filter could not be invoked to account for differences in the distribution of overt and null subjects. If, however, the Case Filter is construed as a PF-restriction on the realisation of nominal categories then the absence of α in agreeing participial clauses can be invoked to explain why an overt genitive subject is not possible: a (Caseless) pronoun can (and indeed must) be merged in Spec*Px*P in order to value the φ-features of *Px*, but it cannot get Case because no assigner is available, therefore cannot be spelled out and must remain unexpressed[30]. Furthermore, if the hypothesis advanced above that α also carries the D-feature allowing the subject of an embedded clause to have independent reference is correct, then it follows that such independent reference will not be possible in the absence of that head. This predicts

[30] This is not the account that will ultimately be proposed for the Finnish data under discussion here. However, an analysis relying on precisely this will be adopted in section 4.3.1 of the next chapter for VSO word orders in Modern Standard Arabic.

correctly that a null subject in the two types of embedded clause without a Case-marker (the participial construction and rationale adjunct) must be bound by the subject of the matrix clause, even in the first and second person.

Separating Case-assignment and agreement also resolves the problems that the data presented for the movement analysis of null embedded subjects. Since in the participial construction (at present by stipulation) *Px* and α may not co-occur, a subject that remains in situ will have to receive Case in that position from an α-head, with the consequence that *Px* cannot be present in the structure and the participle will be spelled out without agreement. By virtue of the D-feature on α, the subject will be a pronoun subject to Principle B of the Binding Theory, predicting correctly that it may not be co-referential with an antecedent in its minimal tensed clause (the matrix clause in this case). If, on the other hand, the embedded subject raises to a position in the matrix clause where it exhibits nominative Case, then it cannot also have been Case-marked in the embedded clause, showing that α cannot be present and *Px* therefore can be. This predicts correctly that where the matrix and embedded subjects are co-referential, the participle will manifest agreement.

3.3.2.3 The Raising Construction

The data in section 3.2.3.2 showed, however, that the participle under raising verbs conforms to neither of these patterns. The fact that a non-quirky subject raised out of a participial clause has nominative rather than genitive Case suggests that there is no α present in the embedded clause and this in turn should mean that a *Px* can be merged and the participle show possessor agreement. As (89), repeated here as (106), showed, however, this prediction is incorrect: the participle must surface in the default form in *–n*.

(106) Sinä näytä-t unohta-nee-*si/-n kirja-t kirjasto-ssa
you.SG[NOM] seem-2SG forget-NUT-*2SG.PX/-DFT book-PL[ACC] library-INE
'You seem to have left the books at the library'

Of course, this is the pattern that would be predicted to emerge where the embedded participial clause has neither α nor *Px* and as such the two-head model has no problem accommodating the data, but allowing it to do so increases further the stipulative element of the analysis. Including this new pattern, we have so far posited two constructions in which *Px* is obligatory but α optional (the temporal adjunct and the agent construction), one in which α must be merged and *Px* may not be (bare first infinitive), one in which *Px* must be merged and

α may not be (rationale adjunct) and one in which either but not both may be present and neither need be (participial construction). Unless these co-occurrence restrictions can be independently motivated, it is difficult to make a case for favouring this analysis over any of the three reviewed earlier in this chapter. The next section will show that most of them can be independently motivated, but only if the agreement head *Px* is assumed to enter the derivation with valued φ-features, and in so doing corroborates empirically the conclusion arrived at on theoretical grounds in section 3.2 of chapter two.

3.4 Accounting for Different Agreement Patterns in Terms of Argument Structure

In the discussion so far, it has been tacitly assumed that all the non-finite forms considered have broadly the same structure below the α and *Px* heads and that this is the same as the structure of the finite clause below T. In this section it will be argued on the basis of evidence from word order that this is an oversimplification and that while a position at the left edge of this lower part of the clause may be available for the subject in some non-finite constructions in others it is not. Although an interesting area of inquiry in itself, the precise categorial status of the infinitival/participial affixes *va-*, *nut-*, *ta-*, *de-*, *ma-* and of the case morphemes *–ssa* and *–kse* is not relevant for the discussion in hand and the label *V* will be used as a blanket category designation for the last head to be merged in each structure before α, *Px* and T, acknowledging that properties of this head, beyond those to be discussed, may vary from construction to construction.

3.4.1 The Base Position of Overt Subjects

3.4.1.1 The Participial Construction

Word order in Finnish is very flexible, with all six possible orderings of subject, object and verb being grammatical, given the right pragmatic context (see Vilkuna (1989) for discussion). Of particular import for the discussion in hand is the possibility of a nominative subject surfacing to the right of the finite verb when a non-subject topic moves to the pre-verbal position to satisfy the EPP.

(107) Jarkko tietä-ä, että suklaa-ta varast-i Matti (ei-kä
Jarkko[NOM] know-3SG that chocolate-PAR steal-PAST[3SG] Matti[NOM] (NEG-and
Tuula)
Tuula[NOM])

'Jarkko knows that it was Matti who stole chocolate (and not Tuula)'

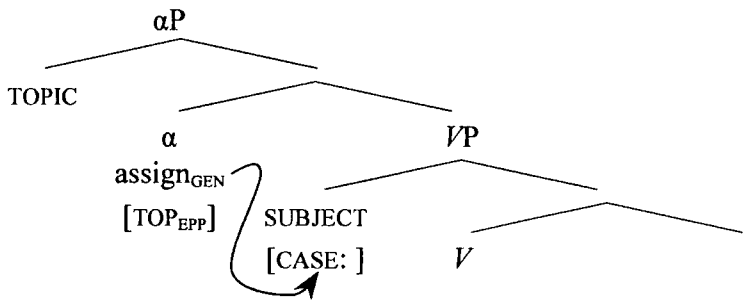
Although more marked than in a finite context, this word order is also possible in the non-finite clause of the participial construction[31] (108). As with its finite counterpart, the clause-initial position may not remain empty (109), and the embedded subject receives focal stress.

(108) Jarkko tietä-ä suklaa-ta varasta-nee-n Mati-n (ei-kä Tula-n)
Jarkko[NOM] know-3SG chocolate-PAR steal-NUT-DFT Matti-GEN (NEG-and Tulla-GEN)
'Jarko knows that it was Matti who stole chocolate (and not Tulla)'

(109) *Jarko tietä-ä varasta-nee-n Mati-n suklata-a (ei-kä Tula-n)
Jarko[NOM] know-3SG steal-NUT-DFT Matti-GEN chocolate-PAR (NEG-and Tulla-GEN)
Intended: 'Jarko knows that it was Matti who stole the chocolate (and not Tulla)'

Assuming that the derivation of the two types of clauses is therefore essentially the same, I propose that in (108) the lower subject originates in Spec*V*P and is assigned genitive case by α. Just as the Case-assigner T requires its specifier position to be filled either by the subject (in the unmarked case) or another topic, so also the Case-assigner α imposes an EPP-condition on its specifier position, which may be satisfied by the same range of categories (typically, although not exclusively, topics) as in the finite clause.

(110)



3.4.1.2 The Temporal Adjunct and The Agent Construction

The situation is very different in the case of the temporal adjunct and agent construction. The word order of (109) is ungrammatical in these cases too, but the range of elements that may move to the left edge of the clause is much more restricted. As well as the unmarked case in which the genitive occupies the clause-initial position, a partitive object may appear there

[31] Again, the fact that the rationale adjunct may never have an overt subject means that this test is not available for that construction.

marginally (111), but an adjunct may not (112), unless, curiously, it is particularly long, in which case the sentence becomes much more acceptable as (113) and (114) show[32].

(111) ?Katto-a Mati-n korja-te-ssa Nelli lö-i sormee-nsa
roof-PAR Matti-GEN fix-INF$_2$-INE Nelli[NOM] hit-PAST[3SG] finger-3.PX
'While Matti was fixing the roof, Nelli hit her finger'

(112) *Tiistai-na Peka-n hankki-ma-t venee-t ei-vät maksa-nee-t
Tuesday-ESS Pekka-GEN get-INF$_3$-PL boat-PL[NOM] NEG-3PL cost-NUT-PL[NOM]
paljon
much
Intended: 'The boats Pekka got on Tuesday did not cost much'(after Karlsson, 1999:209)

(113) Nii-llä uusi-lla kallii-lla laato-i-lla Mati-n si-tä naveta-n
those-ADE new-ADE expensive-ADE tiles-PAST-ADE Matti-GEN that-PAR barn-GEN
vuotava-a katto-a korja-te-ssa Nelli lö-i sormee-nsa
leaky-PAR roof-PAR fix-INF$_2$-INE Nelli[NOM] hit-PAST[3SG] finger-3.PX
'While Matti was fixing that barn's leaky roof with those expensive tiles, Nelli hit her finger'

(114) Se nii-llä uusi-lla kallii-lla laatoi-lla Mati-n korjaa-ma
that[NOM] those-ADE new-ADE expensive-ADE tile-PL-ADE Matti-GEN fix-INF$_3$
naveta-n katto vuotaa taas
barn-GEN roof[NOM] leak-3SG again
'That barn roof that Matti fixed with those new expensive tiles is leaking again'

Note, however, that in all of these examples, the genitive subject *Matin* also precedes the verb. Where it does not, the sentence is sharply ungrammatical, irrespective of how long the fronted adjunct is.

[32] I am very grateful to Päivi Koskinen (p.c.) for discussion of the structures in (111) to (117).

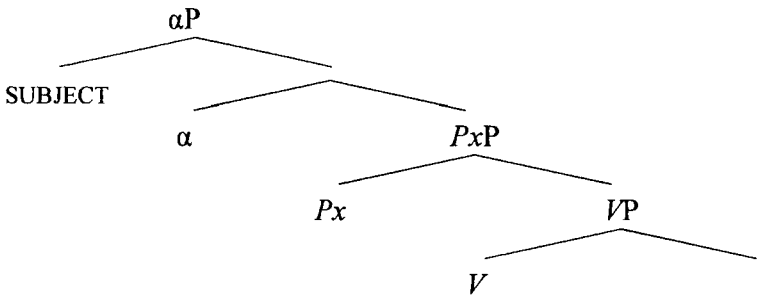
(115) *Katto-a korja-te-ssa Mati-n Nelli lö-i sormee-nsa
roof-PAR fix-INF$_2$-INE Matti-GEN Nelli[NOM] hit-PAST[3SG] finger-3.PX
Intended: 'While Matti was fixing the roof, Nelli hit her finger'

(116) *Nii-llä uusi-lla kallii-lla laato-i-lla si-tä naveta-n vuotava-a
those-ADE new-ADE expensive-ADE tiles-PAST-ADE that-PAR barn-GEN leaky-PAR
katto-a korja-te-ssa Mati-n Nelli lö-i sormee-nsa
roof-PAR fix-INF$_2$-INE Matti-GEN Nelli[NOM] hit-PAST[3SG] finger-3.PX
Intended: 'While Matti was fixing that barn's leaky roof with those expensive tiles, Nelli hit her finger'

(117) *Se nii-llä uusi-lla kallii-lla laatoi-lla korjaa-ma Mati-n
that[NOM] those-ADE new-ADE expensive-ADE tile-PL-ADE fix-INF$_3$ Matti-GEN
naveta-n katto vuotaa taas
barn-GEN roof[NOM] leak-3SG again
Intended: 'That barn roof that Matti fixed with those new expensive tiles is leaking again'

This suggests that the structure of the temporal adjunct and agent constructions differs from that of the participial construction (and finite clauses) in that while the subject of the latter originates in Spec*V*P, the subject of the former is introduced to the left of the highest position the verb can move to.

(118)



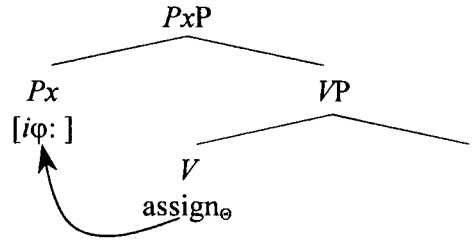
Consideration of such examples can also contribute to the question of how θ-roles are assigned, as discussed in section 2.2 of chapter two. The fact that the subject can never appear in a position to the right of the verb suggests that an analysis akin to that proposed by Bošković and Takahashi (1998) for Japanese is unlikely to be correct here, since if *V* is able to

assign a θ-role to a subject covertly lowered to its specifier, then there is no reason why it should not assign a θ-role to a subject first merged in that position. Manzini and Savoia (2002), on the other hand would have to stipulate that the subject is unable to attract aspectual features when it is immediately local to the predicate, but able to do so from a distance, a surprising conclusion in itself that is made all the more implausible by the fact that the agreement head *Px*, which is in a position directly comparable to that which a low subject would occupy, presumably is able to attract such features. Both Williams' (1994) analysis and the alternative explored in section 2.2.4 of chapter two would allow the θ-role of the external argument of *V* to be assigned higher up the structure, but both would also have to stipulate that *V* cannot assign a θ-role to a category in its specifier position. Why this should be the case is more complicated a question than can be treated here in the depth it warrants, but a reasonable suggestion would seem to be that it is connected with the morphology of the verb forms in question. Just as passive morphology inhibits the ability of a verb to assign an external argument requiring that an additional head be present (in English the preposition *by*) if the external argument is to be overtly realised, so also the morphology associated with the temporal adjunct and agent constructions might reasonably be assumed to impose on the external argument a realisation condition that the head α be present. The fact that the participial construction does allow these word orders would then indicate that the morphology associated with that verb form does not impose such restrictions.

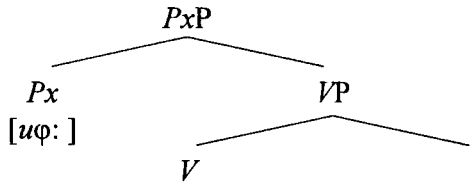
3.4.2 Interpretability of the Φ-Features of *Px*

The structure of the participial construction with an unbound subject (which contains α but not *Px*) was shown in (110). Let us now consider how the derivation of the other version of this construction might proceed, in which *Px* is merged with the verbal complex headed by *V* instead of a pronoun or full NP and the specifier position of *V* is empty (the pattern also found in the rationale adjunct). Since the structural relationship of the *Px* in (119) and the lexical subject in (110) to the θ-assigner *V* is almost identical[33], let us suppose that the *Px* can also be assigned the θ-role and that a consequence of this is that its φ-features are interpretable (indicated by the diacritic *i*). In the temporal adjunct and agent construction, by contrast, *V* is not a θ-assigner, the *Px* in (120) will therefore not receive a θ-role with the result that its φ-features will remain uninterpretable (indicated by the diacritic *u*).

(119) *Participial Construction & Rationale Adjunct*



(120) *Temporal Adjunct & Agent Construction*



This alone does not explain the difference between the two types of construction, because irrespective of their thematic status, the φ-features of *Px* may not remain unvalued, even where they are interpretable (119), for as long as they are unvalued they will presumably be illegible to both the LF and PF interfaces, thereby causing the derivation to crash. There is therefore no reason in principle why doubling of the agreement suffix by an overt pronoun should not be possible in the participial construction, indeed the natural conclusion is that it should be obligatory. While it is true that such a pronoun could not receive a θ-role in its own right, this having been assigned already to the head *Px*, there is no reason why it could not share the θ-role of the possessive suffix in much the same way as the pronoun in a doubled reflexive shares the θ-role of the suffix whose φ-features it duplicates in the same kind of structural configuration (cf. (99)). However, structures in which possessor agreement co-occurs with an overt genitive subject are ungrammatical in the participial construction, despite there being nothing in their derivation to predict this. The condition that α and *Px* may not co-occur in this construction must therefore remain stipulative if the ungrammatical sentences discussed in section 3.2.3 are to be excluded.

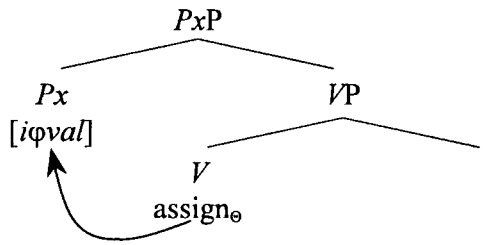
3.4.3 Lexical Values of the Φ-Features of *Px*

The ungrammatical derivations would crash, however, if the φ-features of *Px* were valued in the lexicon rather than in the course of the derivation. In the case where no pronominal or full NP subject is merged in Spec*V*P, the *Px* will receive a θ-role and its φ-features will be

[33] The only difference being that it is the *V* that projects in (110) and the *Px* in (119).

interpretable as before. However, the resultant structure, given in (121), differs from (119) in containing only LF-legitimate objects, with the consequence that no further structure need be merged and hence (under standard minimalist assumptions) no further structure can be merged. Specifically, since the φ-features of *Px* are lexically valued, no pronoun need be present in the structure at all and if there is no pronoun with an unvalued Case-feature, then there is no reason to merge the Case-assigner α. To all intents and purposes, then, the possessive suffix is the subject of the non-finite verb in this form of the participial construction.

(121) *Participial Construction & Rationale Adjunct*



The temporal adjunct and the agent construction do not, by contrast, at the same stage in the derivation, consist only of LF-legitimate objects, since *V* in these constructions is not a θ-role assigner and the φ-features of *Px*, although valued, are still uninterpretable[34] and must therefore be deleted. Following the proposal in section 3.2.2 of chapter two, let it be assumed that this occurs under identity with a set of matching interpretable φ-features, provided, as before, by a pronoun merged in SpecαP.

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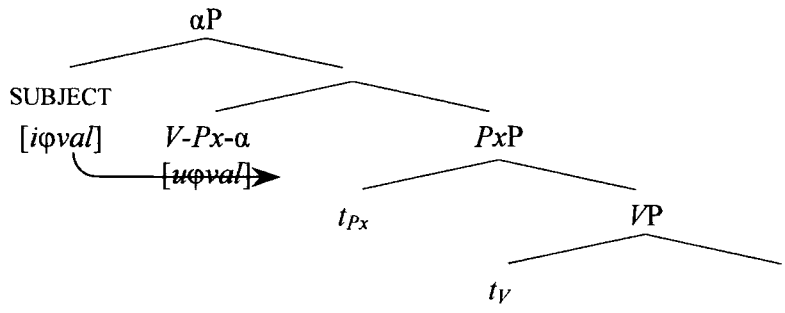
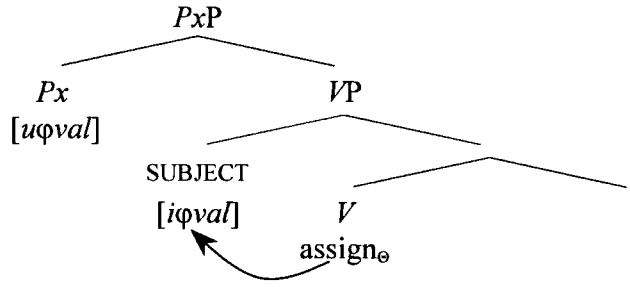
[34] Proposing that the interpretability of φ-features is dependent on whether or not they are on a θ-marked head raises the broader question of whether other kinds of uninterpretable features are amenable to a similar analysis, While it is uncontroversial to suggest that there are categories with interpretable φ-features, it is difficult to imagine how the (structural) Case feature of a nominal category, rendered interpretable by virtue of carrying a θ-role, could contribute anything to the interpretation of a sentence beyond what is already captured by Θ-Theory. Case does, however, appear to interact in an interesting way with another type of feature, the existence of which in both interpretable and uninterpretable form is generally accepted, namely D-features. As was observed in section 3.3.1, it is only in non-finite embedded clauses containing the Case-assigner α that the subject need not be bound from the matrix clause. One way of capturing this would be to suggest that D-features interact with Case in the same way as φ-features interact with θ-roles, namely that a D-feature is interpretable only when it is assigned Case. Promising as it is, this avenue of inquiry will not be pursued in this dissertation.

(122)



The φ-features of the *Px*-head in (123) are also uninterpretable, this time because the θ-role that it receives in (121) has already been assigned to the lexical subject in Spec*V*P by the time it is merged.

(123)



As long as φ-features are assumed to enter the derivation unvalued, there is no way of accounting for the ungrammaticality of the structures which result, as there is no reason why these features should not probe the subject in Spec*V*P and be valued by its φ-features. If, however, the φ-features of *Px* are already valued when they enter the derivation and it is only unvalued (as opposed to uninterpretable) features that can probe, then movement of the subject to a position to the left of *Px* in (123) will be completely unmotivated and hence impossible. The only way of deleting the unvalued φ-features of *Px* would be to merge a second pronoun with matching features. The fact that the subject θ-role has already been assigned to the pronoun in Spec*V*P means that this pronoun would have to be an expletive, but even this option is not available, since either the expletive or the pronoun in Spec*V*P would not be able to receive Case[35]. Finally, the analysis can also explain why it is that the participle in raising constructions does not show possessor agreement. Merging a doubling pronoun is not possible for reasons of economy, as it is not required to value or check any unvalued or uninterpretable feature already present in the structure, with the consequence that the only

[35] In section 4.3.1 of chapter four an analysis of precisely this kind will be proposed for similar structures in Modern Standard Arabic. In these cases, crucially, the proposed expletive is only ever spelled out when a second Case-assigner (such as a complementiser or higher verb) is present in the structure.

θ-marked element available for raising is the *Px* itself. Since raising predicates do not assign a θ-role to their subjects, it will not be possible to introduce a nominal argument into the matrix clause, with the consequence that there will be no binder for the *Px* and the derivation will crash. What this account cannot explain, however, is why it is not possible to merge an α instead of the *Px*, thereby licensing a pronoun or full NP subject in Spec*V*P which can then raise to the matrix subject position. The fact that it would already have Case in its base position is not in itself an a reason for it failing to raise, since, as example (92), repeated here as (124), shows, genitive subjects of clauses with a verb in the first infinitive, embedded under certain predicates, can raise to the matrix subject position.

(124) Minu-n/*Minä onnistu-i löytä-ä avaime-ni
I-GEN/*I-[NOM] succeed-PAST[3SG] find-INF$_1$ key-1SG.PX
'I succeeded in finding my keys' (Koskinen, 1998:264)

At present, I am unable to offer an explanation of why this might be the case.

3.4.4 Summary

Having argued for the separation of Case-assignment and agreement and for the φ-features of the agreement head *Px* being lexically valued, let us conclude by considering how the derivation of each of the two types of construction under discussion proceeds.

3.4.4.1 The Participial Construction and Rationale Adjunct

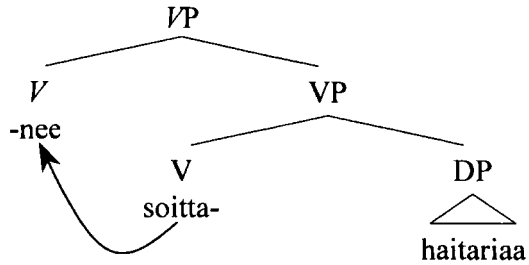
Consider first of all the derivation of the bracketed participial clause in each of the sentences (125) and (126).

(125) Minä muista-n [häne-n soitta-nee-n haitaria-a]
I[NOM] remember-1SG [s/he-GEN play-NUT-DFT accordion-PAR]
'I remember him/her playing the accordion'

(126) Eero muista-a [soitta-nee-nsa haitaria-a]
Eero[NOM] remember-3SG play-NUT-3.PX accordion-PAR
'Eero remembers playing the accordion'

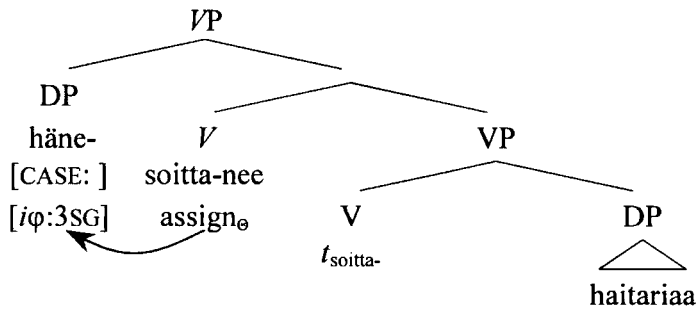
In both cases the verb stem *soitta-* 'play' merges first with its object *haitariaa* 'accordion' before raising to combine with the participial suffix *–nee*.

(127)

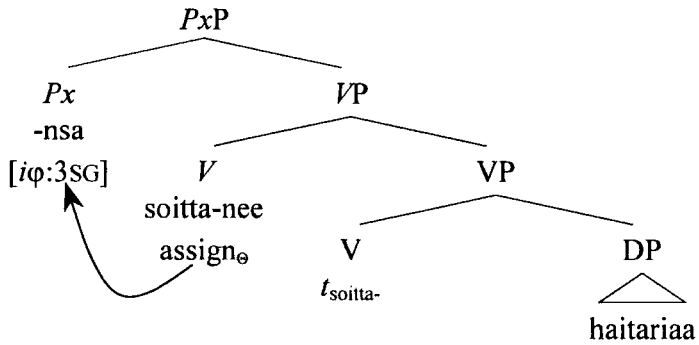


As argued in section 3.4.1.1, the morphosyntactic properties of *–nee* are such that the subject θ-role of the verb to which it attaches can be assigned to a suitable category merged with the structure in (127). In the derivation of (125), this is the pronoun *minu-* (128), while in (126) it is the possessive suffix *–nsa* (129). The φ-features of both of these categories enter the derivation valued (section 3.4.3) and, by virtue of being assigned a θ-role, are interpretable (section 3.4.2) and function as the subject of the participial clause.

(128)



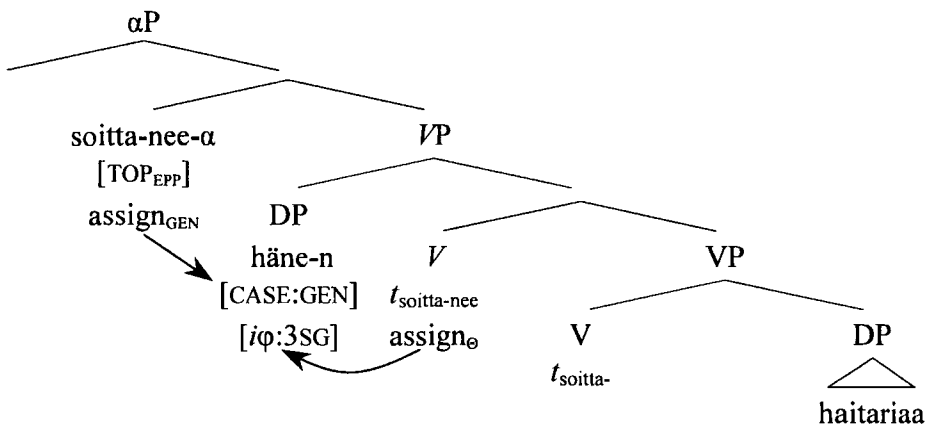
(129)



The structure shown in (129), since it consists only of valued interpretable features, is LF-legitimate and can therefore be embedded in the main clause without any further structure (specifically, the Case-assigner α or an overt subject) needing to be merged, presumably as the complement of the matrix verb. Since the *Px* head has no D-feature, the affix is an anaphor subject to Principle A of the Binding Theory and must therefore be bound from the matrix clause, in (126) by the subject *Eero*.

The structure in (128), on the other hand, contains an unvalued Case-feature on the pronoun *häne-*, with the consequence that there is motivation for merging α. The verbal complex then raises to this head, past any adverbials that may be adjoined to *V*P (section 3.2.1). Unlike the *Px* head in (129), the pronominal subject *hänen* does have a D-feature, such that the structure is grammatical in the absence of a coreferential c-commanding antecedent.

(130)



This head α imposes an EPP-condition on its specifier position (section 3.4.1.1), which in (125) is satisfied by raising the subject from Spec*V*P. The fact that (131) is also grammatical shows, however, that this condition could also be satisfied by raising the object to that position.

(131) Minä muista-n [haitaria-a soitta-nee-n <u>häne-n</u>]
I[NOM] remember-1SG [accordion-PAR play-NUT-DFT s/he-GEN]
'I remember <u>him/her</u> playing the accordion'

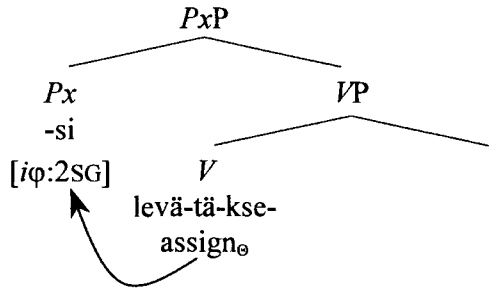
Whichever of these options is taken, the structure consists only of LF-legitimate objects and there is therefore no reason for introducing anything further (specifically, no reason to merge a *Px* head).

The derivation of the rationale adjunct is exactly parallel to that of (126) from the point at which the subject is introduced.

(132) Sinä lähd-i-t Hollanti-in levä-tä-kse-si
you[NOM] go-PAST-2SG Holland-ILL rest-INF$_1$-TRNS-2SG.PX
'You went to Holland in order to rest'

Whether or not the morphemes *–tä* and *–kse* are introduced as separate heads is not important for the discussion in hand. What is important is that by the time it reaches the topmost head in the verbal complex, however it may have got there, the verb form *levätäkse-* as a whole, in common with the participle form *soittanee-* in (129), is able to assign the subject θ-role to the *Px* head with which it is merged, rendering the φ-features of that *Px* interpretable.

(133)



In this way, the analysis of the participial construction can be extended to the rationale adjunct to explain why the obligatory possessor agreement in that construction cannot be doubled by an overt pronoun and why it must be bound from the matrix clause, regardless of the value of the person feature of the affix. There is, however, no principled reason why α should not be merged with *V*P in (133) instead of *Px*, as was possible with the participial construction in (125), resulting in sentences with an overt genitive subject disjunct in reference from the matrix subject and no possessor agreement. As was shown by (105), repeated here as (134), this is not possible.

(134) *Sinä lähd-i-t Hollanti-in minu-n levä-tä-kse
you[NOM] go-PAST-2SG Holland-ILL I-GEN rest-INF$_1$-TRNS
Intended: 'You went to Holland so that I could rest'

The question of why α may not combine with a rationale adjunct in this way I leave to future research, and can only hope that any solutions offered to this problem will be shown to be compatible with the analysis presented above for the other non-finite forms.

3.4.4.2 The Temporal Adjunct and The Agent Construction

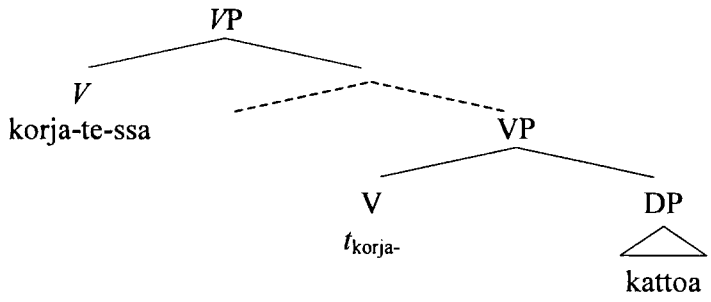
Consider now the bracketed non-finite clauses in the temporal adjunct (135) and agent construction (136).

(135) [Minu-n korja-te-ssa-ni katto-a] tiile-t lentele-vät
I-GEN fix-INF$_2$-INE-1SG.PX roof-PAR tile-PL[NOM] fly-3PL
'While I fix a roof, tiles fly'

(136) [Meidä-n osta-ma-mme] kuka-t o-vat kaunii-t
we-GEN buy-INF$_3$-1PL.PX flower-PL[NOM] be-3PL beautiful-PL[NOM]
'The flowers we bought are beautiful'

Initially, the derivation of these clauses proceeds in the same way as the constructions considered in the previous section, in that the verb stem merges with the object (*kattoa* 'roof' in (135), presumably a null operator in (136)). The verb then raises to the topmost head of the verbal complex *V*.

(137)



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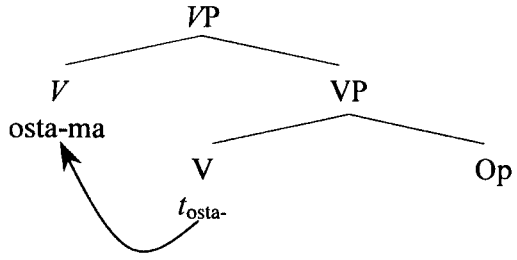
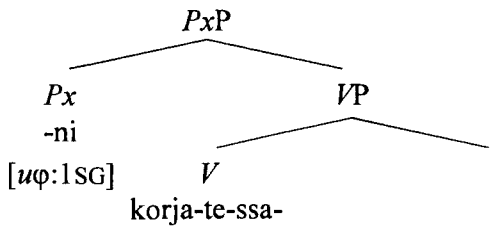


Whether the morphemes *–te* and *–ssa* are introduced as separate heads and whether there are any other null heads in the structure is again not as important as the properties of the complexes *korjatessa-* and *ostama-* as a whole once they have reached the top of the verbal complex and these are different from those of *soitta-nee-* and *levätäkse-* to the extent that they are not able to assign a θ-role to an immediately c-commanding category, a conclusion which received independent empirical support from differences in word restrictions in the two types of clause (section 3.4.1). When a *Px* head is merged, therefore, it will not receive a θ-role and its φ-features will consequently be uninterpretable.

(139)



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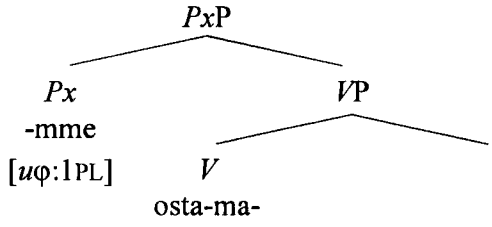
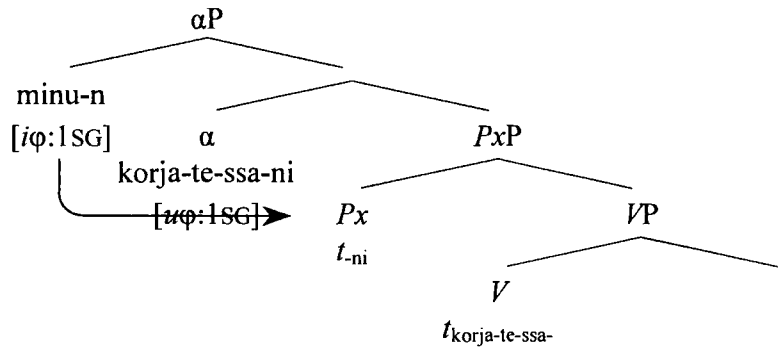


If allowed to persist to the interface, these uninterpretable features will precipitate an LF-crash unless an element with matching interpretable φ-features is introduced to delete them. This takes place once the verb has moved through *Px* to α, and this head also assigns genitive Case to the subject pronoun.

(141)



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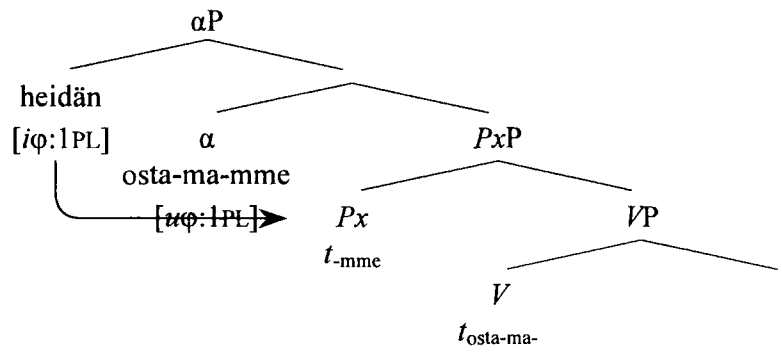


This explains why it is that possessor agreement may co-occur with an overt pronominal argument in the temporal adjunct and agent constructions and formalises the correlation between this property and differences in the range of word orders admissible in each type of construction.

3.4.4.3 Outstanding Problems

In addition to the unresolved questions concerning the raising construction and rationale adjunct mentioned above, there are two important issues still to be resolved in the derivation of the temporal adjunct and agent construction. Firstly, there is the question of why the subject pronoun cannot be merged in Spec*Px*P, checking the uninterpretable φ-features of *Px* before the verb moves to α. This appears to be because θ-roles cannot be assigned to Spec*Px*P, a generalisation that will be corroborated for Modern Standard Arabic in section 2.2 of the next chapter and given a theoretical explanation in section 2.2.2 of chapter six. Secondly, no explanation has yet been given for the variants of (135) and (136) in which the subject pronoun is omitted. That such structures are significantly different from participial and rationale adjunct clauses is evident in the fact that undoubled first and second person possessive suffixes in the temporal adjunct and agent constructions need not be bound by an element in the matrix clause, suggesting that an element with a D-feature of some kind is available in the structure. In section 2.3.2 of chapter six, it will be proposed that a null pronominal *pro* with just such a D-feature occupies the SpecαP position in place of an overt pronoun in these constructions.

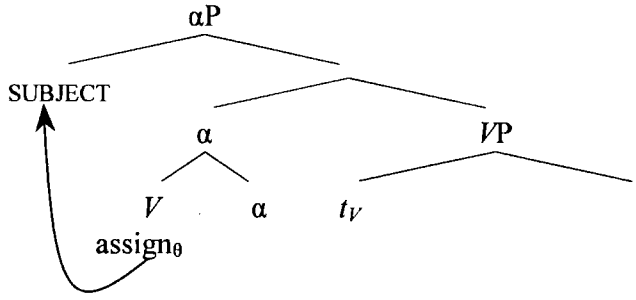
4 CONCLUSION

This chapter has attempted to provide a unified account of the behaviour of possessor agreement across a number of different constructions. Three existing analyses of the possessive construction reviewed were shown to provide useful insights into the kinds of mechanisms that might be at work, but none was able on its own to account for the full range of data without recourse to *ad hoc* stipulation. Recasting one of these analyses (Pierrehumbert, 1980) in minimalist terms suggested that a relation similar to Chomskyan Agree might be operative, but this could only account for those constructions in which the patterns of agreement were most similar to those found in finite clauses. Comparison of the reworked version with data from the doubled reflexive construction suggested that Case-assignment and φ-valuation might in fact be independent of one another and an analysis was proposed splitting the head responsible for these two operations into two separate heads, α and *Px*. The structures that emerged were remarkable in their similarity to those proposed in the second paper reviewed (Trosterud, 1993) and as such also captured generalisations about the binding theoretic properties of doubled and undoubled suffixes. However, this descriptive power came at a cost. Proposing two heads, each of which could in principle occur without the other one, led to overgeneration, which could apparently only be regulated by stipulation

of precisely the kind that was criticised in the review of Toivonen (2000). Consideration of admissible word orders in the four types of non-finite clause, however, showed that the majority of these stipulations could be derived from the properties of each kind of non-finite verb with respect to θ-role assignment, but only if the head *Px* was assumed to enter the derivation with valued φ-features.

This analysis depends on deviations from standard theories of θ-role assignment, interpretability and the way in which the two interact. As far as the interpretation of θ-roles is concerned, the requirement that θ-roles are assigned within the maximal projection of the predicate is relaxed in such a way as to allow assignment to a position within the maximal projection of a head to which the predicate head has moved.

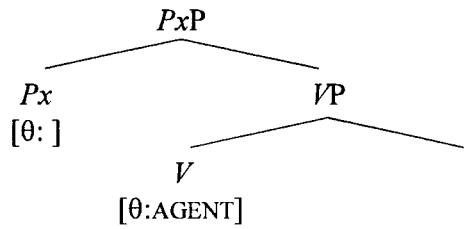
(143)



Of course, if the higher head (α in the example above) were able to inherit the ability to assign any θ-roles not discharged by the predicate, then θ-role assignment would still be within the maximal projection of the assigner. Such a model is not, therefore, incompatible with a configurational view of Θ-Theory, whereby the thematic status of a nominal is determined by inspecting the LF-structure, provided that the ability to assign θ-roles is encoded formally (and the predicate's history of movement is preserved for the purposes of interpreting object θ-roles).

Cases where a θ-role is assigned to a head (such as was argued to be the case in the participial construction and rationale adjunct), however, require that Θ-Theory be revised more radically so as to allow assignment of a θ-role to a position outside its maximal projection and since the θ-assigner subsequently moves to the θ-assignee, the configuration in which assignment occurs is obscured at LF, thereby precluding the possibility of interpretation by inspection. For such cases, the obvious solution is to propose that *Px* has an unvalued θ-feature, which probes the verb for a value.

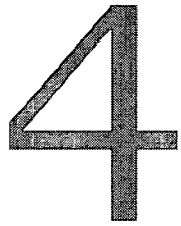
(144)



Treating assignment to phrasal categories in the same way would, of course, require that they too be allowed to probe (contrary to what is standardly assumed). Alternatively, it could be that the thematic interpretation of heads proceeds in a different way from that of phrasal categories, the former being the product of feature manipulation of the kind just described, the latter being determined by inspection of LF-configurations.

The view of the interpretability of φ-features proposed here is also different in important respects from standard models, since it is determined in the syntax rather than in the lexicon. Specifically, the lexically valued φ-features of a *Px* head are interpretable when that head is assigned a θ-role (in which case it functions as an argumental affix) and uninterpretable when that head does not receive a θ-role. This in turn means that uninterpretable valued features can be present in the syntax which, although not legitimate LF-objects, are not probes either and hence not able to search actively for features to check them. The theory developed in this chapter relies on the φ-features of a head being automatically deleted by matching interpretable features of an immediately c-commanding category without any other formal relation (such as Chomskyan *Agree*) being established between them.

Agreement in Arabic



The last chapter examined in detail the syntactic behaviour of the Finnish possessive suffixes both in the possessive construction and a number of non-finite verbal clause-types. Taken at face value, the data suggested that the nominal properties of these suffixes (specifically whether they should be analysed as agreement morphemes or pronominal affixes and their binding-theoretic status) varied according to the construction in which they appeared, leading some scholars to propose, undesirable as it may at first seem, that the language has two sets of morphosyntactically distinct morphemes which happen to be phonetically identical. On the basis of correlations between restrictions on word order and the properties of the suffixes in each of the constructions under discussion, this step was shown to be unnecessary. An alternative was developed, according to which the φ-features of the affix were always lexically valued, but their status with respect to LF-interpretability determined at the point at which they are introduced into the derivation: taking affixes merged in a θ-position to have interpretable φ-features and those merged in a non-θ-position to have uninterpretable φ-features in need of deletion was shown to account for the full range of data in a more principled and elegant way than any of the three alternative analyses considered. By drawing on ideas familiar from standard analyses of the passive, the ability of a verb to assign an external θ-role was argued to be inhibited by the morphology associated with some non-finite verb forms, but not others.

This chapter and the next will explore the more general validity of these claims by considering languages with similar agreement patterns and examining the extent to which the model proposed can account for these. The first such language is Modern Standard Arabic, in which, as Fassi Fehri observes, "bound nominative forms are homonymously ambiguous between a pronoun and an inflection interpretation" (Fassi Fehri, 1993:121). This situation is reminiscent of the lexical split proposed by Toivonen to account for the different behaviour of the Finnish possessive suffixes (cf. section 2.3.3 of the last chapter) and it is the aim of this chapter to show that it is amenable to an analysis along similar lines. Section 1 introduces the two basic word orders of Modern Standard Arabic finite clauses and presents the restrictions on agreement associated with each. Section 2 considers the syntax of SVO sentences, showing it to be directly comparable to that of the Finnish temporal adjunct and agent constructions, and in so doing refines the model of θ-role assignment hitherto adopted. After object and

complementiser agreement have been shown (in section 3) to have essentially the same properties as the Finnish participial construction, section 4 tackles the problem of partial agreement in VSO clauses, a phenomenon for which there is no direct parallel in Finnish. In spite of this, it is shown that such clauses can be accommodated in the model by adopting Mohammad's (1989, 1990) Expletive Hypothesis for VSO orders. Section 5 considers verb-initial sentences with pronominal subjects, which do display full agreement and argues that these are not true arguments, but rather occupy an Ā-position, from where they bind the pronominal affix. Section 6 considers why these additional options are not be available in Finnish and section 7 concludes the discussion.

1 PATTERNS OF AGREEMENT IN MODERN STANDARD ARABIC

Modern Standard Arabic allows two basic word orders in finite declarative clauses with different degrees of subject agreement being possible in each. In SVO clauses, the verb obligatorily agrees with an NP-subject in all φ-features (1), while in VSO clauses only gender agreement is possible (2). Partial (i.e. gender only) agreement is not possible in SVO clauses (3), nor is full agreement possible in VSO clauses (4)[1].

(1) n-nisāʔ-u daxal-na makātib-a-hunna
the-women-NOM enter.PAST-3PL.F office.PL-ACC-their.F
'The women have entered their offices' (Fassi Fehri, 1993:32)

(2) daxal-at n-nissāʔ-u makātib-a-hunna
enter.PAST-3SG.F the-women-NOM office.PL-ACC-their.F
'The women have entered their offices' (Fassi Fehri, 1993:32)

(3) *n-nisāʔ-u daxal-at makātib-a-hunna
the-women-NOM enter.PAST-3SG.F office.PL-ACC-their.F
Intended: 'The women have entered their offices' (Fassi Fehri, 1993:32)

(4) *daxal-na n-nissāʔ-u makātib-a-hunna
enter.PAST-3PL.F the-women-NOM office.PL-ACC-their.F
Intended: 'The women have entered their offices' (Fassi Fehri, 1993:32)

[1] In the interests of consistency, some of the Arabic examples are reproduced here in a form slightly different from that in which they appear in the sources cited.

Arabic allows pronominal arguments of all kinds to remain unexpressed in the presence of a corresponding agreement morpheme on the verb. Subject and object agreement differ in this respect to the extent that, while an overt subject may co-occur with subject agreement, where the verb carries object affixes, the argument they cross-reference is obligatorily null[2].

(5) (ʔanā) intaqad-tu-hu (*ʔiyyāhu)
(I.NOM) criticise-PAST.1SG.NOM-3SG.M.ACC[3] (*he.ACC)
'I criticised him'

(6) (ʔanta) ʔaʕt.ay-ta-nī-hi (*ʔiyyāya) (*ʔiyyāhā)
(you.SG.M.NOM) give-PAST.2SG.M.NOM-1SG.ACC-3SG.F.ACC (*I.ACC) (*she.ACC)
'You gave her to me'

(7) (hunna) ʤiʔ-na
(they.F.NOM) come-PAST.3PL.F.NOM
'They came'

A pronominal object must be expressed as an affix on the verb rather than as a free form wherever this does not violate another principle of the grammar. One such principle is the person constraint, which requires object affixes to appear in ascending order of value of person feature. However, the order of the affixes is also constrained by semantics, with the first of two object affixes attached to a ditransitive verb obligatorily being interpreted as the indirect object and the second as the direct object. The conflict between the requirements on a verb with, for example, a second person direct object and third person indirect object is resolved by expressing one of the arguments as a free form.

(8) *ʔaʕt.ā-hu-ka l-ʔustāḏ-u
give-PAST.3SG.M.NOM-3SG.M.ACC-2SG.M.ACC the-teacher-NOM
Intended: 'The teacher gave you to him' (Fassi Fehri, 1993:104)

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[2] This is a slight oversimplification (see sections 4.3.2 and 5 below).

[3] Anticipating the proposal in section 5.1 that agreement affixes have Case, subject and object agreement will be glossed throughout this chapter as NOM and ACC respectively.

(9) ʔaʕt.ā-hu l-ʔustāḏ-u ʔiyyāka
give-PAST.3SG.M.NOM-3SG.M.ACC the-teacher-NOM you.SG.M.ACC
'The teacher gave you to him' (Fassi Fehri, 1993:105)

The object affixes also appear on certain complementisers such as *ʔinna*, cross-referencing the φ-features of the subject (10) and in this respect behave in the same way as a matrix predicate exceptionally Case-marking the subject of the embedded clause (11). In both these cases too, the affixes are in strictly complementary distribution with overt arguments.

(10) qāla ʔinna-hu ʤāʔ-a
say.PAST.1SG.NOM that-3SG.M.ACC come-PAST.3SG.M
'I said that he came'

(11) ḥasib-tu-hu ʤāʔ-a
think-PAST.1SG.NOM-3SG.M.ACC come-PAST.3SG.M
'I thought he came' (Fassi Fehri, 1993:98)

(12) qāla ʔinna(*-hu) l-ʔustāḏ-a ʤāʔ-a
say.PAST.1SG.NOM that-3SG.M.ACC the-teacher-ACC come-PAST.3SG.M
'I said that the teacher came'

(13) ḥasib-tu(*-hu) l-ʔustāḏ-a ʤāʔ-a
think-PAST.1SG.NOM(*-3SG.M.ACC) the-teacher-ACC come-PAST.3SG.M
'I thought he came'

2 AN ANALYSIS OF SVO ORDER

2.1 The Structure of SVO Clauses

The restrictions on the co-occurrence of agreement and overt subjects in Arabic finite clauses with SVO word order are exactly the same as those observed for first and second person subjects in the Finnish temporal adjunct and agent construction in section 2.1 of the preceding chapter. Verbs exhibiting full agreement may be preceded by pronominal subjects without these necessarily needing to receive focal or contrastive stress of any kind.

(14) (ʔanā) raʔay-tu zayd-an
(I.NOM) see-PAST.1SG.NOM Zayd-ACC
'I saw Zayd'

(15) (ʔanti) takallam-ti
(you.SG.F.NOM) speak-PAST.3SG.F.NOM
'You (f.) spoke'

It is only in the third person that the constructions in the two languages have different properties in this respect. Firstly, as a comparison of (1) and (7) reveals, full NPs in Arabic, unlike their counterparts in Finnish non-finite clauses, trigger the same agreement as third person pronouns. Secondly, whereas in Finnish null third person subjects are anaphoric to the extent that they are only grammatical when co-referential with an antecedent in a higher clause, in Arabic they may occur in exactly the same range of contexts as null first and second person subjects.

(16) (huwa) ʤāʔ-a
(he.NOM) came-3SG.M.NOM
'He came' (Fassi Fehri, 1993:115)

Drawing from these observations the conclusion that Arabic differs from Finnish in that full NPs are specified for φ-features[4] and third person agreement licenses a null pronominal in the same way as first and second person affixes do[5], it is a simple matter to apply the model developed for the Finnish temporal adjunct and agent construction directly to Arabic SVO clauses. This amounts to saying that the topmost node of the verbal complex (presumably *v* in a finite clause) does not assign a θ-role to its left with the consequence that, by the proposal in 3.4.2 of the last chapter, the φ-features of any agreement affix *Px*[6] merged with *v*P will not be

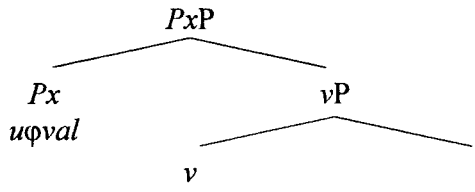
[4] Note that while the Finnish data suggest that having φ-features (or, more specifically, a person feature) is sufficient for a category to be able to receive a θ-role, it does not support the view that this is necessary, if the suggestion (made in section 2.1 of the last chapter) that full NPs are not valued for person is correct.

[5] As yet no precise account of how optional arguments are licensed has been given. This is the subject of chapter six.

[6] In order to make the parallels clear, I shall continue to use the symbol *Px* to denote an agreement head.

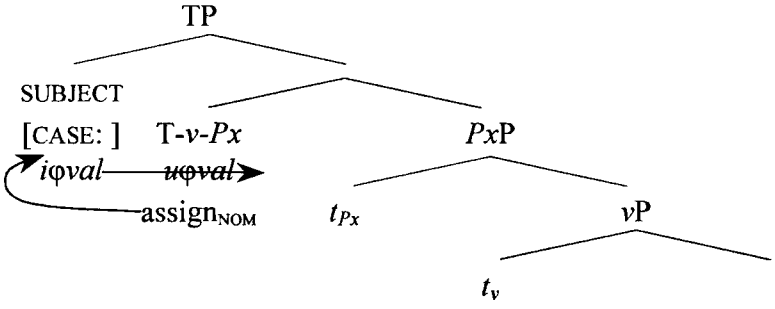
interpretable and must therefore be deleted. At this stage in the derivation then, the structure of the clause is as follows[7].

(17)



The derivation of the Finnish constructions then proceeded by introducing the head α, which word-order evidence from clauses of the same type with no possessor agreement had already shown to trigger movement of the verbal complex out of *V*P. The subject was then merged in the specifier of α, checking the uninterpretable φ-features of *Px* and receiving genitive Case. Assuming the analogue of this α to be the nominative Case-assigner T, the structure of finite Arabic SVO clauses is expected to be the following (cf. (118) of the chapter three).

(18)



2.2 The Locus of Θ-Role Assignment in SVO Clauses

One claim of this analysis is therefore that preverbal subjects in finite SVO clauses originate in SpecTP and as such seems to be at odds with the general, if not unanimous, consensus that Spec*v*P is the position in which thematic subjects are introduced into the structure. While it is true that Doron and Heycock (1999) have argued convincingly that a class of elements with subject properties are first merged in SpecTP[8], these differ from the kinds of subject under discussion here in being associated with a θ-role assigned further down the structure and hence rely crucially on SpecTP not being a θ-position. This will clearly not be the case for the structure shown in (18), if the position of first merge is always the position in which an element receives its θ-role. Furthermore, anticipating the discussion of VSO orders in section

[7] This is essentially the same as that given for the temporal adjunct and agent constructions in (129) of the last chapter.

[8] These data will be considered in detail in section 4.3.2.

4 below, there seems to be ample evidence that *v* can indeed assign the subject θ-role in Arabic finite clauses.

In Finnish, the pattern of agreement exhibited in a given context was dependent on the construction in which it occurred and as such, whether or not the verb was able to assign a subject θ-role could safely be assumed to be determined by a morphosyntactic property of the affixes (*va/nut-*, *de-*, *ma-* etc.) making up the form in question. This line of reasoning is not available for the Arabic data, as it is only the patterns of agreement, rather than the forms of the verb themselves that differ according to word order. What the data seem to suggest is that *v* may, but need not, assign a θ-role to the category immediately c-commanding it, that θ-role remaining available for assignment to a category in SpecTP once *v*-to-T movement has occurred. This is, of course the same conclusion as was reached on the basis of purely theoretical considerations in section 2.2.4 of chapter two and the Arabic data may therefore be taken to constitute independent empirical support for this position. Moreover, it also resolves an anomaly in the analysis proposed in the last chapter, where it was proposed that the Case-assigner α was also a θ-role assigner in the temporal adjunct and agent constructions but not in the participial construction. To all intents and purposes, this amounted to proposing the existence of two distinct heads, albeit with overlapping properties, but under the new proposal, even where the θ-role is assigned <u>from</u> α, it need not be assigned <u>by</u> α. This head can thus be taken to have the same properties in both constructions (with any further restrictions on where θ-roles can be assigned in different types of clause still being taken to originate in the morphology). An SVO clause is therefore simply the structure that emerges when the verb waits until is has moved as far as is possible before assigning its subject θ-role. This model will be assumed from this point onwards and the phrase 'assigned from a head' rather than 'assigned by a head' used to identify the position in which an assigning head discharges its θ-role.

However, while resolving this one issue, adopting this analysis raises the question of whether the θ-role can also be assigned from *Px*, through which the θ-assigner clearly moves where it is present. In the analysis proposed for the Finnish temporal adjunct and agent construction and now adopted for finite SVO clauses in Arabic, it was assumed that *Px* first moves to α/T and has its φ-features checked there by an element merged in SpecαP/SpecTP rather than allowing the subject to be first merged in Spec*Px*P, but no support was offered for this conclusion. Indeed, since *Px* in these constructions has uninterpretable φ-features, there is

ample motivation for merging the subject in Spec*Px*P and no *a priori* reason why this should not be allowed. If it were, however, then sentences such as (19) in Finnish and (4) in Arabic, repeated here as (20), should be grammatical, the verb raising in both cases past the subject in Spec*Px*P to check tense and the object *kattoa* 'roof' being targeted by the EPP-feature on α in the Finnish example, but it would be reasonable to contend that in the absence of corroborative evidence for such an analysis from other constructions, the stipulative nature of such a restriction reduces the explanatory power of the account as a whole.

(19) *Katto-a korja-te-ssa-ni minu-n Nelli lö-i sormee-nsa
roof-PAR fix-INF$_2$-INE-1SG.PX I-GEN Nelli[NOM] hit-PAST[3SG] finger-3.PX
Intended: 'While I was fixing the roof, Nelli hit her finger'

(20) *daxal-na n-nissāʔ-u makātib-a-hunna
enter.PAST-3PL.F the-women-NOM office.PL-ACC-their.F
Intended: 'The women have entered their offices' (Fassi Fehri, 1993:32)

As it happens, Arabic offers independent empirical support for the conclusion that the subjects (of SVO sentences) do not originate in Spec*Px*P[9], even if it does not necessarily offer any further insight into the theoretical motivation behind the restriction. While the subjects in all the examples considered so far have been nominative, this appears to be the option chosen only when no other Case-assigner able to target the preverbal position is present in the structure. If the clause is embedded under certain matrix verbs or introduced by certain complementisers including *ʔinna* (an option not restricted to embedded clauses), then the subject must appear in the accusative.

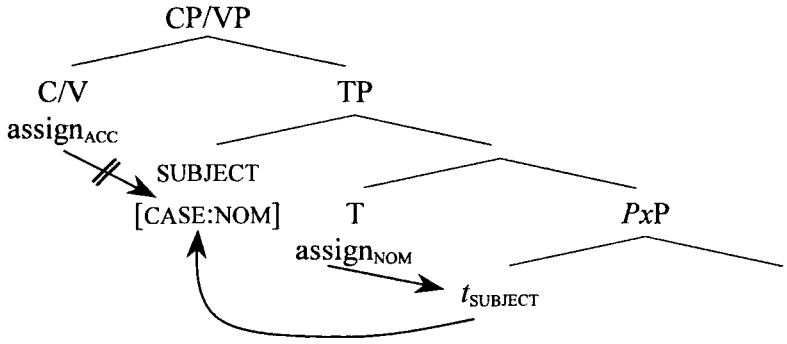
(21) ḥasib-tu baqarat-an/*-un takallam-at
think-PAST.1SG.NOM cow-ACC/*-NOM speak-PAST.3SG.F
'I thought that a cow has spoken' (Fassi Fehri, 1993:48)

(22) ʔinna baqarat-an/*-un takallam-at
that cow-ACC/*-NOM speak-PAST.3SG.F
'A cow has spoken' (Fassi Fehri, 1993:48)

[9] This position will be modified somewhat in section 5

If, as it seems reasonable to assume, a Case-assigner assigns its Case to the nearest Caseless NP in its c-command domain, then this result is unexpected if the subject originates in a position below T, such as Spec*Px*P (or Spec*v*P for that matter). In that case, the subject would be expected always to receive nominative Case and consequently be unable to receive the accusative Case assigned by any complementiser or matrix verb present after moving to the preverbal position (23). (This concurs with the fact that postverbal subjects in VSO clauses are invariably nominative (24), even when the clause is introduced by an accusative-assigning head, although as will be seen in section 4.3, the situation is a little more complicated.)

(23)



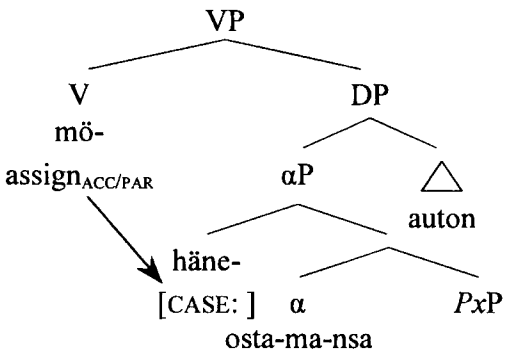
(24) qāla ʔinna-hā ʤāʔ-at l-banāt-u/*-a
say.PAST.1SG.NOM that-3SG.F.ACC arrive-PAST.3SG.F.NOM the-girls-NOM/*-ACC
'I said that the girls arrived' (Mohammad, 1999:143)

If, on the other hand, the subject is first merged above T, then it is not in its c-command domain and can escape being assigned nominative Case in the presence of another Case-assigner. If no such head is available then nominative is assigned as a last resort, either by T or by means of a default rule.

At this point the question arises as to why it is that the subjects of Finnish constructions claimed here to have essentially the same structure as in (18) can have no other structural Case than genitive. This is easily accounted for if we recall that the temporal adjunct, as its name suggests, is only ever found in adjunct positions and are as such not within the c-command domain of a structural Case assigner, with the result that the clausal head α always assigns genitive as a last resort. This explanation might, at a first glance, appear to be falsified by the participial and agent constructions, which do appear to occupy a position accessible to a Case-assigner.

Where an agent construction modifies a direct object, as is the case in the partial structure (25), its subject is within the c-command domain of the verb and should therefore be able to receive accusative or partitive Case. (26) shows that this prediction is incorrect: only the genitive is grammatical.

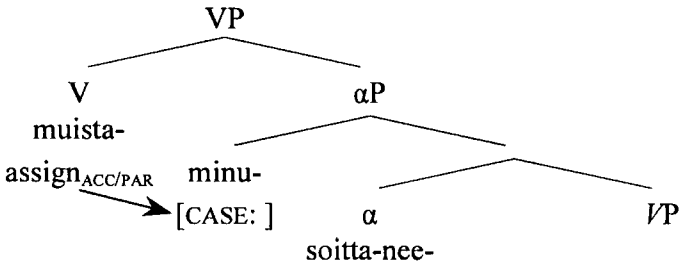
(25)



(26) Minä mö-i-n häne-n/*-t/*-a osta-ma-nsa auto-n
I[NOM] sell-PAST-1SG I-GEN/*-ACC/*-PAR buy-INF3-3.PX car-ACC
'I sold the car that he bought'

Similarly, in the partial structure (27), the subject of the embedded participial clause is immediately c-commanded by the matrix verb *muista-* and should therefore also be able to receive the accusative or partitive Case canonically assigned to object positions. (28) shows that it cannot.

(27)



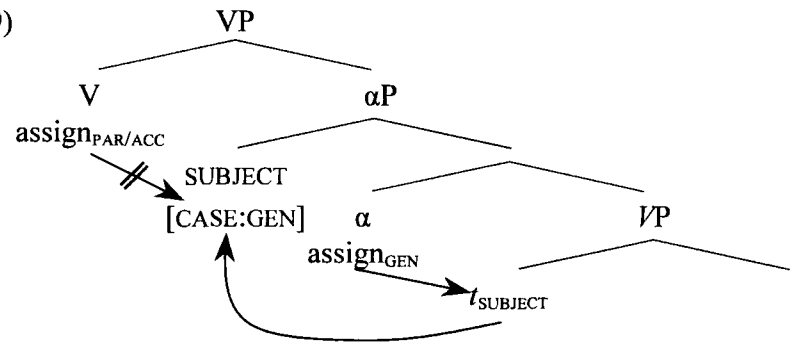
(28) Eero muista-a minu-n/*-t/*-a soitta-nee-n haitaria-a
Eero[NOM] remember-3SG I-GEN/*-ACC/*-PAR play-NUT-DFT accordion-PAR
'Eero remembers me playing the accordion'

The explanation of the ungrammaticality of (25) is straighforward. Assuming that the verb can assign structural Case to a maximum of one category, this will always be to the head of the object DP *auton*. If this Case were assigned to the subject of the agent construction, there

would be no other way for the object to get Case and the structure would crash. The subject of the agent construction, on the other hand, is accessible to the Case-assigner α, with the consequence that only where this option is chosen do grammatical sentences result.

Turning now to the participial construction, recall from section 3.4.1 of the last chapter that the participial construction was argued to differ from the temporal adjunct and agent constructions in that an overt subject was merged in Spec*V*P (where *V* is the highest head of the verbal complex). When merged as the object of a verb assigning accusative or partitive Case, it will have the structure given in (29), which is analogous to (23). Unlike that of the temporal adjunct and agent constructions, the subject in this structure is always in the c-command domain of α from which it will receive genitive Case and consequently be unable to receive Case from V.

(29)



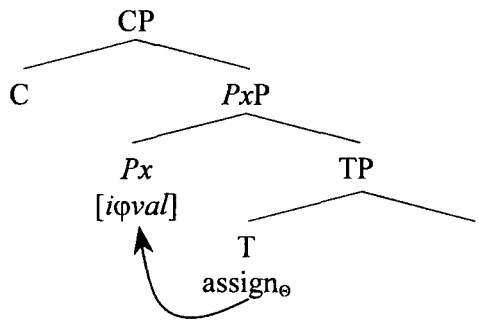
It could of course be argued that while *V* is clearly able to assign its θ-role to the category in Spec*V*P, there should be nothing to prevent it waiting until it has moved to α to do so, thereby making the subject available for exceptional Case-marking by the matrix verb. In the discussion of this model of θ-role assignment in section 2.2.4 of chapter two, it was argued that the choice of whether to merge the subject or the Case-assigner first was arbitrary, since both satisfied a requirement of the topmost head of the verbal complex (the subject enabling a θ-role to be discharged, the Case-assigner T fulfilling the verb's need for tense), with the consequence that both orders could be derived without movement. In the case of the participial construction, however, the verbal complex is not dependent on α in the same way, as the grammaticality of participial clauses where this head is absent altogether shows. The only way the derivation can proceed following the merger of the topmost head of the verbal complex *V* is therefore for the subject to be introduced.

By hypothesis, then, if the Finnish temporal adjunct could be embedded under verbs or complementisers assigning a structural Case, then their subjects would have that Case in those contexts rather than the canonical genitive. However, the structures of such non-finite clauses (with overt subjects) as do occur in these contexts are such that either there is another category which must receive the structural Case in question from the verb in order for the structure to be grammatical, or that the preverbal subject is already marked as genitive by the time it arrives in SpecαP. Thus different factors conspire to prevent subjects of Finnish non-finite clauses from displaying the same range of Cases as those of Arabic SVO clauses.

3 OBJECT AND COMPLEMENTISER AGREEMENT

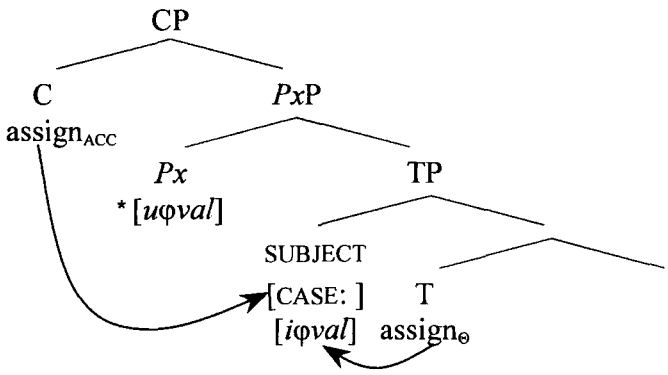
The restrictions on the co-occurrence of agreement and overt arguments in the case of object and complementiser agreement, on the other hand, are the same as those applying to the Finnish participial construction and an account akin to the one offered in section 3.4 of the last chapter can be successfully applied here. There it was argued that the highest head of the verbal complex was a θ-role assigner with the consequence that the φ-features of an overt subject or agreement head *Px* merged with its projection would be interpretable. By the same token, if the subject θ-role in an SVO clause is assigned by T, any *Px* head merged immediately above it will have interpretable φ-features and function as a pronoun.

(30)



Where SpecTP is filled, the element in that position will receive the θ-role from T, such that any *Px* subsequently merged would have uninterpretable φ-features, given the conclusions reached in section 2.4.2 of chapter three. Being valued, these features would be unable to probe the subject in SpecTP, the only element able to check them, and remain undeleted, resulting in ungrammaticality (31). Only where no such head is merged can the derivation converge.

(31)



Similar reasoning applies to where these affixes function as thematic objects, the only difference being that it is V rather than T that assigns the θ-role and *v* rather than C that assigns Case to an overt object.

4 THE PROBLEM OF PARTIAL AGREEMENT IN VSO ORDERS

While the patterns of subject agreement in SVO clauses and of object and complementiser agreement in general can be accommodated in the model developed for Finnish non-finite clauses, the pattern of subject agreement in Arabic VSO clauses is different from that found in either kind of clause discussed in chapter three. As long as gender is ignored, the co-occurrence of agreement and overt subjects in Arabic VSO clauses is subject to similar restrictions as the Finnish participial construction. Extending this analysis developed in section 2.4 of the previous chapter for such clauses to the Arabic data predicts correctly that an agreement affix merged directly with the verbal complex can receive a θ-role from *v* and function as an argument and also accounts for the lack of number agreement with the postverbal subject in examples (1) and (2) above. However, these same examples show that it runs into difficulty as soon as gender is taken into account, for it is clear that the form of the verbal affix varies according to whether the subject is masculine or feminine. In this respect, such 'default agreement' in Arabic VSO clauses is crucially different from the default agreement found in the Finnish participial construction. For while the ending *–n*, found in the latter in the presence of an overt subject, is distinct from any of the possessive suffixes and can therefore reasonably be assumed to have no φ-features, the situation in Arabic is not as clear cut, since verbs in VSO constructions carry the same agreement as that triggered by third person singular preverbal subjects. It could, of course, be claimed that the difference between the two languages in this respect is purely morphological in nature: in Arabic (but not Finnish), the verbal affixes encoding lack of φ-features just happen to have the same phonetic form as those specified as [3SG]. However, since it was shown in the previous chapter that even the Finnish possessive suffixes, the confusing syntactic behaviour of which

had led commentators to posit a functional ambiguity of precisely this type, were amenable to an elegant uniform analysis, the hypothesis should at least be explored that Arabic third person singular agreement morphemes have the same lexical specification in both the contexts in which they occur.

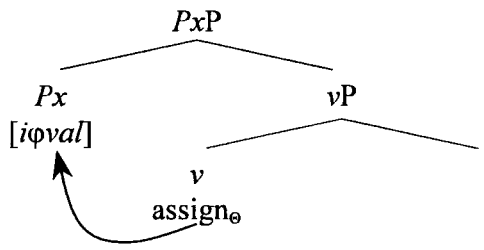
One consequence of adopting this hypothesis is that Arabic VSO constructions instantiate a clause type argued to be impossible in the last chapter, namely one in which a *Px* head is allowed to co-occur with a subject that is indisputably merged low (in Spec*v*P in this case). Based on the assumption that only unvalued features are able to probe, it was shown there that merging a *Px* head above an overt subject would always lead to ungrammaticality, because the valued φ-features of the *Px* head could not probe the subject and would thus not be deleted, while any category merged above *Px* to this end would be unable to receive a θ-role. If this analysis is to hold for Arabic therefore, it must be shown either that the φ-features of *Px* do not need checking in VSO clauses, or that the postverbal subject is in a position to check them after all, or that another element is available to check them (and that this element does not need a θ-role).

4.1 Third Person Singular Features Do Not Need Checking in VSO Clauses

Exploring the first of these possible explanations, the simplest reason for a feature not to need deleting is that it is simply not present in the first place. Since the clauses under consideration only ever have third person singular features, this amounts to saying that third person is not a possible φ-feature value in Arabic, but is in fact the reflex of the absence of a person feature, and singular number similarly is the absence of a number feature. However, while proposals along these lines have been made for a number of other languages, there is good reason to suppose that they are not compatible with the hypothesis being explored here. Firstly, if a given *Px* head is to have the same features lexically, regardless of whether these are interpretable or not, then this analysis makes incorrect predictions about the interpretation of sentences with null third person subjects. For while the case can be made that the φ-values of the *Px* head for person and number in VSO structures are underspecified, this reasoning cannot be extended to gender, which does co-vary with that of a postverbal subject. The φ-specification for the *Px* head must therefore include at least a valued gender feature, even in VSO structures. Now, if *v* can assign a θ-role to an overt subject, it should also be able to assign it to a *Px* head in the absence of such a subject, just as the topmost head of the verbal

complex was argued to assign a θ-role to either an overt subject or a possessive suffix in the Finnish participial construction (cf. section 2.4.3 of chapter three).

(32)



By virtue of carrying this θ-role, *Px* functions as a bound pronoun and its φ-features are interpretable. In the case of a third person singular affix therefore (if these are unspecified for person and number as proposed above), the φ-features of *Px* will consist of a single gender feature, [*i*γ:M] or [*i*γ:F]. As such, their interpretation should be broader than that of the lexical pronouns *huwa* 'he' and *hiya* 'she' (which presumably have the feature matrices [*i*φ:3SG.M] and [*i*φ:3SG.F] respectively), also including first and second person and dual and plural subjects[10]. However, the subjects of (33) and (34) must be interpreted in the same way as third person singular pronouns: the more general reading is not possible, suggesting that the φ-features of the affixes in question are fully specified.

(33) ʤāʔ-a
come-PAST.3SG.M.NOM
'He came'
*'Someone/something masculine came'

(34) ʤāʔ-at
come-PAST.3SG.F.NOM
'She came'
*'Someone/something feminine came'

[10] The notion that third person is in fact the absence of person could perhaps be upheld by arguing that, in the absence of a clear indication of a discourse participant, a default 'non-participant' value is assigned to the subject. It is, however, less than obvious that third person is a discourse default. The subject of the English sentence *Went to the shops yesterday*, for example, is naturally construed as first person, not third, in the absence of an overt subject.

It could be argued that the absence of a person and/or number feature prevents the affix from functioning as an argument and that the φ-features of a third person singular *Px* are therefore always uninterpretable, regardless of whether they are introduced into the structure immediately above a θ-assigner or not. If this is the case, then the status of *Px* is the same as in SVO clauses, in which (according to the argument in section 2 above) the subject θ-role is assigned by T rather than *v* and the φ-features of *Px* are always uninterpretable. If third person singular morphemes are only specified for gender, then they should differ from the other affixes in being compatible with preverbal subjects of all person-number combinations, not only third person singular ones. Whereas the derivation of (35) would be predicted to crash because the uninterpretable φ-features [1SG] of the morpheme *–tu* would remain undeleted, the absence of such features in (36) should remove the need for a subject with φ-values matching the suffix *–a*. This analysis thus predicts, incorrectly, that full agreement with a preverbal subject, although possible, should not be obligatory.

(35) *ʔanta intaqad-tu zayd-an
you.SG.M criticise-PAST.1SG.NOM Zayd-ACC
Intended: 'You criticised Zayd'

(36) *ʔanta intaqad-a zayd-an
you.SG.M criticise-PAST.3SG.M.NOM Zayd-ACC
Intended: 'You criticised Zayd'

Furthermore, irrespective of whether the *Px* head carries person and number features in need of deletion, the fact remains that it has a gender feature, which in VSO clauses will be uninterpretable under the assumptions adopted here. Since there is no reason to think that Arabic has a lexical nominal category specified only for gender, it would seem reasonable to suppose that, given the strong evidence against an underspecification analysis of third person agreement, the same element as checks the gender feature could also check person and number.

4.2 Postverbal Subject Checks Features

If the conclusion is correct that third person affixes are fully specified, then the second possible explanation for the unexpected grammaticality of VSO clauses containing a *Px* head mentioned above (that the subject is, after all, able to check an uninterpretable gender feature)

is also unlikely to be workable. That is not to say, of course, that there is no position available from which it could plausibly check the gender feature: as was observed in the discussion of θ-role assignment in sentences with SVO word order above (section 2.2), Spec*Px*P is just such a position, but as the discussion in that section also showed, there is no means of preventing it from also checking the person and number features and receiving nominative Case in that position, predicting incorrectly that full agreement in VSO clauses should also be derivable (by subsequent movement of the verbal complex to T).

4.3 Another Element Checks Features

The only remaining possibility then, is that an element other than the subject checks the verbal φ-features in VSO clauses. This element must be phonetically null, have third person singular features and, since it is not in a position to receive a θ-role (the postverbal subject having received that assigned by *v*) must still be a legitimate LF-object without one. This conclusion is not without its problems, however, for the element in question is, to all intents and purposes a null expletive, the existence of which is dubious on conceptual grounds, since it contributes neither to the PF- nor the LF-interface[11]. The hypothesis is all the more suspect for the fact that neither of the overt third person pronouns with the same φ-feature values as this expletive would have to have can occupy the preverbal position in a VSO clause.

(37) (*huwa) ʤāʔ-a ṭabīb-u l-malik-i
(*he.NOM) come-PAST.3SG.M physician-NOM the-king-GEN
'The king's physician came' (Mohammad, 1999:117)

(38) (*hiya) ʤāʔ-at ṭabīb-at-u l-malikat-i
(*she.NOM) come-PAST.3SG.F physician-F-NOM the-queen-GEN
'The queen's physician came' (Mohammad, 1999:117)

[11] The status of the φ-features of expletives presents an interesting conundrum for the proposal advanced in the last chapter that the interpretability of such features depends on their receiving a θ-role. Since an expletive does not, by definition, carry a θ-role, its φ-features should be uninterpretable and need deleting. This is clearly not compatible with any model which allows expletives to trigger agreement. For the purposes of the present work, therefore, it must simply be accepted that expletives are anomalous to the extent that their φ-features do not need deleting, despite not being associated with a θ-role.

4.3.1 The Expletive Hypothesis

Nevertheless, the proposal that it is an expletive element that controls agreement in verb-initial structures has had currency among Arabic linguists since it was first advanced by Mohammad (1989, 1990). In a critique of this position, which he calls the Expletive Hypothesis, Fassi Fehri (1993) concedes that, despite sentences such as (37) and (38) not being grammatical, there are constructions in which third person pronouns function as expletives, but that in these cases, the third person plural pronouns *hum* (39) and *hunna* (40) are also possible. If silent expletives are licit in clauses of the type exemplified by (37) and (38), then there can be no principled reason for disallowing those with plural number, again predicting, counter to fact, that plural verbs should be possible in VSO clauses.

(39) hum l-ʤunūd-u
they.M.NOM the-soldiers-NOM
'It is the soldiers. That's soldiers' (Fassi Fehri, 1993:40)

(40) hunna n-nisāʔ-u
they.F.NOM the-women-NOM
'It is the women. That's women' (Fassi Fehri, 1993:40)

Mohammad (1999:Ch.4) responds to a number of objections to the Expletive Hypothesis, accounting for the apparent counterexamples just mentioned by means of the Binding Theory and the Case Filter. Observing that the plural forms are only grammatical in non-verbal sentences, Mohammad suggests that *hum* in (39) and *hunna* in (40) are licensed in the same way as pronouns in equative sentences with thematic subjects such as (41) and (42). In these sentences (for reasons which Mohammad does not identify) co-indexation of the pronoun and R-expression is possible, despite constituting a Principle C violation.

(41) huwa$_i$ ṭabīb-u l-malik-i]$_i$
he.NOM$_i$ [physician-NOM the-king-GEN]$_i$
'He is the king's physician' (Mohammad, 1999:116)

(42) hiya$_i$ [ṭabīb-at-u l-malikat-i]$_i$
she.NOM$_i$ [physician-F-NOM the-queen-GEN]$_i$
'She is the queen's physician' (Mohammad, 1999:117)

Mohammad's rather vague claim that "whatever is responsible for licensing [(41) and (42)] licenses [(39) and (40)]" (Mohammad, 1999:117) seems to imply that the pronouns in (39) and (40) are also licensed by virtue of being co-indexed with their associate and are hence in fact thematic subjects, to a degree at least. Nominal categories in verbal clauses, by contrast, are subject to Principle C, with the effect that co-indexation of the preverbal pronoun and postverbal subject in (37) and (38) would result in ungrammaticality. If third person plural pronouns are only licensed in contexts where they can be co-indexed with a plural R-expression, then this explains why they may not duplicate postverbal subjects in these kinds of clauses, but the ungrammaticality of overt singular pronouns functioning as expletives in the same contexts is still unexpected, particularly if a null subject with identical features is supposed to be licit.

Mohammad proposes that the difference in the grammaticality of overt expletives in equative and verbal sentences is due to the fact that in equative sentences two nominative Cases are available (for reasons that Mohammad does not discuss), one of which is assigned to the R-expression, the other to the expletive. In the verbal sentences (37) and (38), by contrast, only one nominative Case is available, which, having already been assigned to the postverbal subject, cannot also license an overt expletive. If this is the correct conclusion, then it is to be expected that an overt expletive will be licensed if another Case-assigner is available in the structure. Recall from section 2.2 above that certain complementisers and verbs assign accusative Case to the thematic subject in the SpecTP position of an SVO clause they take as their complement and from section 1 that where an accusative argument is pronominal, it appears as an affix attached to its Case-assigner (in this case the complementiser or matrix verb). If the possibility of an overt expletive in that same position is dependent on whether or not it can receive Case, then overt object suffixes, functioning as expletives, should be possible in embedded clauses introduced by such heads. The following example shows that this prediction is indeed borne out.

(43) qāla ʔinna*(-hā) ʤāʔ-at l-banāt-u
say.PAST.1SG.NOM that-3SG.F.ACC arrived-PAST.3SG.F.NOM the-girls-NOM
'I said that the girls arrived' (Mohammad, 1999:143)

Adopting the Expletive Hypothesis therefore provides an element other than the postverbal subject, able to check the uninterpretable φ-features of *Px* in Arabic VSO clauses. What it

does not predict, however, is that the expletive necessarily has the same feature value for gender as the postverbal subject. Since the verb is not dependent on the subject to delete its uninterpretable φ-features, it should be possible for a feminine verb (with a feminine expletive) to cooccur with a masculine subject and vice versa. As it happens, the second of these possibilities has been noted by Arab grammarians where the verb is separated from the thematic subject by another category (44-45) and Mohammad even gives two examples where nothing intervenes (46-47).

(44) wa-kāna l-il-yahūd-i fi bilād-i l-ʿarab-i
and-was.3SG.M for-the-Jews-GEN in countries-GEN the-Arabs-GEN
ʤāliyāt-un kaθīrat-un
settlements(F)-NOM many-NOM
'The Jews in the Arab countries had many emigrant settlements'
(Mohammad (1999:119), quoting Cantarino (1974:84-85))

(45) qad kāna yaskunu l-ʿirāq-a ʔumam-un muxtalifat-un
qad was.3SG.M settle.3SG.M the-Iraq-ACC peoples(F)-NOM different-NOM
'Different peoples had settled in Iraq'
(Mohammad (1999:119), quoting Cantarino (1974:84-85))

(46) lawlā-hu la-dạʿ-a ʔasmāʔ-u kaθīr-in mina
if.not.for-3SG.M.ACC la-lost.3SG.M.NOM names(F)-NOM many-GEN of
l-kutub-i n-nafīsat-i
the-books-GEN the-precious-GEN
'If it had not been for him, the titles of many precious books would have been lost'
(Mohammad, 1999:119)

(47) naʃar-a hāʔulāʔi l-ʤawārī nawʿ-an mina θ-θaqāfat-i ...
spread-3SG.M.NOM these the-slave.girls type-ACC of the-culture-GEN
'These slave girls spread a type of culture ...' (Mohammad, 1999:120)

The precise mechanisms behind gender agreement with a postverbal subject are clearly more complicated than the Expletive Hypothesis can account for on its own and the account offered here makes no claim to be exhaustive in this regard.

4.3.2 Multiple Subject Constructions

There is however one kind of construction which appears to falsify the Expletive Hypothesis, namely what Doron and Heycock (1999) call the multiple subject construction[12], in which the preverbal position is occupied by a non-subject argument.

(48) hind-un yuqābilu-ha T-Tullāb-u
Hind-NOM meet.3SG.M-3SG.F.ACC the-students(M)-NOM
'The students are meeting Hind' (Doron and Heycock, 1999:71)

Doron and Heycock put forward a range of evidence that the preverbal nominal *hind-un* (to which they refer as the 'broad subject', thus distinguishing it from the 'narrow subject' *T-Tullābu*) is first merged in SpecTP. Of particular interest for the discussion in hand is the fact that broad subjects exhibit the same variation in Case-marking as do preverbal subjects, argued in sections 1 and 2 also to originate in that position. In a sentence such as (48), in which there is no head external to the clause that could assign Case to the broad subject, it is nominative. When the clause is embedded under a matrix verb or one of the complementisers that assign accusative, on the other hand, it must exhibit that Case.

(49) dhanan-tu hind-an yuqābilu-ha T-Tullāb-u
thought-1SG Hind-ACC meet.3SG.M-3SG.F.ACC the-students(M)-NOM
'I believed Hind to have been met by the students' (Doron and Heycock, 1999:73)

However, unlike preverbal narrow subjects, which obligatorily trigger full subject agreement on the verb, a broad subject, whether nominative or accusative, triggers no agreement at all. As (50) and (51) show, it cannot even control the gender feature, which must rather track that of the postverbal narrow subject[13], apparently calling into question the validity of the conclusion that it is the preverbal expletive that controls agreement in straight VSO clauses.

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[12] As Doron and Heycock note, this construction is usually considered by Arabic linguists to be a case of left dislocation. See their paper and references cited there for arguments for and against this position.

[13] Note that all the φ-features of the broad subject are cross-referenced by the object agreement affix *–ha* in this example, contrary to what was said in section 1 about object agreement and overt arguments being in strictly complimentary distribution. The reasons for this apparent exception will be discussed in the next section. What is important for the discussion in hand is that the broad subject, despite occupying the same position as that from which a narrow subject deletes the unvalued φ-features of the *Px* head immediately below T, cannot control the subject agreement.

(50) *hind-un yuqābila-ha T-Tullāb-u
Hind(F)-NOM meet.3SG.F-3SG.F.ACC the-students(M)-NOM
Intended: 'The students are meeting Hind'

(51) *dhanan-tu zayd-an yuqābilu-hu n-nisāʔ-u
thought-1SG Zayd(M)-ACC meet.3SG.M-3SG.M.ACC the-women-NOM
Intended: 'I believed Zayd to have been met by the women'

Doron and Heycock do, however, provide one piece of evidence that suggests that the Expletive Hypothesis may still be tenable, in spite of these apparent problems. They take the fact that broad subjects are not restricted to VSO-type clauses as an indication that Arabic allows multiple specifiers, noting that where both broad and narrow subjects precede the verb, the narrow subject must follow the broad subject.

(52) hind-un ʔaT-Tullāb-u yuqābilu-una-ha
Hind-NOM the-students(M)-NOM meet.3.M-PL-3SG.F.ACC
'The students are meeting Hind' (Doron and Heycock, 1999:83)

(53) *ʔaT-Tullāb-u hind-un yuqābilu-una-ha
*the-students(M)-NOM Hind-NOM meet.3.M-PL-3SG.F.ACC
Intended: 'The students are meeting Hind' (Doron and Heycock, 1999:83)

The precise implementation of this restriction (which can be replicated in the framework of the theory being developed here, even if the two are not directly compatible) is of secondary importance to the fact that these examples demonstrate irrefutably that two preverbal positions are available. If this is the case, then there is no reason why the second, that occupied by the narrow subject controlling the agreement in (52), should not be occupied by an expletive in (48). Unlike the VSO sentences considered so far, however, there is no way of forcing the expletive in such a context to be phonetically realised, since the patterns of Case-marking in embedded multiple subject constructions show that only the broad subject in the higher specifier of T appears in the accusative (54). The narrow subject obligatorily has nominative Case as it would in a matrix VSO clause, predicting correctly that it should be impossible to spell out an expletive merged in the same position (55) either as an agreement affix or as a free pronoun.

(54) dhanan-tu hind-an ʔaT-Tullāb-u/*-a yuqābilu-una-ha thought-1SG
Hind-ACC the-students(M)-NOM/*-ACC meet.3.M-PL-3SG.F.ACC
'I thought that the students were meeting Hind'

(55) dhanan-tu(*-hu) hind-an yuqābilu-ha T-Tullāb-u
thought-1SG(*-3SG.M.ACC) Hind-ACC meet.3SG.M-3SG.F.ACC the-students(M)-NOM
'I believed Hind to have been met by the students'

The fact that broad and narrow subjects may co-occur preverbally is therefore at least consonant with the possibility that it is a null expletive located in the lowest specifier position of T that checks the uninterpretable φ-features of *Px* in sentences such as (48) and (49), even if there is no way of proving conclusively that it is present.

5 AGREEMENT WITH PRONOUNS

The sentences used so far as examples of partial agreement have all had full NP subjects and have thus really shown only that number agreement with a postnominal subject fails. Consideration of overt pronominal subjects reveals a different pattern. In such cases, full agreement is not only possible, it is obligatory.

(56) ʤiʔ-tu ʔanā
come-PAST.1SG.NOM I.NOM
'I came' (Mohammad, 1999:121)

(57) *ʤāʔ-a ʔanā
come-PAST.3SG.NOM I.NOM
Intended: 'I came' (Mohammad, 1999:121)

Furthermore, doubling the affix in this way is not restricted to subject agreement. Object affixes, whether they cross-reference a direct object (58), prepositional object (59) or a possessor (60) can also be doubled by a pronoun in all the contexts in which they occur.

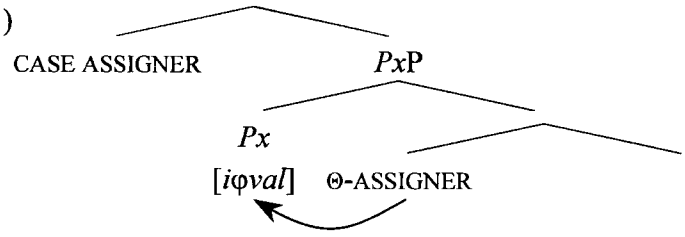
(58) ʔ-antaqid-u-ka ʔanta
1SG.NOM-criticise-IND-2SG.M.ACC you.SG.M.NOM
'I criticise you' (Fassi Fehri, 1993:114)

(59) marar-tu bi-hi huwa lā bi-ʔaxī-hi
passed.by-1SG.NOM with-3SG.M.GEN he.NOM not with-brother-3SG.M.GEN
'I passed by him, not by his brother' (Fassi Fehri, 1993:114)

(60) ʔ-asʔal-u ʿan xabar-i-ka ʔanta lā ʿan xabar-ī
1SG.NOM-inquire-IND about news-GEN-2SG.M.ACC you.M.NOM not about news-1SG.GEN
'I am inquiring about your news, not about mine' (Fassi Fehri, 1993:114)

In this respect the data diverge from the pattern attested in the Finnish participial construction, in which overt pronominal subjects do not trigger any agreement in φ-features on the participle, and as such cast doubt on whether the schema developed for that type of clause in the previous chapter (61) is the correct analysis for subject agreement in Arabic VSO clauses and object agreement generally.

(61)



There are, however, important differences between pronouns in these positions and other kinds of argument in Arabic (including preverbal pronominal subjects with the same phonetic form). Fassi Fehri (1993:Ch.3§1.6), noting that they obligatorily carry focal or contrastive stress of some kind (as (56) to (60) indicate) follows traditional Arabic grammar in treating such pronouns as a class separate from those that function as non-focussed arguments. While this move enables him to maintain the generalisation that postverbal subjects may trigger only gender agreement, it comes at the expense of introducing a further functional ambiguity into the grammar, since the phonetic exponents of the new class of strong pronouns that it creates are identical to those of the class of weak pronouns, which may occur, unstressed, in preverbal positions. The following sections will show that, like the functional ambiguity purported to obtain in the case of Finnish possessor agreement, here too the differences between the strong and weak pronouns need not be lexically stipulated, but can rather be predicted from interactions between the grammatical features of lexical items allowed or required by the structural configurations into which they are introduced.

5.1 The Base Position of Emphatic Subjects

As it stands, there is no position in the structure in (61) which could be occupied by a pronominal argument duplicating the φ-features of the head *Px*. On the one hand, a subject merged in Spec*Px*P would, under the theory of agreement developed in the last two chapters, delete the φ-features of *Px*, which would consequently have to be uninterpretable. This situation could only obtain if *v* did not assign a θ-role to its left in such constructions. A pronominal subject could then be merged in Spec*Px*P, checking the φ-features of *Px* as required, before the verbal complex moved to T to give the VSO word order. This would give the correct results for pronominal subjects, but as it stands, does not explain why full NP subjects cannot also be merged in this position thereby triggering full agreement in VSO clauses. In the absence of an independently motivated condition limiting the class of elements that can occupy Spec*Px*P to pronouns, then, this hypothesis will thus fall at the same hurdle as the idea explored in section 2.2, that all preverbal subjects originate in this position.

If, on the other hand, such a subject were merged in the same place as a postnominal NP subject (as specifier of the θ-assigner), then it would receive the θ-role shown as being assigned to *Px* in (61), the φ-features of which would then be uninterpretable and need to be deleted. This poses essentially the same problem as that which the Expletive Hypothesis was invoked to solve in the previous section: the valued φ-features of *Px* are not able to probe an argument lower down the structure, but this appears to be the only category present able to check them. However, while proposing the presence of null third person singular expletives with gender features to match those of *Px* was relatively unproblematic in the case of subject agreement and could be motivated by reference to their overt counterparts in comparable constructions, the fact that there is no restriction on the φ-feature values of the *Px* head in this range of constructions makes a similar argument for these structures unworkable. A proposal along these lines would require there to be first and second person expletives, a linguistic category not attested overtly in any dialect of Arabic (or indeed of any known language). Even if a convincing case could be made for the existence such a category, it would remain to be explained why it should never be able to have different φ-features from the postverbal subject, as was shown to be possible in at least some cases with gender agreement (even if the rules underlying this laxness were not fully understood). Furthermore, it would require there to be a set of object expletives, which the same tests as revealed the presence of subject expletives in SpecTP can show not to be present in the specifier position of the accusative Case-assigner *v*. Since a *v*P is always within the c-command domain of a T head, an expletive

in Spec$v$P[14] should always be lexicalised (presumably as a subject agreement affix, given that expletives embedded under an accusative Case-assigner were realised as object agreement affixes). This expletive will only be able to fulfil its purpose of deleting the uninterpretable features of the object agreement if it has the same φ-values, predicting incorrectly that an overt pronominal object should in fact trigger two lots of agreement with the object, one expletive subject affix and one object affix.

(62) *zayd-un antaqid-u-ta-ka ʔanta
Zayd-NOM criticise-IND-3SG.M.NOM-2SG.M.NOM(EXPL)-2SG.M.ACC you.SG.M.NOM
Intended: 'Zayd criticises you'

There is also evidence from Case-marking that these pronouns do not originate in the same position as full NP arguments. For while a full NP argument must receive accusative Case from a verb (63) or accusative-assigning complementiser (64) to its immediate left, a doubling pronoun can only ever appear in the nominative (65-66). An obvious explanation for this is that full NP arguments originate in a position where they can receive Case, whereas doubling pronouns do not, the absence of an appropriate Case-assigner suggesting that their nominative form is the result of a default rule.

(63) ʔ-antaqid-u Hind-an/*-un
1SG.NOM-criticise-IND Hind-ACC/*-NOM
'I criticise Hind'

(64) qāla ʔinna l-ʔustāḏ-a/*-u ʤāʔ-a
say.PAST.1SG.NOM that the-teacher-ACC/*-NOM come-PAST.3SG.M
'I said that the teacher came'

(65) ʔ-antaqid-u-ka ʔanta/*ʔiyyāka
1SG.NOM-criticise-IND-2SG.M.ACC you.SG.M.NOM/*you.SG.M.ACC
'I criticise you'

(66) qāla ʔinna-hā hiya/*ʔiyyāhā ʤāʔ-at
say.PAST.1SG.NOM that-3SG.F.ACC she.NOM/*she.ACC come-PAST.3SG.F
'I said that she came'

[14] This would only be possible in SVO clauses, in which the θ-role associated with *v* has been argued to be assigned from T rather than from *v*.

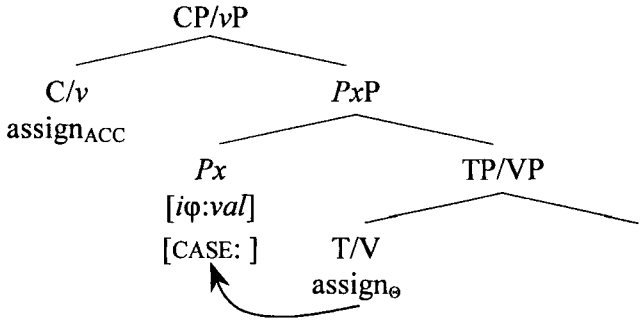
By the same token, there is good reason to suppose that the verbal affixes are Case-marked, since their realisation as subject or object affixes varies according to their structural position in the same way as the Case of NP-arguments does. For just as the object NP in (63) and embedded subject NP in (64) must be accusative, so also must a pronominal argument in the same contexts be realised as an object affix.

(67) ʔ-antaqid-u-ka/*-ta
1SG.NOM-criticise-IND-2SG.M.ACC/*-2SG.M.SUBJ
'I criticise you'

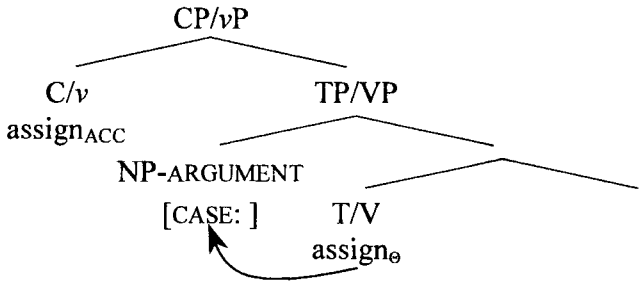
(68) qāla ʔinna-hā/*-at ʤāʔ-at
said.1SG.NOM that-3SG.F.ACC/*-3SG.F.SUBJ come-PAST.3SG.F
'I said that she came'

Comparing the structure of the relevant parts of these sentences with (63) and (64), it is clear that the relationship that the *Px* heads realised as object agreement bear to the Case-assigners *v* and C (69) is similar both to that of the full NP arguments (70) and to the relationship a *Px* head realised as subject agreement bears to the Case-assigner T (71). This being the case, it is a small step to posit that *Px* heads have an unvalued Case-feature and are realised as subject agreement when nominative and object agreement when accusative.

(69)



(70)



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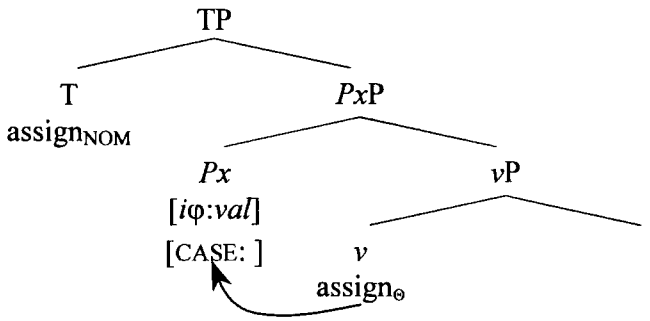

5.2 The Thematic Status of Postverbal Pronouns

Combining these two insights, a strong case can now be made that emphatic pronominal arguments do indeed originate in Spec*Px*P, in spite of the arguments presented against that position at the start of this section. The fact that the head of the complement of T itself needs Case prevents the element in the specifier position of that head from being Case-marked[15], while the spec-head relation between the pronoun and the affix guarantees that their φ-feature values will be the same. The question now arises whether this congruence of φ-features arises in the same way as it does in SVO clauses (where a preverbal subject deletes uninterpretable φ-features in T) or via a different mechanism not hitherto discussed and the answer to this question has implications for the issue, examined in 2.2 above, of where θ-roles may and may not be assigned. For if agreement with an emphatic pronoun is the result of it deleting the uninterpretable φ-features of a *Px* head, it cannot be the case that the θ-role is assigned low in these structures, as this would lead, in the absence of an element occupying the specifier position of the θ-assigner, to the φ-features of *Px* being interpretable. The only alternative explanation that is both compatible with this mechanism of agreement and also yields the correct word order does therefore indeed seem to be that the θ-role is, just in this restricted set of cases, assigned from *Px* to its specifier.

There are, however, good reasons to believe that this is not the correct analysis. Firstly, while the θ-assigning heads in subject and object agreement configurations (*v* and V) do invariably move through any *Px* head immediately dominating them, this is not the case with complementiser agreement, where the θ-assigning head manifestly does not move any higher than T and hence should not be able to assign its θ-role to any position above SpecTP. Secondly, even in the case of subject and object agreement, arguments from the interaction of Case and Θ-theory suggest that there too it is from the lower head that the θ-role is assigned.

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[15] Presumably in much the same way as possessors cross-linguistically are typically not assigned the Case of the noun they modify.

For if the visibility of a θ-role is dependent on the element carrying that θ-role receiving Case, then it is clear that the emphatic pronoun, argued in the last section to be Caseless, cannot be the bearer of a θ-role as would be the case if assignment proceeded from *Px*. If θ-role assignment proceeds from *v* or V, on the other hand, then it will be assigned to *Px*, and will be visible by virtue of the fact that this head has Case.

This type of structure, in which a Case- and θ-marked affix is doubled by a Caseless, non-θ-marked pronoun constitutes a third kind of agreement relation of a kind not attested in Finnish and two questions now arise, the first pertaining to the precise nature of the relationship between the emphatic pronoun and the pronominal affix and the second being why pronouns but not full NP arguments may bear that relationship. By way of answer to the first question, it is clear that this analysis has much in common with the Pronominal Agreement Hypothesis as first articulated in generative terms by Jelinek (1984) and elaborated upon in the literature reviewed in section 3.1 of chapter two, most notably Baker (2003), in which he demonstrates that pronominal agreement is a property of constructions rather than of languages, and that where it is present, an overt NP may not occupy the argument position related to that affix[16], but can at most bind the pronominal affix as an adjunct (c.f. Baker, 2003:2). Spec*Px*P, being a non-Case- and non-θ-position, has much in common with such an adjoined position, the most striking difference being that it is located in the middle of the structure, rather than in the peripheral, dislocated position that such elements occupy in the examples discussed by Baker. Viewed in this way, it appears that the premise of the second question, that only pronouns may bear this relationship to an affix, is in fact wrong, since in the multiple subject construction, discussed in section 4.3.2, broad subjects do seem to bear just this kind of relation to a Case- and θ-marked (object) affix and furthermore do occupy a clause-peripheral position more usually associated with dislocated elements. Since object agreement affixes only ever appear in positions where they receive a θ-role, the relationship of the broad subject *hind* to the pronominal affix *–ha* in a multiple subject sentence such as (49), repeated here as (72), must also be one of binding from a non-θ-position.

[16] Note that this is also the prediction made by the model being developed here, since it is not possible for both an agreement affix and an NP argument to receive a θ-role in a given position. Even in the case of emphatic pronouns co-occurring with a pronominal affix, independent consideration of the data led to the conclusion that the doubling element is not located in the specifier of the θ-assigning head.

(72) hind-un$_i$ yuqābilu-ha$_i$ T-Tullāb-u
Hind-NOM$_i$ meet.3SG.M-3SG.F.ACC$_i$ the-students(M)-NOM
'I believed Hind to have been met by the students'

Why then can such NPs not appear in the same Spec*Px*P position as emphatic pronominal arguments? One possible answer to this question can be given in terms of Case, for while Spec*Px*P has been argued to be a non-Case position, the (higher) SpecTP position occupied by broad subjects is a Case position. If the option of remaining Caseless (or of having nominative by default) were restricted to pronouns, this would explain in a principled way the distribution of both categories able to double pronominal affixes.

6 OUTSTANDING ISSUES

The preceding discussion of Modern Standard Arabic has shown that, in addition to the two patterns of agreement attested in Finnish non-finite constructions, it allows two others not attested in that language. This final section will consider why these configurations are not also possible in Finnish.

6.1 Why there can be no Expletives in the Finnish Participial Construction

If the structure EXPLVSO, argued to underlie Arabic VSO clauses, were also allowed in Finnish participial clauses, then the following should be possible.

(73) *Minä halua-n (sen) osta-va-nsa sinu-n/Jussi-n/etc. auto-n
I.NOM want-1SG (EXPL.GEN) buy-VA-3.PX you.SG-GEN/Jussi-GEN car-ACC
'I want you/Jussi to buy a car'

Since Finnish makes free use of expletives (Holmberg and Nikanne, 2002), it is unlikely to be the case that the element *sen* (or its counterpart in any other morphological case) is not available. However, recall from section 1 of chapter three that *sen* differs from the other pronouns in not being able to check the φ-features of a possessor agreement morpheme and in this respect behaves like full NP arguments. Even so, there is no reason why a variant of the same sentence with default agreement should not be possible. (74) shows that it is not.

(74) *Minä halua-n (sen) osta-va-n sinu-n/Jussi-n etc. auto-n
I.NOM want-1SG (EXPL.GEN) buy-VA-DFT you.SG-GEN/Jussi-GEN car-ACC
'I want you/Jussi to buy a car'

One possible explanation for this comes from the status of the default ending *–n*, which, being homophonous with the accusative singular ending for NP arguments, is often assumed to result from Case-marking by the matrix verb (e.g. Koskinen, 1998:§3.2.1.1). If this were the case, then there would be no means of the expletive receiving Case, with the consequence that it could not be phonetically realised, for the same reasons as it must remain unexpressed in Arabic clauses not introduced by a Case-assigner. The difference between Arabic and Finnish in this respect is that while the ultimately null expletive is motivated in Arabic to the extent that it serves to eliminate the uninterpretable φ-features of the *Px* head, there being no such features to check in Finnish, it is entirely superfluous and hence, by minimalist assumptions, impossible.

6.2 Why Finnish does not allow Emphatic Doubling of Argumental Affixes

The fact that the category in Spec*Px*P cannot receive Case in the Finnish participial construction should not, however, be a barrier to a Caseless emphatic pronoun appearing in that position, as was argued to be the case for Arabic in section 5. That is to say, there is no reason why the following should not be possible.

(75) *Minä halua-n sinu-n[17] osta-va-si auto-n
I.NOM want-1SG you-GEN buy-VA-2SG.PX car-ACC
'I want you to buy a car (not Jussi)'

Note that, since in this case the participle does not carry the default ending *–n*, it could be argued (if the proposal mentioned above is correct) that it is not Case-marked by the matrix verb[18]. This being the case, there is nothing to prevent *haluan* assigning Case to the pronoun (which would then have the form *sinut*). As such it would then stand in the same relation to the agreement affix as an exceptionally Case-marked subject in an Arabic SVO clause and would therefore cause the φ-features of that affix to delete, under the assumption that the computational system is blind to the LF-status of the elements upon which it operates (cf.

[17] The genitive has been chosen here, since this is the case argued to be the default case for specifiers in Finnish by Vainikka (1989). The choice of case is academic, however, since pronouns carrying other case endings are equally ungrammatical.

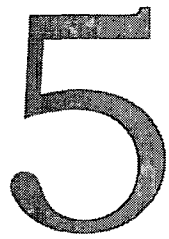
[18] In fact, a more probable explanation is that the Case-marker *–n* is deleted when the possessive suffix is attached, since this also happens with object nominals, which clearly are in a position to receive Case. The alternative line of argumentation is pursued here simply in the interests of completeness.

sections 1.2 and 3.2.2 of chapter two). Since these φ-features carry the subject θ-role (by virtue of which they are interpretable), deleting them will result in the loss of that semantic information, ultimately resulting in an LF-crash.

7 CONCLUSION

The aim of this chapter was to determine whether the mechanisms claimed to underlie the system of agreement in Finnish non-finite clauses would prove to have more general validity by applying the model to a historically and areally unrelated language. In some cases, namely complementiser and object agreement and in SVO clauses, the models could be applied with a minimum of adjustment. Other clause types, namely those with VSO word-orders (particularly where the subject is pronominal) did not fit in so well, but by exploring these cases in detail, it was shown that they could be accommodated and that there were good reasons why the same structures are not available in Finnish.

Agreement in Irish



The patterns of agreement in Modern Irish are nothing like as multifarious as those in Arabic, with a general descriptive rule of absolute complementarity of overt arguments and agreement affixes being valid for the vast majority of constructions. The challenge of this chapter is therefore not so much to refine the model proposed in the previous chapters in order to accommodate structures not attested in the languages considered so far as to defend the claim that the model makes about Irish (namely that agreement affixes are invariably pronominal affixes) against the widely held alternative view that they are agreement markers. After a presentation of the data in section 1, the analysis of the Finnish participial construction, in which complementarity of agreement and overt arguments also obtains, is applied in section 2 and the hypothesis advanced that agreement affixes in Irish are pronominal affixes. In the course of so doing, the model of θ-role assignment, first suggested in chapter two and elaborated in section 2.2 of the last chapter is further refined. Section 3 introduces more data, which have lead some scholars, most notably McCloskey, to propose that Irish agreement is not argumental but rather the consequence of spelling out of uninterpretable φ-features on an agreeing head. It is shown that the pronominal argument analysis can not only deal with these data, but is able to do so without recourse either to unusual or implausible revisions to accepted syntactic theory or to stipulations about what may and may not trigger agreement. In this latter respect particularly it appears to be superior to McCloskey's analysis.

1 OVERVIEW OF AGREEMENT IN IRISH

Unlike Modern Standard Arabic, the patterns of agreement in Irish are highly uniform across the range of constructions in which it occurs. In Arabic the doubling of an affix by an overt argument is impossible in some contexts (object and complementiser agreement with a full NP), triggers a discourse effect in others (all kinds of agreement when doubled by an emphatic pronoun) and is truly optional in yet others (doubling of subject agreement by a preverbal pronoun), depending on the order of the trigger and the target of the agreement. Irish finite clauses, by contrast, allow only VSO word order and agreement and overt arguments in Irish are in strict complementary distribution.

(1) Chuirf-inn (*mé) isteach ar an phost sin
put.COND-1SG (*I) in on the job that
'I would apply for that job'

(2) Chuirf-eadh Eoghan isteach ar an phost sin
put.COND-DFT Owen in on the job that
'Owen would apply for that job' (McCloskey and Hale, 1984:490)

It is not only finite verbs that exhibit agreement. The form of most prepositions also varies according to the person and number of its object and here too a synthetic[1] form may not co-occur with an overt object[2].

(3) Bhí mé ag caint leofa (*iad/*siad) inné
Be.PAST I talk.PROG with.3PL (*they.ACC/*they.NOM) yesterday
'I was talking to them yesterday' (after McCloskey and Hale, 1984:507)

While there is a small class of prepositions which exist only in the analytic form, the majority have a full paradigm covering all person-number combinations and a two-way gender distinction in the third person singular. Verbal paradigms on the other hand are highly defective, only exhibiting any real uniformity (even within a single dialect) in the third person singular for which there exist no synthetic forms at all. Where a synthetic form is available, however, it is not possible to use the analytic form and an overt pronoun instead. That is, in (4), the availability of the first person singular form *chuirfinn* renders the combination *chuirfeadh mé* ungrammatical.

(4) *Chuirf-eadh mé isteach ar an phost sin
put.COND-DFT I in on the job that
Intended: 'I would apply for that job' (McCloskey and Hale, 1984:419)

[1] In Irish grammar agreeing and non-agreeing forms are referred to as 'synthetic' and 'analytic' respectively. Synthetic forms are glossed with their φ-features in the same way as agreement elsewhere. Analytic forms are glossed as DFT.

[2] There is also a set of possessive clitics conforming to this rule. These will be discussed in section 3.1.

This is reminiscent of the situation with Arabic object agreement, where the free forms could only be used if the suffix could not incorporate, and in Irish the rule is even closer to being absolute, since it appears to take precedence over principles of grammar that in Arabic would lead to the free form being used. Thus synthetic verb forms may (and where they are available must) identify arguments that are modified by a relative clause (5-6) or are part of a coordinate structure (7-8), both of which would have to be expressed in Arabic by an overt pronoun.

(5) Chuad-ar sin aN raibh aithne ag-am or-thu go Meiriceá
go.PAST-3PL DEM that be.PAST acquaintance at-1SG on-3PL to America
'Those that I knew went to America' (McCloskey and Hale, 1984)

(6) *Chuard-aigh sin aN raibh aithne ag-am or-thu go Meiriceá
go.PAST-DFT DEM that be.PAST acquaintance at-1SG on-3PL to America
Intended: 'Those that I knew went to America'

(7) Bhí-os féin agus Tomás ag caint le chéile
be.PAST-1SG EMPH and Thomas talk.PROG with each.other
'Thomas and I were talking to one another' (McCloskey, 1986:248)

(8) *Bhí mé féin agus Tomás ag caint le chéile
be.PAST I EMPH and Thomas talk.PROG with each.other
Intended: 'Thomas and I were talking to one another'

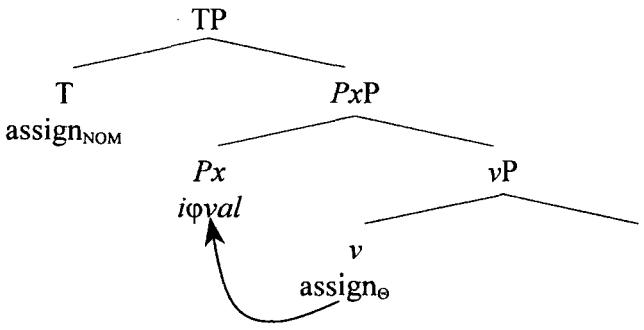
2 IRISH VERBAL Φ-SUFFIXES ARE ARGUMENTAL

The most obvious way of accounting for absolute complementarity is to propose that the affixes are themselves arguments, as was proposed for the participial construction in Finnish, and the following sections will pursue this line of analysis. In this section it will first be shown how the analysis of that construction as proposed in chapter three can be applied to Irish finite clauses (2.1). This analysis is then refined in the light of further data and the implications of these revisions for the proposed model of θ-role assignment explored (2.2).

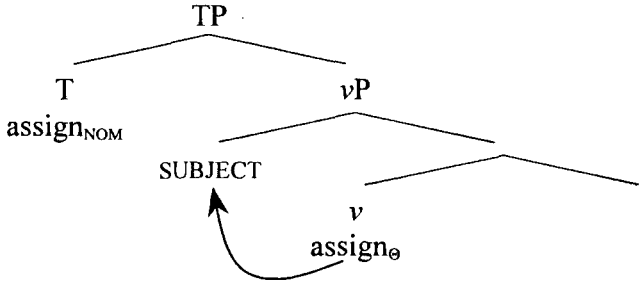
2.1 Applying the Finnish Analysis to Irish Finite Clauses

These restrictions on the co-occurrence of agreement and overt arguments are the same as those applying to the Finnish participial construction, suggesting that the analysis developed for that construction in the last chapter could be applied directly to the Irish data. There, the subject θ-role was argued to be assigned from the topmost head of the verbal complex to the element to its immediate left, be this an NP or pronoun occupying the specifier position or an affixal head *Px* heading its own projection. Where the former option was chosen, the head α was then merged, which assigned genitive Case to the subject and was also in some way responsible for its reference being obligatorily disjunct from that of the matrix subject. In the latter case, no such head was merged, accounting for the anaphoric nature of the argument affix and the fact that doubling of this affix by an overt subject was impossible for lack of a Case-assigner. Irish finite clauses with agreement will differ from their counterparts in the Finnish participial construction to the extent that the sentential head and nominative Case-assigner T must be assumed to be present and this presumably is connected (as it was in Arabic) with the fact that Irish agreement affixes can function pronominally and do not require an antecedent. Furthermore, assuming Irish T to differ from Finnish α in not imposing an EPP-condition on its specifier accounts for the complete absence of SVO as an alternative order in finite clauses. Adapting the model of the Finnish participial construction thus results in the following proposed structures for Irish finite clauses with (9) and without (10) agreement.

(9)



(10)



2.2 Development of the Model of Θ-Role Assignment

For all the ease with which the analysis of the Finnish participial construction can account for the patterns in the simplest Irish finite clauses with overt subjects, there is good reason to suppose that their actual structure is more complicated than (10) suggests and this section will consider the implications of this for the theory advocated here. Section 2.2.1 presents evidence that even in clauses with an analytic verb form a head intervenes between T and *v* hosting the subject in its specifier position, thereby raising the question (in the context of the model of θ-assignment advocated here) of whether *v* always assigns its θ-role from *v* (as was argued to be the case for the Finnish participial construction) with subsequent movement of the subject, or whether *v* first moves to the intermediate head, assigning the subject θ-role to an element first merged as the specifier of that head. These alternatives are considered in section 2.2.2 and the conclusion reached that, since it is difficult to motivate movement of the subject without predicting that other categories should be able to move there as well, the analysis whereby the θ-role is assigned to the higher position is preferable. Section 2.2.3 addresses some cases of apparent overgeneration which arise as a result of adopting this model.

2.2.1 Complicating Factors: The Intermediate Head X

One piece of evidence which calls into question the structure proposed in (10) is the position of *v*P-adverbials relative to an overt subject. McCloskey (1996, 2001) notes that where the subject is overt, it must precede adverbials such as *i gcónaí* 'always', *riamh* 'ever' and *choíce* 'ever', suggesting that the surface position of the subject, whilst still to the right of T, is higher than the topmost specifier position of the verbal complex.

(11) Bí-onn siad i gcónaí ag ól tae
be.PRES-DFT they always drink.PROG tea
'They are always drinking tea' (McCloskey, 2001:24)

(12) Deire-ann siad i gcónaí paidir roimh am luí
say-DFT they.NOM always prayer before time lie.INF
'They always say a prayer before bedtime' (McCloskey, 2005)

(13) Ní-or phréamaigh na crainn ariamh ar an oileán.
not-PAST root.DFT the trees ever on the island
'The trees never took root on the island' (McCloskey, 2001:17)

These data (among others) lead McCloskey to conclude that there is a head X situated between T and *v* and that an overt subject raises from Spec*v*P to SpecXP. However, according to the line of argumentation pursued thus far in the present work, this is not the only analysis available. If, as has been proposed, the head *v* need not discharge its θ-role immediately, but rather can, in the absence of a suitable recipient, choose to assign it from a higher head to which it moves, it is equally possible that an overt subject is first merged in SpecXP, indeed, since overt subjects never[3] surface in the lower position, following to the letter the procedure advocated in 2.4.1 of chapter three clearly favours this analysis. On the other hand, allowing *v* to delay assigning its θ-role opens up the possibility of it doing so when the next head up is a *Px*. In this case, *Px* would have uninterpretable φ-features and it should be possible to merge an overt subject to check those features (presumably in SpecXP, after *Px* has raised to X, if the restriction observed in section 2.2 of the last chapter preventing a θ-role from being assigned from *Px* has general validity). This would result in a VSO sentence with both an overt subject and agreement morphology, which is never possible in Irish.

2.2.2 Movement of Subject and Verb or of Verb Alone?

In section 3.4.1.2 of chapter three, it was proposed that the impossibility of Finnish participles assigning a θ-role from α is reducible to a morphosyntactic property of one of the morphemes making up the participial form and since Irish finite verbs behave uniformly in this respect (unlike their Arabic counterparts, which exhibit different syntactic behaviour according to word order), there is no reason in principle not to propose that it is a property of *v* in Irish finite clauses that it always assigns its θ-role before raising, with the consequence that subjects surfacing in SpecXP must have moved there. This in turn raises the question of what it is that motivates the movement and it is here that the analysis runs into problems, for unlike the EPP-condition imposed by Finnish α on its specifier position, which must be satisfied and may be satisfied by almost any phrasal category, SpecXP can only be occupied by DP-arguments and may remain empty in the absence of any suitable category. Both these restrictions are apparent in the construction known as the 'salient unaccusative' (one of the other constructions which McCloskey takes as providing further evidence for the existence of X) in which the single argument of the verb may be realised as a DP or a PP with no discernable difference in meaning (for full discussion see McCloskey, 1996).

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[3] As will become clear in section 2.2.3, this is actually a slight oversimplification.

(14) Neartaigh (ar) a ghlór
strengthen.PAST-DFT (on) his voice
'His voice strengthened' (McCloskey, 2001:12)

As long as the verb raises to T, as it does in (14), it is not apparent that DP- and PP-arguments occupy different positions in the structure. However, where the verb does not raise, as is the case in the periphrastic possessive aspect, a DP-argument must surface to its left, while a PP-argument must surface to its right.

(15) Tá ag neartú *(ar) a ghlór
be.PRES.DFT strengthen.PROG *(on) his voice
'His voice is strengthening' (McCloskey, 2001:12)

(16) Tá (*ar) a ghlór ag neartú
be.PRES.DFT (*on) his voice strengthen.PROG
'His voice is strengthening' (McCloskey, 2001:12)

This suggests that raising of an argument to SpecXP must take place if a DP-argument is available but need not do so if none is and as such shows that it cannot be the need to fulfil a requirement of X that motivates the movement, since if this were the case, that requirement would not be met and the derivation should crash (as seems to be the case in the Finnish participial construction[4]). It seems then that a DP-argument raises to SpecXP to satisfy a need of its own and the fact that PP-arguments do not need to undergo this movement suggests that it could be in order to receive Case[5]. However, if nominative is assigned by T, then even though the movement clearly leaves the subject in a position where it will receive nominative Case, this cannot be what drives it, since at the point where the movement occurs, the Case-assigning head has not yet been merged. To invoke properties of T to motivate movement to

[4] In this respect it differs from finite clauses in the language, which have an EPP-requirement as long as a category able to satisfy it is present in the sentence. See Holmberg and Nikanne (2002) for discussion. The matter is also addressed in section 2.3.3 of chapter six.

[5] The view that this movement takes place in order to satisfy a requirement of the target position could, of course, be maintained by positing a null expletive in SpecXP in sentences with a PP-argument. In the absence of any evidence to support this position (such as were available for Arabic), this possibility will not be explored further.

SpecXP would thus require a look-ahead mechanism of the kind generally eschewed in Minimalist theory[6].

In order to avoid this degree of stipulation, it must be explained firstly why it is that *Px* and X can never occur in the same clause (in order to preclude the possibility of a subject receiving a θ-role from X and checking unvalued φ-features of a *Px* head immediately below it) and secondly why it is that the θ-role is always assigned from X and never from *v* in clauses with overt subjects (in order to preclude the possibility of subjects surfacing *v*P-internally). Both these things will follow if X is taken to be the analytic ending of the verb, a morpheme of the same category as *Px*, but different from it in not having φ-features[7], and if the descriptive rule observed in section 2.2 of chapter four preventing arguments from being first merged in the specifier of *Px* is reconstrued as a restriction preventing θ-roles from being assigned from heads[8] with φ-features. Where the variant with φ-features is merged, the derivation will not be able to converge unless *v* chooses to assign its θ-role immediately, since Spec*Px*P is necessarily a non-θ-position and SpecTP can never be occupied and there is therefore no position into which an argument could be merged to check the unvalued φ-features of *Px* that would result. Where the analytic form is merged, on the other hand, *v* will not be able to discharge its θ-role until it has moved to the higher head, which, having no φ-features will allow a subject of any person-number combination to occupy its specifier position.

2.2.3 Residual Problems

The restrictions on the co-occurrence of agreement and overt subjects in Irish finite clauses therefore follow in a more principled way from a model of thematic structure that allows predicate heads to delay assigning their θ-roles than it does from an analysis involving

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[6] This assumes that the extension condition, requiring that Merge and Move always target the root of the structure is correct. If it is not, then there is nothing to prevent movement to SpecXP occurring after T has been merged. The implications of this less restrictive alternative will not be explored here.

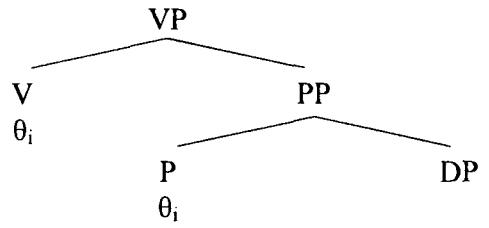
[7] Alternatively, X could be taken to have unvalued φ-features which could then provide the motivation for movement of the subject to SpecXP and this would furthermore ensure that only DP-arguments raise. However, since the φ-features of the subject have no effect on the phonetic realisation of X, it would have to be assumed that they do not enter even the PF-component. Furthermore, an account would be needed of salient unaccusative structures with PP-arguments, since in these cases the φ-features of X would presumably remain unvalued, yet not cause an LF crash.

[8] This restriction to heads is necessary if Finnish full NP-subjects are to be prevented from triggering possessor agreement, but still able to receive a θ-role. Similarly, discourse pro-drop languages must be able to assign θ-roles, despite the general absence of φ-features.

movement. Of course, such flexibility carries with it the possibility of overgeneration, and in this regard there remain two issues to resolve. Firstly, while accessibility to the Case-assigner can explain why it is that DP-arguments of salient unaccusatives cannot receive Case VP-internally, this should not prevent a PP-argument in the otherwise identical construction from receiving the same θ-role in SpecXP, shown in (16) not to be possible. Secondly, why is it that a θ-role can never be assigned from T to its specifier in Irish, even though the verb clearly moves there in finite clauses?

It is a fairly straightforward matter to answer the first question if a preposition is taken to assign a θ-role to its complement, which is bound by an internal θ-role assigned by a verb, when the PP it projects occupies an argument position of that verb[9]. In order for this binding relation to obtain, the bindee (in this case the preposition) must, under normal assumptions about binding, be in the c-command domain of the binder (in this case the verb). This will be the case when the PP is merged low and occupies a position to the right of the verb (17), but not where it is merged in SpecXP (18).

(17)



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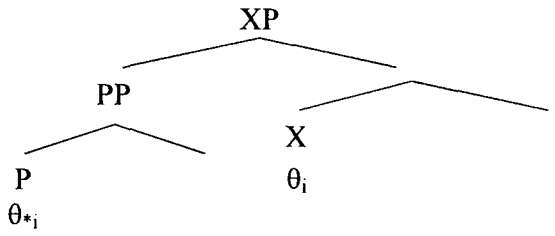


Answering the second question is a rather more complicated matter and the proposed solution, namely, that the subject θ-role cannot be assigned from T because the element merged there would not be able to receive Case, can only be tentative. Showing conclusively that this is the correct analysis would really entail finding a construction where *v* moves to T (such that θ-assignment from T could take place) and where a DP can, exceptionally, receive Case in that position and no such construction exists in Irish. However, the conclusion that SpecTP

[9] An analysis along these lines is in the spirit of Williams' (1994) theory of thematic structure.

can never be filled in Irish does seem to be premature, for in a certain very limited range of contexts, non-finite clauses take a dative[10] (rather than the more usual accusative) subject and evidence from corresponding negated clauses suggests that they do not occupy the same position in the structure. Negation in Irish is known to be located in a relatively high position in the clause, certainly above the canonical subject position SpecXP. As McCloskey (2001) reports, however, dative subjects of non-finite clauses differ from accusative subjects in having to precede the negative particle *gan* and McCloskey concludes from this that the surface position of such subjects is SpecTP.

(19) B'fhearr liom gan iad mé a fheiceáil.
I.would.prefer NEG them.ACC me see.INF
'I would prefer for them not to see me' (McCloskey, 2001:29)

(20) Conas d'-aonaránach gan a bheith ag braistint aonarach?
how DAT-solitary.person NEG be.INF feel.PROG solitary
'How could a solitary person not feel solitary?' (McCloskey, 2001:30)

(21) *Conas gan d'-aonaránach a bheith ag braistint aonarach?
how NEG DAT-solitary.person be.INF feel.PROG solitary
Intended: 'How could a solitary person not feel solitary?' (McCloskey, 2001:30)

Crucially for the discussion in hand, clauses with dative subjects are restricted (in most varieties) to interrogative and adverbial contexts, that is, clauses introduced by a particular group of complementisers. McCloskey accounts for this limited distribution by suggesting that it is only the set of C heads associated with these clause types that select a type of T head that assigns dative case. Of course, this account differs from the analysis of accusative subjects in Arabic, also assumed to be dependent on a the presence of a particular kind of complementiser, but there is no reason why an account similar to the one proposed for Arabic

[10] Morphologically, these dative subjects are nominals preceded by the preposition *do* ('to' or 'for') and as such it could be argued that they constitute a counterexample to account of the distribution of PP-arguments just offered. However, the fact that such subjects are not thematically restricted in any way (most notably they need not be experiencers arguments associated with psych-predicates or inversion constructions as is the case in many languages), suggests that this *do* functions syntactically as a marker of dative Case. See McCloskey (2001:§6.1) for a full discussion.

could not be applied to the Irish data, whereby the set of C heads which McCloskey assumes to select a dative-assigning T in fact assign dative Case themselves. It seems then, contrary to what was suggested above, that a subject may occupy SpecTP provided it can receive (dative) Case in that position and that the option of it receiving nominative as a last resort is, for some reason, not available in Irish as it is in Arabic.

It should be noted though, that the fact that a dative subject is spelled out in SpecTP does not mean that this is where it has received its θ-role, indeed this cannot be the case, since a non-finite verb does not raise as far as T and hence, under the model of θ-assignment advocated here, cannot assign its θ-role from that position. Rather, dative subjects must be assumed to have moved from lower down the structure, a proposal that receives further support from McCloskey's observations that in conservative and formal varieties it may remain in a low position.

(22) le lín úmpó di thar nais
when turn.INF she.DAT back
'When she turned back' (McCloskey, 2001:32)

(23) roimh theacht domsa anso anocht
before come.INF I.DAT here tonight
'Before I come/came here tonight' (McCloskey, 2001:32)

From these observations, it can be tentatively concluded that there is in principle no reason why a θ-role should not be assigned from T in Irish, but that independent factors conspire in such a way to ensure that this never occurs. In finite clauses, the only contexts in which the verb raises to T, any derivation in which the θ-role is assigned from that position will crash on account of the subject remaining Caseless, while the only kinds of clauses in which SpecTP is accessible to a Case-assigner are those in which the verb remains low and therefore cannot assign its θ-role from T. In such cases the position may be occupied, but only as the result of movement.

3 IRISH VERBAL Φ-AFFIXES ARE AGREEMENT

The analysis of Irish verbal inflection as developed in the previous section seems to concur with McCloskey and Hale's (1984) observation that Irish clauses with inflected verbs and null

arguments have exactly the same syntactic properties as equivalent clauses with overt pronominal arguments and no agreement. However, their discussion of constructions with possessive clitics, (which, as in Finnish, include non-finite clauses in addition to the possessive construction itself) and structures with coordinate subjects (discussed at length in McCloskey (1986)) lead them to the conclusion that the agreement morpheme is not itself argumental but rather identifies a null pronominal present in the position otherwise occupied by an overt subject. The following two sections consider each of these constructions in turn and show that the objections to the pronominal agreement analysis are not insuperable. In the case of the possessive clitics, the placement of ordinals and classifiers in nominal phrases reveals McCloskey and Hale's analysis to be empirically inadequate and, when modified to accommodate the problematic data, to differ syntactically from the proposal advanced in the previous section only in that the agreement affix identifies a null argument rather than itself being argumental. Since this requires the further stipulation that only null arguments may trigger agreement in order to account for the complementarity of affix and overt argument, the alternative analysis, whereby this property is predictable from the fact that an affix will always be pronominal, is claimed to be superior. In the same way, the problematic coordinate structures are easily accommodated, given a model of coordination of the kind proposed by Camacho (2003), the implementation of which requires no modification of the central tenets of the model being developed here.

3.1 Possessive Clitics

In addition to the finite verb agreement and prepositional agreement already mentioned, McCloskey and Hale (1984) also argue that the possessive clitics, which in addition may function as pronominal objects of non-finite verbs, should also be analysed as agreement markers, since they share the properties of the other kinds of agreement. They may not co-occur with an overt possessor (24), the argument they identify may head a relative clause (25) and may be coordinated with overt genitives (26).

(24) (*a) theach Eoghain
(*3SG.POS) house Owen.GEN
'Owen's house' (after McCloskey and Hale, 1984:511)

(25) Bhí mé á mbualadh sin aL bhí ag teacht aníos
be.PAST.DFT I 3PL.POS beat.INF DEM that be.PAST.DFT PROG come.INF up
an dréimire
the ladder
'I was beating those who were coming up the ladder' (McCloskey and Hale, 1984:516)

(26) Bhí an gradh á scaoileadh féin agus Ghaoileain ón
be.PAST.DFT the love 3SG.POS separate.INF EMPH and Gaoilean from.the
tsaoghal mhór
life great
'Love was separating her and Gaoilean from the outside world'
(McCloskey and Hale, 1984:516)

There is, however, one important respect in which the possessive clitics differ from verbal and prepositional agreement which McCloskey and Hale exploit to argue against their being analysed pronominals in their own right. As the examples above show, possessive clitics appear to the left of the noun (or non-finite verb) they modify and evidence from the position of the emphatic and demonstrative particles and the contrastive suffixes suggests that this cannot, as an analysis of these particles as pronominals would have to assume, be the result of movement from the postnominal/postverbal position in which a genitive NP would occur in the same construction. For, while in all other cases involving NP-movement (passive, raising, clefting), any particles and suffixes associated with a pronoun move with it, in the case of constructions involving the possessive clitics, they appear in the position to the right of the noun (or non-finite verb) which an NP-argument would otherwise occupy.

(27) mo theach féin
1SG.POS house self
'My own house' (McCloskey and Hale, 1984:514)

(28) a theach seo
3SG.POS house DEM
'This one's house' (McCloskey and Hale, 1984:514)

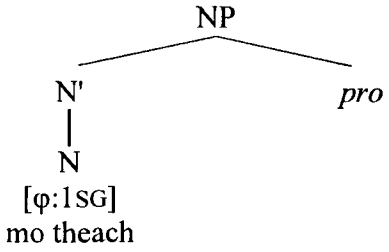
(29) ár saol stoirmeach-inne
1PL.POS life stormy-CONTR.1PL
'Our stormy life' (McCloskey and Hale, 1984:515)

On the basis of these data, they argue that the possessive clitics are agreement markers identifying a null pronominal, an analysis which later work by McCloskey (1986) generalises to all three forms of agreement. Further support for this view comes from the Cois Fhairrge dialect in which the plural possessive clitics no longer distinguish person[11], having merged to the form of the third person singular, and may be doubled by contrastive pronouns in the postnominal position argued to be otherwise occupied by *pro*.

(30) a nglór muide
POS.DFT voice we.CONTR
'Our voice' (McCloskey and Hale, 1984:529)

Despite the convincing nature of this argument, there is good reason to believe that the possessive construction as exemplified in (27) does not have the structure shown in (31), as proposed in McCloskey (1986:274fn217), and that the possessive clitic, rather than being a form of agreement, does indeed project a phrase of its own. For if possessive clitics were the result of agreement features of the head noun being spelled out, it should be impossible for anything to intervene between the clitic and the head noun (just as nothing may intervene between a verb and a suffix encoding φ-features). While it is true that the majority of nominal modifiers do indeed follow the head noun as such an analysis would require (cf. the adjective in (29)), numerals (32) and classifiers (33) constitute an exception to this rule and may only occupy a position between the clitic and the noun.

(31)



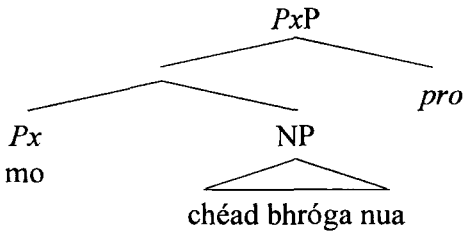
[11] While the phonetic form of all these clitics is now [ə], the number and (in the singular) gender distinction is preserved in the mutation triggered on the following word.

(32) mo chéad bhróga nua
1SG.POS first shoe-PL new-PL
'My first new shoes' (Duffield, 1995:307)

(33) do chuid leabhar
2SG.POS CLF book-SG
'Your books' (Duffield, 1995:307)

What is important for the purposes of the present discussion hand is not so much the exact position of these intervening categories as the fact that they show conclusively that the possessive clitic must head a projection of its own. That does not of course preclude the possibility of that head being an agreement morpheme identifying a null pronominal argument, but the fact that the surface position of both prenominal and postnominal adjectives is closer to the noun than any of the material associated with the possessor suggests that an analysis preserving the spirit of (31) would look something like the following.

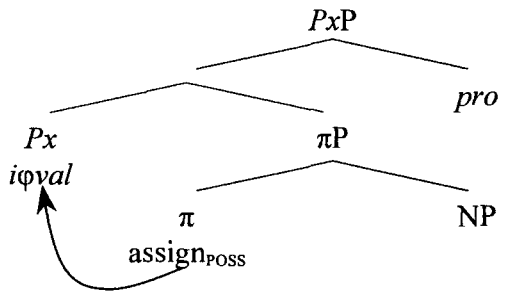
(34)



Interestingly, this structure is not dissimilar to that proposed in (9) for the complement of T in a finite clause with agreement. Indeed, if it should be the case that a possessor is introduced into the structure of a nominal by a functional head π taking an NP as its complement, much in the same way as an external argument is introduced into a verbal structure by a functional head *v* taking a VP as its complement, then the structure would be even more similar, the only difference between the two, category labels aside, being the Spec*Px*P position in the nominal construction (35). Since Spec*Px*P has no phonetic content in the simple case, the burden of proof surely lies with those who wish to propose that it is projected in these cases, particularly since the theory being developed in the present work predicts that the φ-features of a *Px* head merged immediately above π should be interpretable as a consequence of it receiving the possessor role, rendering any further nominal superfluous and hence, under minimalist assumptions, ungrammatical. The complementarity of agreement and overt arguments thus follows without further stipulation. An analysis claiming that *Px* is an agreement head, on the

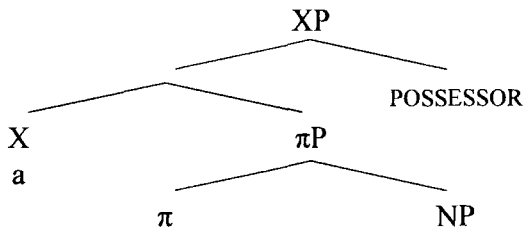
other hand, would have to stipulate as a language specific rule of Irish that agreement cannot be triggered by any category other than *pro*, in spite of the fact that the feature values of this element must be assumed to be identical to those of the overt pronouns.

(35)



Once the parallels with agreement in finite clauses have been captured in this way, the data from the Cois Fhairrge dialects is entirely expected. Recall from section 2.2.2 above that the ending of the analytic verb form was argued to be the phonetic realisation of the intermediate head X, the specifier position of which was host to the subject argument, and was argued to be of the same category as *Px*, differing from it only by not having any φ-features. This property in turn rendered it unable to receive a θ-role from *v*, with the consequence that in this context only the specifier position of *Px*/X could be filled by a nominal functioning as the subject argument. Since the paradigm of possessive clitics in most dialects of Irish is not defective in the same way as the verbal agreement paradigm, this possibility is never attested for lack of a *Px* head without φ-features. Phonetic erosion in Cois Fhairrge, on the other had, has resulted in just these distinctions being lost, with the consequence that the clitic *a*, to all intents and purposes, is to the possessive clitics what the analytic verb form is to verbal agreement. In such cases, therefore, the possessive construction has the form in (36), identical to the same construction in other dialects where the possessor is a full NP, except for the fact that X is overtly realised only in Cois Fhairrge.

(36)



Adopting this analysis also sheds light on an issue hitherto unresolved, namely the position of the emphatic and demonstrative particles and the contrastive suffixes in finite clauses. If the structures of the finite clause and the possessive construction really are as similar as the

preceding discussion suggests, then the fact that these elements appear in the middle of the former but at the right edge of the latter suggests that they are situated in Spec*Px*P. This conclusion is all the more interesting for the fact that the Arabic pronouns, argued in section 5.2 of the last chapter to occupy the same position, also have the effect of emphasising the argument they modify (the head *Px*).

Summing up the discussion of the possessive construction, it is clear that an analysis treating the possessive clitics as agreement markers can only claim any explanatory superiority over one in which they are considered to be pronominal as long as it can remove the need for a separate head hosting the clitic. As soon as such a head is admitted, as the data concerning the position of numerals show it must be, an agreement analysis is unable to explain the complementary distribution of clitics and full NP possessors without recourse to stipulation not necessary under the pronominal clitic analysis.

3.2 Coordination

Another reason for questioning the analysis of Irish agreement morpheme as pronominal affixes is their unusual behaviour with respect to coordination, an issue first noted by McCloskey and Hale (1984:§3.3) and examined in greater depth in McCloskey (1986). As (7) and (8), repeated here as (37) and (38), showed, a coordinated subject with a pronominal first conjunct must be expressed as an affix where the language makes a suitable synthetic form available.

(37) Bhí-os féin agus Tomás ag caint le chéile
be.PAST-1SG EMPH and Thomas talk.PROG with each.other
'Thomas and I were talking to one another' (McCloskey, 1986:248)

(38) *Bhí mé féin agus Tomás ag caint le chéile
be.PAST I EMPH and Thomas talk.PROG with each.other
Intended: 'Thomas and I were talking to one another'

In this respect, Irish differs not only from more familiar Romance pro-drop languages, but also from the Finnish participial construction, argued above to have essentially the same structure as the Irish finite clause. In these languages, a coordinated pronominal argument is obligatorily overt, triggering plural agreement appropriate to the coordinate subject as a whole

in Romance and the default agreement marker *–n* in the Finnish participial construction, as would any overt subject (39)[12]. This also applies even where the first conjunct is co-referential with the matrix subject, the situation in which a non-coordinated subject would have to be expressed as an undoubled possessive suffix (40).

(39) Minä muista-n haitari-a soitta-nee-n minu-n ja Jarmo-n
I.NOM remember-1SG accordion-PAR play-NUT-DFT I-GEN and Jarmo-GEN
'I remember me and Jarmo playing the accordion'

(40) *Minä muista-a haitari-a soitta-nee-ni ja Jarmo-n
I.NOM remember-1SG accordion-PAR play-NUT-1SG.PX and Jarmo-GEN
Intended: 'I remember myself and Jarmo playing the accordion'

There are two possible explanations for this difference between the Finnish participial construction and Irish finite clauses. On the one hand, if the basic structure of coordination is the same in the two constructions, then it must be that the mechanisms of agreement differ, such that a verbal affix may identify a pronominal first conjunct in Irish but not in Finnish. Alternatively, it could be that the properties of agreement are the same, but that Irish has at its disposal mechanisms of coordination that are not available in Finnish. The following sections consider each of these possibilities in turn.

3.2.1 An Alternative Analysis of Irish Agreement

The most obvious alternative to the analysis of Irish agreement based on the Finnish participial construction is the one advocated by McCloskey (1986), whereby the verbal suffixes are construed not as pronominal arguments in their own right, but rather as agreement morphemes identifying a null subject. This is, of course, the analysis rejected for the possessive clitics in section 3.1 above, but that need not prejudice the discussion in hand, since constructions such as (41) in which a possessive clitic is coordinated with an NP-possessor are completely unacceptable to the vast majority of speakers. McCloskey

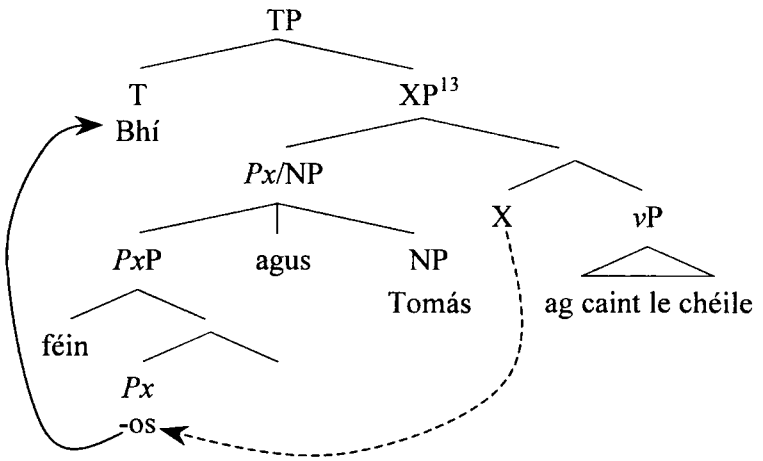
[12] In order to replicate as closely as possible the Irish VSO word order in the Finnish examples, the marked form of the participial construction, in which a non-subject argument (here, the partitive object *haitariaa* 'accordion') raises to the preverbal position to satisfy the EPP-condition on SpecαP, is used here, resulting in the focussed interpretation of the embedded subject. The restrictions on agreement are exactly the same where the subject argument raises.

(1986:253) describes them as "rare in the extreme, ... occur[ing] only in Munster dialects, and only in quite formal registers within those dialects."

(41) ?a ghabháltas féin agus a mháthar
3SG.POS holding EMPH and 3SG.POS mother.GEN
Intended: 'His and his mother's holding' (McCloskey, 1986:273)

The objections to the analysis of verbal agreement morphemes as incorporated pronouns that can be raised on the basis of coordinate structures in finite clauses are threefold. Firstly, if the category *Px* is distinct from whatever head projects the topmost node of a nominal phrase, then the coordination of an agreement head with a full NP/DP-argument involves the coordination of unlike categories. Secondly (and more seriously), deriving a sentence such as (37) through movement entails violating the Coordinate Structure Constraint and Across-The-Board Condition (Ross, 1967) prohibiting extraction out of a single conjunct of a coordinate structure unless the same element is moved out of all conjuncts.

(42)



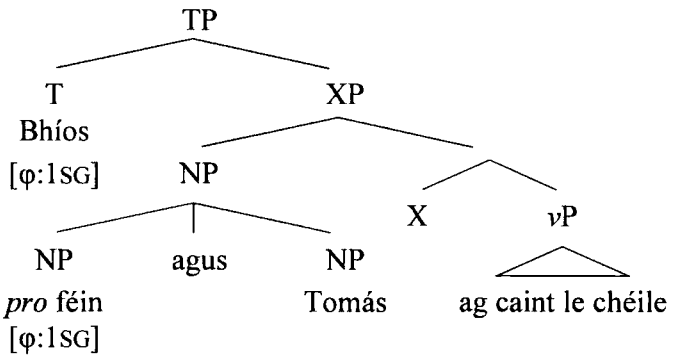
Finally, while the derivation in (42) clearly involves head movement, it does not respect the usual constraints on this type of movement, since it is not the head of the complement of T that raises, but the head of an element in the specifier position of that complement. This is problem enough for the compound tense depicted in (42). In the case of a simple tense, the problem is even more acute, since there the verb would have to have first moved from X to a

[13] Note that if X is present in this structure, it must be phonetically null and not spelled out as the analytic form of the verb, as was suggested in section 2.2.

position in SpecXP before moving to T (shown by the dotted line in the diagram above), a second instance of prohibited movement under standard assumptions.

If, on the other hand, the verbal suffix is merely the exponent of agreement features of the head T, the same problem does not arise since no movement other than the usual *v*-(to-X)-to-T movement takes place (43). All that need said in addition to the analysis of clauses with non-coordinated subjects is that Irish is a language in which first conjunct agreement is obligatory, a property widely attested cross-linguistically and consonant with the fact, exemplified in (44), that only first conjuncts may receive nominative Case, if, as McCloskey assumes, nominative assignment is a prerequisite for agreement[14].

(43)



(44) Chuaigh Eoghan agus é/*sé féin 'na bhaile
go.PAST.DFT Owen and (s)he.ACC/*NOM EMPH home
'He/She and Owen went home' (McCloskey, 1986:265)

Although the movement operations involved in this analysis are less fanciful than those in (42), this comes at the expense of requiring *pro* to have properties distancing it further from

[14] In this respect too, the possessive construction and verbal noun differ from finite clauses in requiring the second conjunct also to display genitive case, regardless of whether the first conjunct is pronominal or a full NP.

(i) teach Eoghain agus Chiaráin/*Chiarán
house Owen.GEN and Ciaran.GEN/*ACC
'Owen and Ciaran's house' (McCloskey, 1986:270)

(ii) Bhí an gradh á scaoileadh féin agus Ghaoileain/*Ghaolean ...
be.PAST.DFT the love 3SG.POS separate.INF EMPH and Gaoilean.GEN/*ACC ...
'Love was separating her and Gaoilean ...' (cf. (26) above)

its counterpart in most, if not all, other null-argument languages. For while null arguments and first conjunct agreement are common properties cross-linguistically, languages which have both by no means always allow agreement to identify a null first conjunct, as the following example from Welsh shows.

(45) Gwel-es *(i) a Megan ddraig
saw-1SG *(I) and Megan dragon
'Megan and I saw a dragon' (Borsley, 2003:16 & 21)

For all the fact that the generalisation holds for a large number of languages, there is, of course, no *a priori* reason why *pro* should be barred from coordinate structures, and from the point of view of intralanguage consistency it should perhaps be surprising that so many languages do impose this restriction, since it entails distinguishing between otherwise identically functioning overt and null pronouns. It would therefore be possible, under this view, to argue that it is not the behaviour of Irish, but rather that of Welsh and languages like it that is in need of explanation, were it not for the fact that Irish overt pronouns are crucially different from Irish *pro* in not being able to trigger agreement. As long as McCloskey's analysis is unable to provide a principled explanation for the complementarity of agreement and overt arguments, therefore, this explanation will remain unavailable and the possibility of Irish *pro* in coordinate structures a statistical anomaly. In the next section it will be shown that the account of complementarity facilitated by the pronominal agreement analysis can be preserved for coordinate subjects by adopting a model of coordination for Irish proposed in Camacho (2003).

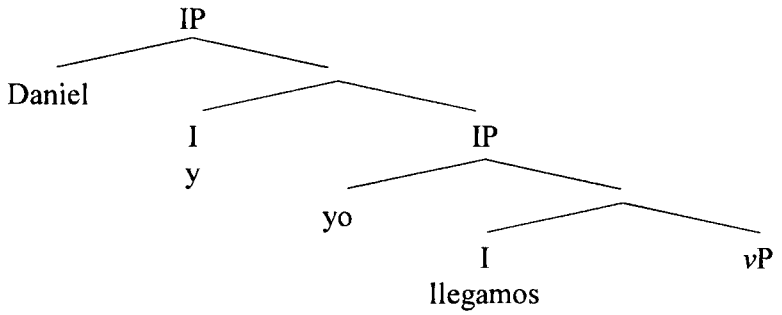
3.2.2 An Alternative Analysis of Irish Coordination

The principal problem which the structure in (42) poses is that the first conjunct, although realised as an affix is the head, not of the complement of T (or of the complement of its complement etc.) but rather of the maximal projection in the specifier position of such a complement and as such is not in a position from which it can licitly move to T. Furthermore, this problem will persist under any analysis of (NP-)coordination which assumes that the conjuncts of a coordinate argument are first combined into a single phrase which is then introduced into the larger structure in the same position as a single NP-argument would occupy. While many analyses of coordination are of just this type, Camacho (2003) proposes that conjunctions are lexically underspecified functional heads that duplicate the features of another head in the structure. Argument coordination is therefore the result of the features of

whichever head licenses that argument being duplicated and Camacho illustrates this for coordinated subjects with the following analysis (47) of the Spanish sentence (46).

(46) Daniel y yo llegamos
Daniel and I.NOM arrived
'Daniel and I arrived' (Camacho, 2003:39)

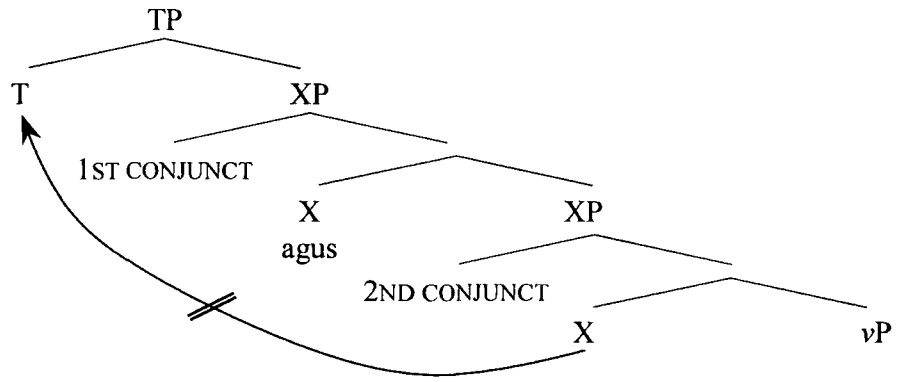
(47)



(after Camacho, 2003:39)

It is clear that this analysis is in need modification if it is to be felicitously extended to Irish subject coordination, as much as anything because overt NP-subjects do not occupy SpecTP. The most natural assumption would seem to be that it is the head X that is duplicated, since this is the position that a non-coordinated NP-subject occupies, but this proposal runs into difficulties, if X hosts the morpheme marking the analytic form of the verb, since this would have to skip the higher X occupied by *agus* when moving to T (Camacho's I), in violation of the Head Movement Constraint.

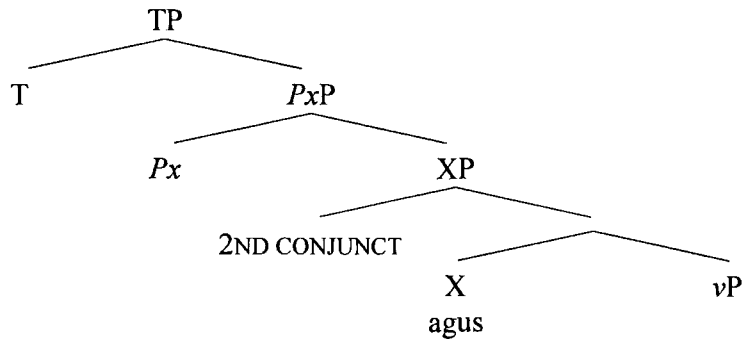
(48)



Where the first conjunct is realised as an affix, the same problem will arise if *Px* is merged below X (in which case the SpecXP hosting the first conjunct in (48) would not be projected), while further movement (such as an operation adjoining *agus* to SpecXP) would have to be

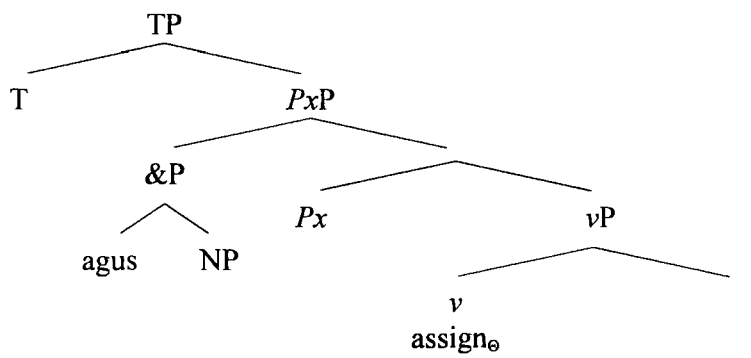
invoked (and motivated) if *Px* is in a position above XP from where it could move to T (49), in order to prevent the wrong word order from emerging.

(49)



The problem with this analysis is thus really the opposite of that encountered by analyses of coordination that treat coordinate subjects as a constituent. Whereas in (42) the position of the affix is not one from which it can licitly move to T, in (48) it is the fact that the conjunction also occupies a position from which it could (in principle) move to T that prevents the affix from doing so. Resolving this problem is therefore a relatively simple matter of proposing that the conjunction resides within a phrase that occupies a specifier position, presumably as the head of that phrase, taking the second conjunct as its complement. Where the first conjunct is realised as an affix, there are two positions where the second conjunct could originate, namely Spec*v*P and Spec*Px*P. If it were merged in Spec*v*P, it would receive the θ-role otherwise assigned to *Px*, the φ-features of which would be uninterpretable and require deletion, predicting incorrectly that Irish finite clauses with coordinate subjects should allow agreement with an overt first conjunct pronoun. This problem does not arise if the second conjunct is merged in Spec*Px*P, since *Px* can receive the θ-role from *v*, as it would do in a clause with a non-coordinated subject.

(50)



All that remains to be explained is how the second conjunct receives a θ-role. The position adopted thus far has been that it is not possible for a θ-role to be assigned from a head that is itself an argument: evidence was given in section 2.2 of the last chapter that pronouns occupying such positions in Arabic in fact bind the pronominal agreement morpheme in an A-bar relation and in section 3.1 of this chapter it was suggested that this was also where emphatic and demonstrative particles and the contrastive suffixes were located in Irish. Since the second conjunct is not co-referential with the *Px* head, the relationship between the two must be different from that borne by the Arabic emphatic pronouns and similarly, since it does not modify the affix in any sense[15], its status seems also to be different from that of other elements that can be merged there in Irish. Rather, it appears that the second conjunct is somehow able to share the θ-role assigned to *Px* in a way that a bare NP in the same position cannot, suggesting that whatever it is that facilitates this is a property of the conjunction rather than of the NP itself. The question of the precise mechanisms by means of which this sharing is effected therefore arises.

For cases of coordinated NP-subjects, Camacho proposes that each conjunct has a θ-feature which receives a value from a silent nominal category merged in Spec*v*P, which then moves to each of the SpecIP positions in (47)[16]. If the conjunct in Spec*Px*P in (50) also had such a feature, this would enable it to probe its c-command domain for a category with a θ-role. The first such category encountered would be the head *Px*, rather than a lower NP as it would be in Camacho's analysis, with the consequence that both the affix and the NP conjunct would bear the same thematic relation to the verb. Furthermore, taking this to be a property of the conjunction rather than of the NP itself facilitates an explanation of why coordination of an overt pronominal first conjunct cannot occur with agreement, the situation which would arise if the second conjunct were merged in Spec*v*P and the *Px* head above it. The overt pronoun which would be needed to check the consequently unvalued φ-features of the *Px* head would

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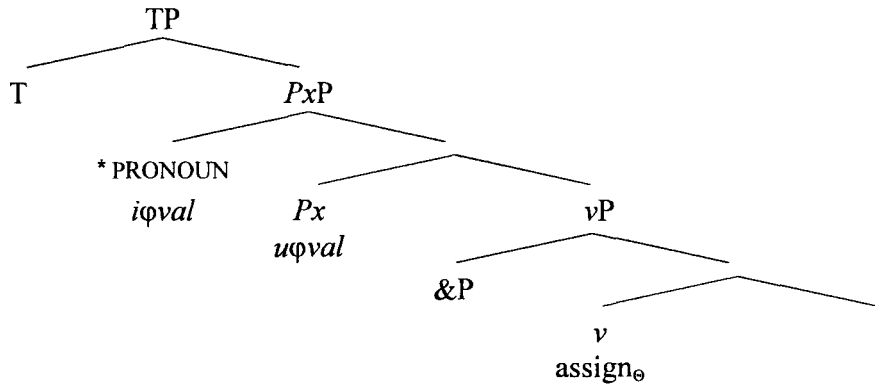
[15] Whether or not the second conjunct modifies the first syntactically will, of course, depend on the analysis of coordination adopted: in a model in which the second conjunct is an adjunct to the first, there is a sense in which they do stand in a syntactic modification relationship. What is important for the present discussion is the fact that the reference of the full NP conjunct in Spec*Px*P is not dependent on the affix in the same way that an emphatic pronoun in Arabic must be co-referential with a θ-marked affix.

[16] Camacho proposes that movement to an already occupied position be allowed as a new kind of Merge operation which he calls 'Fusion', whereby one conjunct moves to the position already occupied by the other, projecting a node with features of both according to resolution rules of the kind developed in Corbett (1983). The more precise details of the operation are of no import for the present discussion.

only be licit if it could receive a θ-role, but since it is not selected by a & head, it will not be able to probe its c-command domain and copy the θ-role assigned to the second conjunct.

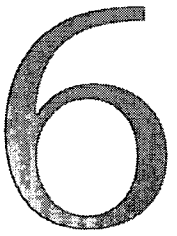
(51)



4 CONCLUSION

The strict complementarity of φ-morphology and overt arguments across a number of contexts in Modern Irish suggested strongly that such affixes are bound pronouns rather than agreement affixes and as such patterned with the Finnish participial construction. Consideration of the position of overt subjects allowed the model of θ-role assignment to be developed further and was shown to lend further support to the notion that θ-roles are assigned to φ-features (in the case of pronouns at least). The suggestion that φ-affixes result from an Agree-type operation between the category displaying agreement and a null pronominal rather than being merged as heads in their own right was shown not to be tenable. Revising the analysis accordingly resulted in a structure remarkably similar to that proposed under the bound-pronoun analysis, but with a greater stipulative element. Given the conclusion that the agreement affix, regardless of its status, must head its own projection, traditional analyses of coordination structures as argued for by proponents of the view that φ-affixes are agreement were shown to require movement of a type usually considered illicit, which an alternative analysis, drawing on less conventional ideas about coordination was able to circumvent.

Optional Arguments



The previous chapters have been concerned principally with distinguishing circumstances in which verbal φ-morphology may not co-occur with an overt argument from those in which they are compatible, arguing for the most part that the affixes are, to all intents and purposes, morphologically bound pronouns in environments in which the two are in complementary distribution and agreement affixes elsewhere. However, no generalised explanation has yet been given for the fact that pronominal arguments may, in certain circumstances, be omitted in these latter contexts too and it is to this issue that this final chapter is devoted. Section 1 presents arguments in favour of treating the optional element as a category occupying a syntactically projected position, even where it is not phonetically realised and considers two different implementations of the proposal that such sentences are derived by means of a deletion rule. Motivated by the observation that both versions require an undesirable degree of overlap between the narrow syntax and the phonological component, section 2 pursues an alternative made available by the dissociation of the valuedness or otherwise of features from their status with respect to LF-interpretability and in so doing develops a theory of optional arguments compatible with the central tenets of minimalist syntax that is remarkable in its similarity to proposals concerning the nature of null subjects familiar from earlier models of syntactic theory. This analysis is shown to be able to account for differences in the availability and interpretation of null subjects in Finnish finite clauses according both to their position in the clause and the value of their person feature. Section 3 concludes the discussion.

1 EVIDENCE FOR THE EXISTENCE OF A NULL PRONOMINAL

According to proposals of the kind discussed in section 3.1 of chapter two, agreement affixes have the syntactic status of morphologically bound pronominal arguments in all null-subject languages and may (in a subset of these languages at least) be doubled by an overt nominal in a non-argument position. While this analysis was adopted in section 4 of chapter four for the corroborative pronouns of Modern Standard Arabic, it is clear that this cannot be the only explanation for optional arguments cross-linguistically, if the analysis of the Finnish data in chapter three and the explanation it facilitated of the behaviour of phonetically identical lexical affixes in different syntactic contexts is to be retained. There it was argued that the possessor agreement morpheme can receive the subject θ-role and function as an argumental

affix only in the rationale adjunct and participial construction, thereby explaining why it cannot be doubled by an overt pronoun (1). In the temporal adjunct and agent constructions, by contrast, the φ-features of that same affix do not receive a θ-role and a doubling pronoun is possible (2).

(1) Minä muista-n (*minu-n) soitta-nee-ni haitaria-a
I[NOM] remember-1SG (*I-GEN) play-NUT-1SG.PX accordion-PAR
'I remember playing the accordion' (after Koskinen, 1998:133)

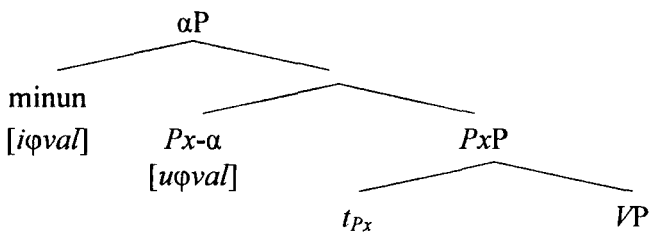
(2) Saara heräs-i (minu-n) tul-le-ssa-ni koti-in
Sarah[NOM] wake-PAST[3SG] (I-GEN) wake-INF_2-INE-1SG.PX home-ILL
'Sarah woke up when I came home'

If the affix *–ni* were argumental in (2), as the existing analysis supposes it to be in (1), then its syntactic properties are predicted to be identical in all environments. This prediction is not borne out, however, since its binding theoretic properties vary according to the construction in which it occurs. On the one hand, the absence of a co-referential c-commanding antecedent in (2) shows that it would have to be pronominal in the temporal adjunct (and agent construction); on the other hand, the fact that a participial clause is ungrammatical where such an antecedent is not available (3) suggests that it is anaphoric in such contexts.

(3) *Eero muista-a soitta-nee-ni haitaria-a
Eero[NOM] remember-3SG play-NUT-1SG.PX accordion-PAR
Intended: 'Eero remembers me playing the accordion'

The outstanding problem that these data present, under the account advocated in chapter three, is that while the doubling pronoun *minun* in (2) is possible, it is not obligatory. According to the analysis presented there, the structure of the embedded clause is as shown in (4) at the point at which the pronoun is merged.

(4)



That the subject should be optional in this structure is surprising, since without it there is no obvious means of checking the unvalued φ-features of the *Px* head (which has moved to α by this stage). What these data suggest is that there is a pronoun present in the structure, whether or not it is pronounced and it is analyses of optional arguments following this basic intuition that will be considered in this section. For Finnish finite clauses, which display almost exactly the same co-occurrence patterns of agreement and overt arguments, Holmberg (2005), reviewed in 1.1, demonstrates that the subject position is filled and argues the pronoun which would otherwise occupy that position is deleted at PF. Roberts (2004) and Sheehan (2006) propose instead that this deletion takes place in the narrow syntax and their analysis is considered in 1.2. Section 2 returns to the proposal, first advanced by Chomsky (1982) and best known from Rizzi (1986), that the subject position in such constructions is occupied by a null category *pro* and shows that the problems that led the proponents of the analyses in 1.1 and 1.2 to suggest alternatives no longer obtain, once the assumption of a biconditional relationship between interpretability and valuedness is dropped. Moreover, a proposal along these lines is better able to cope with the complexity of the data from the Finnish non-finite constructions than either of the alternatives.

1.1 Extra-Syntactic Deletion of Pronouns (Holmberg, 2005)

This paper considers the relationship of agreement to optionally null subjects and how this might be best formalised, given the constraints of minimalist syntax. Holmberg shows first of all that Rizzi's (1986) formulation of the relationship between the null pronoun *pro* and verbal agreement, whereby *pro* inherits the φ-feature values of the head from which it receives Case (I, in the case of subject agreement) in languages of a particular kind, is not compatible with Chomsky's most recent ideas about the nature of agreement. According to the probe-goal model of agreement of Chomsky (2000, 2001), the φ-features of Case-assigning heads, being uninterpretable, enter the derivation unvalued and as such have no values for the null pronominal to inherit. Furthermore, if *pro* is radically underspecified then it will not be able to enter in to an Agree relation with the φ-features of I, which will remain unvalued and hence undeleted, causing an LF-crash. Holmberg acknowledges that this problem could be solved by taking the φ-features in question to be interpretable, functioning to all intents and purposes as argumental affixes in the manner proposed by Jelinek (1984), Barbosa (1995), Manzini and Roussou (1999), Manzini and Savoia (2002) and Platzack (2003, 2004) among others, but demonstrates that this model makes incorrect predictions concerning the distribution of expletives in Finnish finite clauses.

Holmberg instead considers a version of the pronominal agreement hypothesis that supposes verbal φ-features to carry a θ-role and receive Case, but leaves open the question of whether they are able to check the EPP[1]. Under this analysis, the only circumstance under which a SpecIP position could be projected would be where it was needed in order to accommodate an expletive. For the majority of languages, this hypothesis cannot be tested empirically, since languages which allow referential null subjects typically do not have overt *there*-type expletives. The fact that Finnish constitutes an exception to this rule, having an expletive *sitä* which, as Holmberg and Nikanne (2002) show, occupies the same position as an overt preverbal subject, makes it a useful testing ground for the pronominal agreement hypothesis. If the verbal agreement cannot satisfy the EPP, or only optionally does so, then sentences such as (5), in which *sitä* and agreement co-occur should be possible, if not obligatory.

(5) *Sitä puhu-n englanti-a
EXPL speak-1SG English-PAR
Intended: 'I speak English' (Holmberg, 2005:543)

Strictly speaking, (5) should be grammatical, regardless of whether the agreement is able to satisfy the EPP or not, since there is nothing to prevent the expletive *sitä* being included in the numeration and merged in the subject position. Of course, if agreement does satisfy the EPP, then the expletive is fully redundant, but under the standard assumption that the numeration constitutes the reference set when it comes to considerations of economy, the fact that the sentence without the expletive is simpler (to the extent that its derivation requires one operation fewer) should not block the derivation of (5). Yet even if an analysis were possible whereby the option of agreement satisfying the EPP prevented an expletive from being included in the numeration, it would not be able to account for sentences such as (6), in which *sitä* and an agreeing verb may co-occur.

(6) Sitä ole-n minä-kin käy-nyt Pariisi-ssa
EXPL be-1SG I[NOM]-too visit-NUT Paris-INE
'I have been to Paris, too (actually)' (Holmberg, 2005:543)

[1] This position is the opposite of that adopted by Alexiadou and Anagnostopoulou (1998), who explicitly argue that agreement morphemes of a particular type are able to check the EPP, whilst at the same time remaining reluctant to commit on the issue of whether those same morphemes can receive a θ-role.

Whatever the status of the first person singular affix *–n* with respect to the EPP, there is no reason why it should be different here from in (5): the expletive should either be possible in both or barred in both.

Holmberg upholds the traditional view that the EPP is satisfied only by an XP-level category in SpecIP and shows that this facilitates an explanation of the discrepancy between (5) and (6). The crucial property of (6) is that the thematic subject remains in its post-verbal position (presumably Spec*v*P), thereby leaving the SpecIP position free for the expletive[2]. The fact that the same expletive cannot occupy that position when there is no overt subject he interprets as an indication that it is filled by a phonetically null pronoun. (5) is therefore not acceptable for the same reasons as render its counterpart with an overt pronominal subject ungrammatical (7), namely that such structures would require the SpecIP position to be simultaneously filled by an expletive and a referential pronoun.

(7) *Sitä minä puhu-n englanti-a
EXPL I.NOM speak-1SG English-PAR
Intended: 'I speak English' (Holmberg, 2005:544)

Given the constraints of the Chomskyan theory of Agree, the null pronoun proposed must have valued φ-features which trigger agreement on the finite verb and as such must be identical to its overt counterpart. Rather than posit a different *pro* for each of the possible person-number combinations, Holmberg proposes that null-subject constructions are the result of a deletion operation that allows deletion of the pronoun where it does not violate a sentence processing constraint requiring that the deletion be recoverable. This operation takes place in the phonological component rather than in the narrow syntax and consequently has no effect on the meaning of the sentence.

While Holmberg's arguments for supposing there to be a null argument in SpecIP are compelling, the kind of deletion that he proposes is problematic on a number of counts. Firstly, if the operation is post-syntactic and subject only to a processing requirement, the fact that it cannot apply to a post-verbal subject, as the example in (8) shows, is surprising.

[2] The expletive in (6) is optional. Holmberg deals with this by suggesting that the version of this sentence without the expletive involves T-to-C movement.

(8) Kun soiti-tte, kaupa-ssa oli-mme *(me) juuri osta-ma-ssa takki-a
when called-2PL store-INE be-1PL *(we.NOM) just buy-INF$_3$-INE coat-PAR
'When you called, we were just at the store buying a coat' (after Holmberg, 2005:544)

Similar arguments apply to third person referential subjects, which can never be null in matrix clauses (9) and can only be null in embedded clauses when co-referential with an antecedent in the matrix clause (10).

(9) *(Hän) puhu-u englanti-a hyvin
*(he/she) speak-3SG English-PAR well
'He/She speaks English well' (after Holmberg, 2005:539)

(10) Pekka$_i$ väittä-ä että *pro*$_{i/*j}$ puhu-u englanti-a hyvin
Pekka claim-3SG that speak-3SG English-PAR well
'Pekka claims that he speaks English well' (Holmberg, 2005:539)

In the second half of the paper, Holmberg offers an account of these constructions, suggesting that clauses with null third person subjects contain a lexically null pronoun and are as such derived differently from those with null first and second person subjects, but he offers no explanation of why the deletion operation, subject as it is only to processing requirements cannot apply to third person pronouns. Given a sufficiently unambiguous pragmatic context there is no reason why the content of such a pronoun should not be recoverable. If (9) were to occur in the context of a school report, for example, where it is the same pupil's ability in different areas of the curriculum that is being discussed, it is entirely plausible that that individual would be the only contextually available subject, yet the sentence would still not be grammatical without the subject pronoun. Similarly, in the context of a summary of different people's opinions of a particular person's linguistic capabilities, it would be obvious that the embedded subject of a number of clauses with the structure of (10) remains constant while the matrix subject changes according to whose views are being reported. The conclusion therefore seems inescapable that the deletion operation cannot be wholly independent of the narrow syntax.

1.2 Deletion in the Syntactic or Phonological Component (Roberts, 2004, Sheehan, 2006)

In the context of a detailed cross-linguistic study of the Romance languages, Sheehan (2006:Ch.4) develops a proposal of Roberts (11) that null-subject constructions may result from an operation deleting a goal with identical feature content to a probe with which it has entered into an Agree relation.

(11) α deletes under identity of features with β only if β Agrees with α

In a null-subject language, T is supposed to have an uninterpretable D-feature, with the consequence that a pronoun subject (taken to be a D head, in line with standard assumptions) will have the same feature values as T after Agree has taken place[3]. In a non-null-subject language, in which T, by contrast, does not have such a feature, identity of T and a referential nominal category will never obtain and the deletion operation will not be able to apply.

Having concluded (contra Alexiadou and Anagnostopoulou, 1998) that there are at least some subjects in all varieties of Romance which must be in A-positions, Sheehan argues that a deletion analysis of null subjects is more consonant with a research agenda "concerned with deriving explanations for empirical phenomena from a small number of core minimalist principles, without introducing descriptive machinery" (Sheehan, 2006:196) than other alternatives, since the operation on which it relies is motivated elsewhere in the grammar by phenomena such as VP-ellipsis and deletion of copies created by movement. However, while Roberts' original formulation is purely syntactic in nature, Sheehan follows Holmberg in suggesting that the operation is "due to a universal PF economy principle which avoids the duplicate spelling out of 'identical' feature bundles in multiple sites: akin to that used to delete copies at PF" (Sheehan, 2006:195) and as such is part of a phonological component mediating between the output of the narrow syntax and the sensory motor interface. From a theoretical perspective, this conclusion would seem to be desirable, since the nature of the economy principle invoked involves a comparison of representations and as such is very different in character from familiar economy principles of the computational component which are standardly assumed to compare derivations. Indeed, if deletion of this kind took

[3] This analysis assumes that the EPP is a diacritic (that is, a feature of a feature) rather than a feature in its own right and that it disappears without trace once it is satisfied. Clearly, if this were not the case, then the presence of the EPP-feature on T but not the subject would mean that identity never obtains. Indeed, the fact that T has other features (tense etc.) leads Sheehan ultimately to relax this identity requirement to one of non-distinctness. The differences between the two standpoints are of no consequence for the present discussion.

place in the narrow syntax, then the derivation of a null-subject construction would in fact be less economical than that of an identical sentence with an overt subject, since it would involve an additional operation. Locating deletion in the phonological component also explains how it is that its effect can be the exact opposite of another core operation (Agree), without introducing inexplicable redundancy into the grammar. If the different subsystems of the grammar are blind to each other's workings, then there is no reason why an operation of the computational component causing a proliferation in the number of positions in which a particular feature is represented should not coexist with an operation in the phonological component, the effect of which is to reduce the number of times a feature is phonetically realised.

However, if VP-ellipsis, copy deletion and pro-drop are all the result of the same operation and that operation is phonological in nature, then it follows not only that any differences between the three must have their origins in the narrow syntax, but also that only such differences as can be expressed in purely phonological terms should survive. While the more restricted range of environments in which copy deletion can occur (by comparison with VP-ellipsis) are indeed reducible to the restrictions on the movement operation by means of which multiple copies of a single lexical item come to exist in the first place, the properties of the deletion rule itself do seem to be sensitive to the syntactic properties of the construction on which it operates in a more than superficial manner. Firstly, while deletion appears to be optional in the case of VP-ellipsis and pro-drop, it is obligatory in the case of copy deletion, resulting in sharp ungrammaticality where too many copies remain or where the wrong copy is deleted. Secondly, there appears to be no immediately obvious consistency in the choice of category for deletion. In the case of null-subject constructions, it is the leftmost element (i.e. the subject in its surface position) rather than the string corresponding to the agreeing head that must delete (12), while in the case of copy deletion, this is typically the category that must be spelled out (13). VP-ellipsis, meanwhile, is considerably more flexible, often allowing either, both, or even neither to be overtly expressed, given the right context (14).

(12) (Yo) quier(*-o) ver la televisión
(I) want(*-1SG) see.INF the.F television
'I want to watch television'

(13) *(John) was murdered (*John)

(14) Speaker A: Who wants an ice cream?
Speaker B: I do (want an ice cream) but Mary doesn't (want an ice cream)
(Sheehan, 2006:198)

As Sheehan notes, Chomsky's solution to the problem presented by (13) is to suggest that particular instances of a given lexical item are marked for deletion in the narrow syntax, the fact that the highest position in a copy-chain is obligatorily spelled out presumably falling out from the fact that the only other one is marked for deletion. From this it may be surmised that the optional VPs in (14) are not marked in this way (although they presumably must still be "marked as 'subject to the parallelism interpretation'" (Chomsky, 1995:252)), thereby giving the phonological component free rein in deciding what should be deleted. The mixture of optional and obligatory elements in (12) does not appear to be compatible with this model, for if the fact that the first instance of *John* is obligatory in (13) falls out from the fact that all others are marked for deletion, then the obligatory nature of the agreement affix in (12) should, by the same token, indicate that the pronominal with which it is co-referential is also obligatorily deleted. As it happens, there is good reason to believe this to be the case and that the overt pronoun in (12) is in fact in an Ā-position doubling an null pronominal, as Sheehan shows by drawing on data from Britto (2000) comparing French and Brazilian Portuguese (which do not allow null referential subjects in matrix clauses) with Spanish (which does). While (15) and (16) show that the non-null-subject languages allow doubling of a clitic subject by what Sheehan calls a topic-like pronoun, such structures are at best extremely marginal in null-subject languages such as Spanish (17).

(15) *French*
Moi, je crois que oui
me I think that yes
'I think so' (Sheehan, 2006:228)

(16) *Brazilian Portuguese*
Eu, eu acho que sim
I I think that yes
'I think so' (Sheehan, 2006:228)

(17) *Spanish*

Yo (*?yo) creo que sí

I (*?I) think that yes

'I think so' (Sheehan, 2006:228)

If this conclusion is correct[4], then there is no true optionality in null-subject constructions, suggesting that the pronoun is marked for deletion in the narrow syntax in much the same way as the lower copy of the subject in (13). This suggests that the deletion of pronominal subjects is, to all intents and purposes, a narrow syntactic operation after all, the phonological component being responsible only for providing phonetic representations for such categories as are not marked for deletion, but having no part in the choice of what is deleted.

Viewed in this way, an awkward paradox emerges. On the one hand, the deletion operation is subject not to the principle of economy of derivation operative in the narrow syntax (since it can apply even where it is not required for convergence), but rather to a principle of economy of representation, intuitively best motivated in the phonological component. On the other hand, at least some of the features to which it must make reference when identifying categories for deletion are not purely phonological in nature, suggesting that the operation proper takes place in the narrow syntax. Sheehan observes that an alternative to the Chomskyan idea of marking elements for deletion in the narrow syntax would be to make more syntactic information visible to the phonological component. This accords well with her suggestion that the decision to delete the pronoun, rather than the agreement-bearing head is reached on the basis of a comparison of the formal features of the two, but the move comes at the significant cost of blurring the distinction between the narrow syntax and the phonology such that the phonological component becomes a kind of second syntax, in which syntactic operations continue to apply, but with reference to principles of phonological rather than syntactic economy. Irrespective of where the operation is located, however, it is clear that the conditions to which it is subject vary across the three types of construction, with the consequence that the claim that treating null-subject structures as involving deletion is more in tune with core minimalist assumptions proves to be spurious. In the next section, a purely syntactic analysis of null subjects will be developed that avoids the need for a deletion

[4] Sheehan in fact proposes this analysis only for a subset of constructions with overt pronouns, suggesting that focussed pronouns do occupy A-positions, but cannot be deleted for prosodic reasons.

operation altogether and the reference to phonological considerations that that entails by resurrecting the idea of a lexically null argument.

2 A MINIMALIST VERSION OF RIZZI

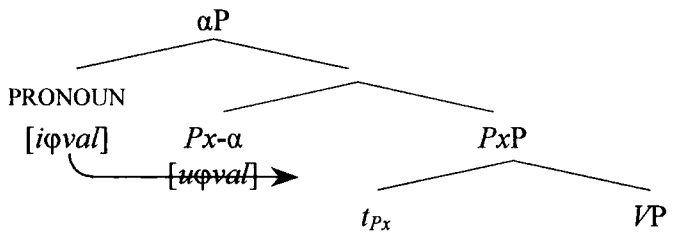
The problem with the deletion analyses reviewed in the previous two sections is that they are both unable to explain satisfactorily why it is that an operation which has no effect on the semantics of a sentence and is subject to economy principles different from those operative in the narrow syntax can nonetheless make reference to syntactic and semantic properties of the sentence in determining the domain of its application. Of course, if the failure to spell out a pronoun were due to the fact that it had never had a phonetic matrix in the first place, then there would be no need for a deletion operation at any stage of the derivation and none of these problems would arise. This section will show that implementing this proposal (which amounts in essence to a revival of the classical Rizzian *pro*) facilitates an elegant account of optional null subjects whilst at the same time retaining the sharp distinction between the narrow syntactic and phonological components. Indeed, the only revision necessary to the syntactic model of Chomsky (2000, 2001) is the dissociation of interpretability and valuedness, argued in section 3.2 of chapter two to be desirable from a theoretical perspective and shown to be empirically necessary in 3.4.3 of chapter three.

2.1 Lexically Null Subjects: An Alternative to Deletion

As already noted above, the starting point of Holmberg's (2005) inquiry into the nature of null subjects is the incompatibility of Rizzi's (1986) proposals with current versions of feature theory. However, his assertion that "[t]he traditional view of the null subject as *pro* identified by Agr (the φ-features of I) cannot be maintained in a theory where Agr is uninterpretable" (Holmberg, 2005:533) is not, strictly speaking, correct, since it is not the property of being uninterpretable that prevents Agr from identifying *pro*, but rather the fact that it is unvalued, if, as Chomsky (2000) argues, the interpretability or otherwise of features is not visible to the computational component. Of course, as long as the biconditional relationship between interpretability and valuedness is upheld, the distinction is of no consequence, but as soon as uninterpretable valued and interpretable unvalued features are made available, other possibilities emerge and these, by contrast, are compatible with the idea that a null subject is identified by agreement features. Consider by way of example the derivation of a temporal adjunct clause as proposed in section 3.4.3 of chapter three at the point at which the agreement head *Px* has moved to the Case-assigning head α. If, as was argued there, the

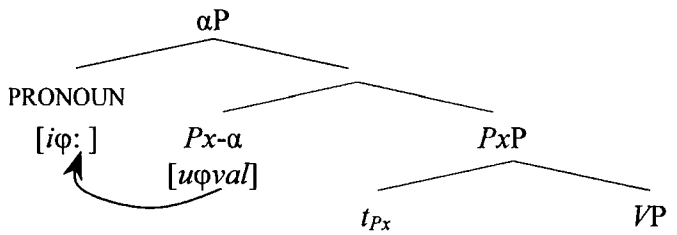
topmost head of the verbal complex *V* cannot assign a θ-role, the φ-features of *Px* will be uninterpretable and must therefore be deleted if the derivation is to converge at LF. Since these features are valued, they are unable to probe their c-command domain for a category with matching φ-features with the consequence that a pronoun with lexically valued φ-features must be merged in the SpecαP if the uninterpretable φ-features of *Px* are to be eliminated, an option discussed in section 3.4.3 of chapter three and shown again here.

(18)



However, if interpretability and valuedness are not biconditionally related, as the present work has sought to argue they are not, then this is not the only possibility. An alternative is available to the derivation shown in (18), whereby a category syntactically identical to the pronoun, except for the fact that its interpretable φ-features are unvalued, is merged in the subject position. Being unvalued, these features will then probe their c-command domain for a goal with valued φ-features, identify the possessive suffix adjoined to α as the closest such category and enter into an Agree relation with it, resulting in the two categories having identical φ-feature values. Once this valuation has taken place, the structures in (18) and (19) will be syntactically identical, with the consequence that the uninterpretable φ-features of the lower category will also delete in (19) yielding a structure consisting exclusively of LF-legitimate objects[5].

(19)



[5] This analysis is along much the same lines as Johns (2004), the principal difference being that it reduces the feature-movement operation proposed there to an application of Agree followed by deletion of features in an extremely local, asymmetric c-command configuration, both of which are independently motivated.

If the derivations leading to (18) and (19) are the only ways of ensuring that the unvalued φ-features of *Px* are deleted before LF and the structure of the variants of temporal adjunct and agent constructions in which the subject is overt is as shown in (18), then it follows that (19) must represent the structure of the variants of those same constructions in which it is not. Empirical considerations therefore lead to the conclusion that the category in SpecαP is phonetically null[6] and hence, to all intents and purposes, a translation of traditional *pro* into the terminology of minimalist syntax. Rizzi's licensing requirement, which Rizzi claimed to be dependent on the strictly local relation of government obtaining between a null pronoun and its Case-assigner is replicated in the strict locality conditions on deletion of features, allowing them to be checked and deleted only by an immediately c-commanding category such that the sentence will only converge where the null pronoun is merged immediately to the left of the agreeing head. The identification requirement, on the other hand, whereby a null argument inherits the φ-features of the head which assigns it Case, is formalised in the Agree relation that is established between the interpretable unvalued features of *pro* and the uninterpretable valued agreement features adjoined to α. Treating *pro* as a probe in this way also explains why it is that null subjects differ from their overt counterparts in various other respects. For if only heads can probe, as is standardly assumed, then the fact that the φ-features of *pro* can be valued by the uninterpretable features of the *Px* head indicate that *pro* must be a minimal category. The fact that it occupies a specifier position and must therefore also be maximal is unproblematic in minimalist syntax which allows a category to be simultaneously minimal and maximal, but this does predict that a pronoun with unvalued

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[6] It is worth noting that while this conclusion concurs with the generalisation that languages with rich agreement allow null subjects, there is no *a priori* reason why a category without lexically valued φ-features should have to be null and in the absence of an argument to this effect, one might expect that there exist languages which have overt nominal categories with unvalued interpretable φ-features. The invariant subject clitics *a* in the Swiss Lombard dialect Lugano may be an exponent of a category of this kind, since it is obligatory, but relies on the verbal affix and/or other clitics to distinguish the full range of person-number combinations as the following paradigm of the verb 'to come' shows.

(i)

A vengni mi	A vegnum
'I come'	'We come'
A ta vegnat ti	A vegnuf
'You (sg.) come'	'You(pl.) come'
A vegn luu	A vegn lur
'He comes'	'They come'

(Poletto (2000:12), quoting Vassere (1993))

interpretable φ-features cannot take a complement of any kind, since the category in the subject position would not be minimal in such circumstances with the consequence that the unvalued φ-features would only be able to probe their complement for a matching goal and the unvalued φ-features of the *Px* head would remain undeleted. This explains why it is that null subjects typically cannot be modified by a relative clause complement, as the Italian example (20) shows, and lends further support to the pronominal agreement analysis of null-argument constructions in Modern Irish defended in chapter five, in which such modification is possible (21).

(20) *(Io) che non sono mai andato fuori di casa dic-o che...
*(I) that NEG be.1SG never go.PTCP out of.the house say-1SG that...
'I who have never gone out of the house say ...' (Legate, 1999:8?)

(21) Chuad-ar sin aN raibh aithne ag-am or-thu go Meiriceá
go.PAST-3PL DEM that be.PAST acquaintance at-1SG on-3PL to America
'Those that I knew went to America' (McCloskey and Hale, 1984)

2.2 Extending the Analysis to Finnish Finite Clauses

One important consequence of treating overt and null subjects as lexically distinct entities is that there is no reason why the differences between them should not extend beyond the purely phonetic to syntactic and semantic properties. One such difference is whether or not a subject can be modified by an embedded clause, shown in the previous section to be directly attributable to whether or not the interpretable φ-features of the subject are lexically valued or not. This section examines the differences between the distribution of null and overt subjects in Finnish finite and non-finite clauses and shows that these can be accounted for in the narrow syntax under the null pronoun analysis described in the previous section. Section 2.2.1 presents the data, showing that the patterns of agreement in finite clauses are essentially the same as those observed in the temporal adjunct and agent constructions, and proposes that the analysis of these clauses developed in chapter three be extended to finite clauses. Section 2.2.2 considers a difference between the two structures that appears to call this analysis into question and shows how adopting Pesetsky and Torrego's (2001, 2004, 2005a, 2005b) proposal that structural nominative Case is an unvalued uninterpretable T-feature enables this difference to be derived from the fact that finite clauses have independent temporal reference, whereas non-finite clauses do not.

2.2.1 Patterns of Agreement in Finnish Finite Clauses

The relationship of agreement to null subjects in Finnish finite clauses is very similar to that observed in temporal adjunct and agent constructions, as the following examples show. Overt subjects and agreement may co-occur, first and second person subjects are always optional (22-23), while null third person referential subjects are only possible in embedded clauses (24) and then only when bound by an antecedent in the matrix clause (25-26).

(22) Kun (minä) korjaa-n innokkaasti katto-a tiile-t lentele-vät
when (I[NOM])fix-1SG enthusiastically roof-PAR tile-PL[NOM] fly-3PL
'While I fix a roof enthusiastically, tiles fly'

(23) (Minu-n) korja-te-ssa-ni innokkaasti katto-a tiile-t lentele-vät
(I-GEN) fix-INF$_2$-INE-1SG.PX enthusiastically roof-PAR tile-PL[NOM] fly-3PL
'While I fix a roof enthusiastically, tiles fly' (Koskinen, 1998:307)

(24) *(Hän) kadott-i hattu-nsa
s/he[NOM]lose-PAST[3SG] hat-3.PX
'S/he lost his/her hat'

(25) Matti$_i$ käytt-i hattu-a, kun *pro*$_{i/*j}$ ol-i loma-lla
Matti[NOM]$_i$ use-PAST[3SG] hat-PAR when be-PAST[3SG] holiday-ADE
'Matti wore a hat, when he (himself) was on holiday'

(26) Matti$_i$ käytt-i hattu-a *pro*$_{i/*j}$ ol-e-ssa-nsa loma-lla
Matti[NOM]$_i$ wear-PAST[3SG] hat-PAR be-INF$_2$-INE-3.PX holiday-ADE
'Matti wore a hat, when he (himself) was on holiday'

The only real difference (which will be ignored here) between the patterns of agreement in the two types of clause is the fact that, while possessor agreement may co-occur only with pronominal arguments, all nominative subjects, whether pronouns or full NPs, trigger agreement on a finite verb. There is also a difference in the interpretation of overt third person subjects in embedded clauses, which is only optionally disjunct in reference from a c-commanding antecedent when the embedded clause is finite (27), but obligatorily so when

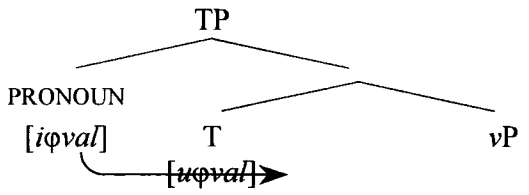
the clause is non-finite (28). This is as expected, if finite CP but not non-finite CP is a barrier for binding of a pronoun[7].

(27) Matti$_i$ käytt-i hattu-a, kun hän$_{i/j}$ ol-i loma-lla
Matti[NOM]$_i$ wear-PAST[3SG] hat-PAR when s/he[NOM]$_{i/j}$ be-PAST[3SG] holiday-ADE
'Matti wore a hat, when s/he was on holiday'

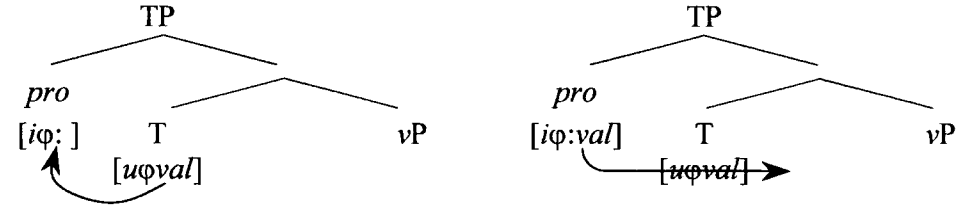
(28) Matti$_i$ käytt-i hattu-a häne-n$_{*i/j}$ ol-e-ssa-nsa loma-lla
Matti[NOM]$_i$ wear-PAST[3SG] hat-PAR s/he-GEN$_{*i/j}$ be-INF$_2$-INE-3.PX holiday-ADE
'Matti wore a hat, when he (someone else) was on holiday'

The similarities between the two types of clause suggest that verbal φ-features in finite clauses, like those of the possessor agreement in the temporal adjunct and agent constructions, are uninterpretable and either deleted by the φ-features of an overt pronoun merged in an immediately c-commanding position (29), or probed by the those of the null category *pro*, also ultimately resulting in their deletion (30).

(29)



(30)



2.2.2 Differences in Word Order in Finite and Non-Finite Clauses

While the patterns of agreement are sufficiently similar to enable this analysis to be applied to finite clauses, differences in the range of word orders available in the two types of clause call this hypothesis into question. For while the temporal adjunct and agent constructions are sharply ungrammatical when the subject appears to the right of the verb, as example (111)

[7] Curiously, the same CP node cannot be a barrier for binding of *pro* under this analysis, as (25) shows.

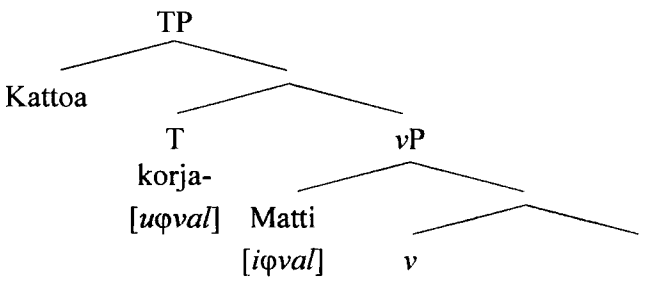
from chapter three, repeated here as (31), shows, this word order is entirely possible in finite clauses, provided another category moves to the preverbal position to satisfy the EPP (32).

(31) *Katto-a korja-te-ssa Mati-n Nelli lö-i sormee-nsa
roof-PAR fix-INF$_2$-INE Matti-GEN Nelli[NOM] hit-PAST[3SG] finger-3.PX
Intended: 'While Matti was fixing the roof, Nelli hit her finger'

(32) Katto-a korja-a Matti
roof-PAR fix-3SG Matti[NOM]
'Matti is fixing the roof'

For the temporal adjunct and agent construction, this restriction was explained by proposing that the external θ-role is assigned from the topmost functional head α of the clause, rather than from the topmost head of the thematic domain, as seemed to be the case in the participial construction and rationale adjunct. This meant that the φ-features of the agreement head *Px* situated between α and *V* could not receive a θ-role and would hence be uninterpretable at LF and in need of deletion. The fact that they were valued meant that they were not able to probe their c-command domain for a matching interpretable feature set, with the consequence that the only way to ensure convergence was to merge a suitable category at a subsequent point in the derivation. The fact that (32) is grammatical therefore calls into question the legitimacy of extending the model proposed in chapter three to finite clauses, for it is clear from the structure of this sentence, shown in (33), that the topmost head *v* of the verbal complex does assign a θ-role to the in situ subject. As the structure stands, there is no category that is in a position to delete the uninterpretable φ-features on T and these features, if they are valued, are not able to probe the subject in Spec*v*P. Indeed, since T immediately c-commands the subject, its uninterpretable φ-features should cause the interpretable φ-features of the subject to delete under the current model, predicting incorrectly that the derivation should crash.

(33)



One possible response to this problem is to abandon the idea that agreement is lexically valued for Finnish finite clauses, thereby allowing the φ-features of T to enter into an Agree relation with a subject in its c-command domain in the familiar manner. Since the paradigm of finite verb agreement morphemes is distinct phonetically from the paradigm of possessor agreement, there is no *a priori* reason why this should not be the case, particularly since the developments proposed in this chapter in order to accommodate optional arguments show that unvalued features certainly cannot be dispensed with altogether. This would, of course, mean that finite verb morphology would differ from possessor agreement in being inserted late and this in turn would require a post-syntactic deletion analysis of null arguments with all the theoretical difficulties that that entails, but if such is the nature of the data, then this must simply be accepted. However, other constructions in which nominative arguments appear to the right of the verb do not allow these arguments to trigger agreement, even though they unequivocally occupy a position within the c-command domain of the agreeing head. Section 2.2.2.1 shows that these arguments are indeed nominative and not just accusatives with a form that happens to be phonetically identical to the nominative. In 2.2.2.2 it is shown that taking the subject argument in finite clauses to be first merged in SpecAGRP predicts the correct patterns of agreement and section 2.2.2.3 explains why the equivalent position Spec*Px*P of non-finite clauses is not available for the subject argument.

2.2.2.1 Accusative Case and Jahnsson's Rule

The Finnish accusative is unlike any other of the fifteen cases available in the language in not making available a distinct morphological form for full NP arguments. (There is, however, a full set of morphologically distinct accusative pronouns, a fact which will be important presently.) As can be seen from the following table, showing the declension of the noun *karhu* 'bear' for the four structural cases of the language, the accusative plural is identical to the nominative plural, while the singular has two forms, one identical to the nominative singular and one identical to the genitive singular.

(34)

	Singular	**Plural**
Nominative	karhu	karhu-t
Accusative	karhu, karhu-n	karhu-t
Genitive	karhu-n	karhu-j-en
Partitive	karhu-a	karhu-j-a

(Kiparsky, 2001:317)

The choice between the two forms of the accusative singular is governed by Jahnsson's Rule (Jahnsson, 1871), which requires that the form ending in *–n* be used where the sentence contains a nominative subject triggering agreement and the form without an ending be used elsewhere. The fact that the passive form of the verb can take a first person plural subject and be interpreted in the same way as its active counterpart means that the two possibilities can be illustrated by the minimal pair in (35) and (36). In (35), where the verb agrees with the nominative subject *me*, the object must take the ending *–n*, while in (36), where it does not, it may not do so.

(35) Me osta-mme auto*(-n)
we[NOM] buy-1PL car-ACC
'We are buying a car'

(36) Me oste-taan auto(*-n)
we[NOM] buy-PASS car-ACC
'We are buying a car' (Holmberg, to appear)

The fact that this allomorphy is syntactically conditioned leads Kiparsky to pursue an alternative analysis, according to which the forms marked as accusative in (34) are actually syntactically identical to the nominative and genitive forms with which they are homophonous, and he provides compelling evidence in support of this position. The first such argument comes from coordination structures, in which a subject argument may be omitted from the second conjunct only if it has the same case as the subject of the first conjunct. Finnish passives are unusual from a cross-linguistic perspective[8] in that they assign accusative case to their complement in apparent violation of Burzio's generalisation and this fact means that where an active and a passive clause are coordinated, an accusative pronominal subject of the latter cannot be omitted.

(37) Hän pyörty-i ja *(häne-t) kanne-ttiin ulos
s/he[NOM] faint-PAST[3SG] and *(s/he-ACC) carry-PASS out
'He fainted and was carried out' (Kiparsky, 2001:319)

[8] Whether they are in fact passives at all is a matter of no small controversy. See Manninen and Nelson (2004) and Blevins (2003) for arguments for and against this position respectively.

As (36) showed, a full NP argument in the same position as the pronoun takes the form of the accusative without the *–n* ending. If the similarity of this form to the nominative singular were merely superficial, then it too should not be able to remain unexpressed when co-referential with the nominative subject of an active verb. The fact that it may be omitted in such contexts (38) suggests that the similarity runs deeper and that it is syntactically nominative as well. The same is true of plural subjects (39), suggesting that the plural form in *–t* is also uniformly nominative.

(38) Mikko pyörty-i ja (Mikko) kanne-ttiin ulos
Mikko[NOM] faint-PAST[3SG] and (Mikko) carry-PASS out
'Mikko fainted and was carried out' (Kiparsky, 2001:319)

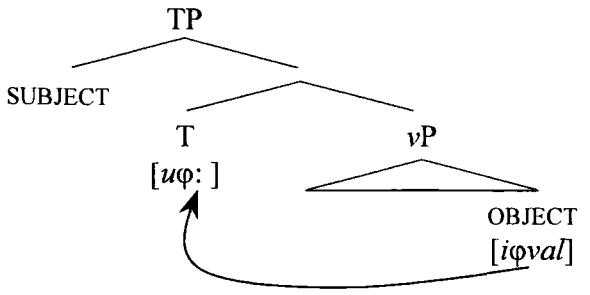
(39) Lapse-t pyörty-i ja (lapse-t) kanne-ttiin ulos
child-PL faint-PAST[3SG] and (child-PL) carry-PASS out
'The children fainted and were carried out'

The conclusion that morphologically nominative arguments are also always syntactically nominative means that there is a second environment in which the valuedness of the φ-features in Finnish finite clauses can be put to the test, namely necessive constructions, which typically take a genitive subject, even in finite clauses (40).

(40) Minu-n pitä-ä osta-a auto(*-n)
I-GEN should-3SG buy-INF$_1$ car-NOM
'I should buy a car' (Holmberg, to appear)

Finite verbs can only ever agree with nominative arguments and the failure of the genitive subject to trigger agreement means that the object appears in the nominative, as predicted by Jahnsson's Rule, without the suffix *–n*. Now, this category, having valued φ-features and nominative case, is an accessible goal in the c-command domain of T and should therefore, in the absence of any intervening matching category, be able to value the φ-features of T if these were lexically unvalued, in the manner familiar from quirky subject constructions in Icelandic.

(41)



The fact that finite verbs in quirky subject constructions can never be plural, even in the presence of an accessible nominative plural object, but are instead invariably marked for the default third person singular value (42) is inexplicable under such an analysis[9], suggesting that the φ-features of T are not able to probe after all.

(42) Oppila-i-den pitä(-ä/*-vät) luke-a kirja-t
student-PL-GEN should(-3SG/*-3PL) read-INF$_1$ book-PL.NOM
'The students should read the books'

2.2.2.2 A Split INFL Analysis

These data, alongside the problems that T being a φ-probe would engender for the analysis of null subjects advocated above, suggest that verbal φ-features in Finnish finite clauses do enter the derivation valued and thereby raise anew the question of how it is that constructions with agreeing postverbal subjects such as (32) are not ungrammatical. There is one possible solution to this problem that has not yet been explored, namely that in finite clauses too the φ-features head a projection of their own, as was in fact tacitly assumed in the analysis of finite clauses in Arabic and Irish in chapters four and five. This structure makes available a position for the subject to the left of the agreement head (such that the uninterpretable φ-features can be deleted under immediate c-command) but to the right of the surface position of the verb (such that the word order in (32) is accommodated), namely SpecAGRP.

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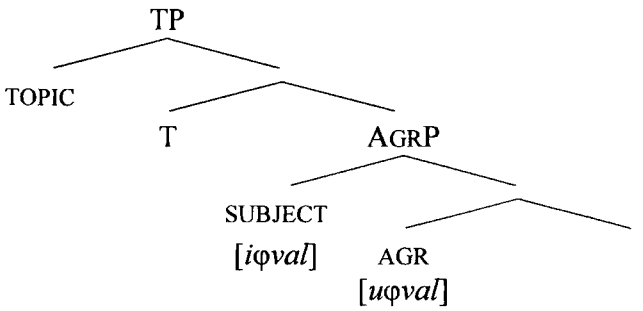
[9] In particular, it cannot be attributed to the necessive verbs being morphologically defective and only having third person singular forms, since the majority can also be used with a nominative subject, in which case they take the full range of finite verb agreement (and have a different meaning). The verb *pitää*, for example, means 'like' in such a context and must agree with a nominative subject, even when post verbal.

(i) Tä-stä kirja-sta pitä-vät oppilaa-t
this-ABL book-ABL like-3PL student-NOM.PL
'It's the students that like this book'

(43)



Recall, however, from section 2.2 of chapter four that the equivalent position in Finnish non-finite clauses was presumed not to be an argument position, precisely in order to exclude VS word orders in sentences such as (32) and that the data from Arabic finite clauses corroborated this conclusion. In neither language was there an easily identifiable reason why this should have to be the case, but in the absence of any *prima facie* counterexamples, the issue could safely be put to one side as a descriptive generalisation awaiting an explanation in terms of more basic principles. If this generalisation is now to be reconciled with the structure of Finnish finite clauses shown in (43), then the availability of the specifier position of an agreement head as an argument position in certain types of clause must be shown to follow from other, independently identifiable properties of that clause type.

2.2.2.3 The Relationship of Case and Tense

The most obvious difference between finite and non-finite clauses is the fact that a finite clause has independent temporal reference, a property standardly associated with the head T, which also has the unique ability to assign structural nominative Case. Non-finite clauses, by contrast, do not have independent temporal reference and do not allow arguments to carry nominative Case. In Finnish, the unmarked case of the subject of a non-finite clause is genitive and this was argued in chapter three to be due to the presence of a dedicated Case-assigning head α, which differed from T in not having temporal properties of any kind. By drawing on proposals first advanced by Williams (1994) and best known from recent work by Pesetsky and Torrego (2001, 2004, 2005a, 2005b) this section will attempt to derive the restrictions on the specifier position of agreement heads from other properties of the respective clause-type.

Pesetsky and Torrego (2005a) observe that in many languages tense morphology in finite clauses is expressed on the verb rather than as a separate head and interpret this as evidence that verbs have valued uninterpretable T-features while the clausal head has an unvalued interpretable feature of the same kind which enters an Agree relation with the matching

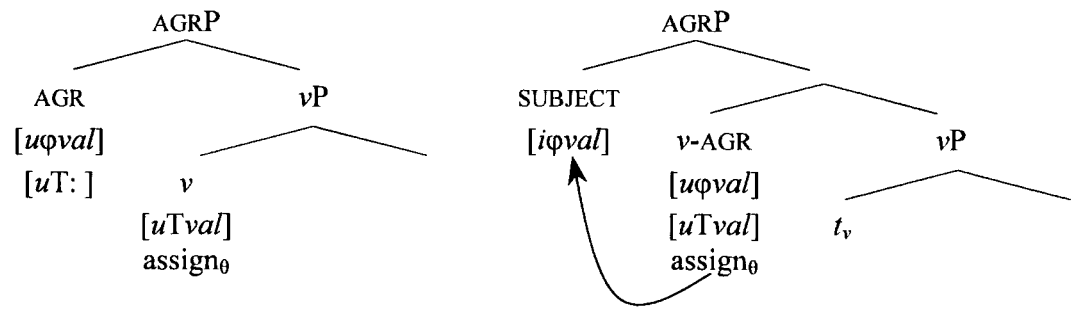
features of the verb and thereby receives a value. The relationship between Case and tense is formalised by also treating Case as an instance of an uninterpretable T-feature on a nominal category. Comparison of Finnish possessor and finite clause agreement provides further support for treating tense and Case as two sides of the same coin in this way. For while finite clause agreement suffixes can attach only to verbal categories and track only nominative arguments, possessor agreement can also attach to both nominal and verbal categories (in possessor/reflexive constructions and non-finite clauses respectively) and while they typically track the φ-features of genitives in possessive constructions and non-finite clauses, there is nothing preventing them in principle from tracking the φ-features of pronominal arguments of other Cases, a property most readily observed in reflexive constructions of the kind considered in section 2.2 of chapter three in connection with Trosterud's analysis of the possessive suffixes.

(44) Muistut-i-n professori-a häne-stä itse-stä-nsä
remind-PAST-1SG professor-PAR s/he-ELA self-ELA-3.PX
'I reminded the professor about himself/herself' (Trosterud, 1993:235)

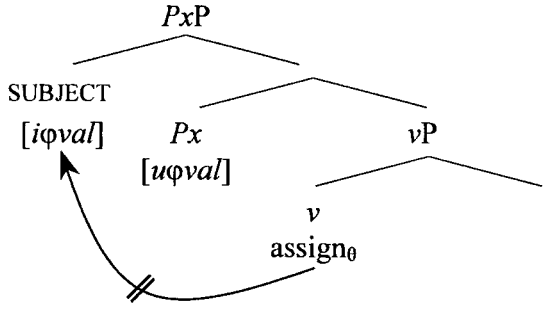
(45) Maija esittel-i Arja-n häne-lle itse-lle-nsä
Maija[NOM] present-PAST[3SG] Arja-GEN s/he-ALL self-ALL-3.PX
'Maija presented Arja to herself' (Trosterud, 1993:235)

Taking this difference to indicate that finite clause agreement has Case, while possessor agreement does not, enables a formal distinction between the two kinds of head to be drawn, which can be exploited to explain why an argument can be first merged in SpecAGRP but not in Spec*Px*P. If Case is in fact uninterpretable tense on nominals, as Pesetsky and Torrego argue, then an AGR head merged with a verbal projection will establish a relation with the head of that projection, whereas a *Px*, being Caseless and hence having no T-feature, will not. Suppose now that it is this relation that motivates movement of *v* to AGR. In a finite clause, where the relation is established, *v* will raise to AGR, taking with it its capacity to assign an external θ-role (46), while in a non-finite clause, the θ-role assigner will remain in the lower position (47), with the consequence that Spec*Px*P will not be an A-position and any argument merged there will fail to receive a θ-role in violation of the Θ-Criterion.

(46)



(47)



Of course, once the Case-assigning head α is merged with *Px*P, the verb does raise[10], but by this stage it is too late to merge any category in Spec*Px*P, since it is no longer a projection of *Px* that is the root of the structure. Whether or not an argument can be merged in the specifier position of an agreement head in Finnish therefore follows from the interaction of general principles of grammar with independently motivated lexical properties of the affixes in question.

2.3 Restrictions on the Position of Null Subjects

Although subject arguments may in principle be merged in SpecAGRP in Finnish finite clauses, there are greater restrictions on the range of categories that may occur in that position than there are on the canonical subject position SpecTP. While first and second person pronouns in SpecTP are optionally null, example (8), repeated here as (48), showed that this is not true of SpecAGRP, in which such subjects must be overt, despite the propositional content being the same[11].

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[10] If non-finite clauses do not have a tense feature, it cannot be T that motivates this movement, but neither is it clear what feature it is. For present purposes it is enough to know that the movement does take place, empirical support for which conclusion was presented in section 3.2.1 of chapter three on the basis of the position of *aina*-type adverbials.

[11] That is not to say that sentences with low subjects are exact equivalents of their counterparts with SVO word order. Subjects in SpecAGRP must always be focussed, shown by the underlining in the translation.

(48) Kun soiti-tte, kaupa-ssa oli-mme *(me) juuri osta-ma-ssa takki-a
when called-2PL store-INE be-1PL *(we[NOM]) just buy-INF3-INE coat-PAR
'When you called, we were just at the store buying a coat' (after Holmberg, 2005:544)

Third person subjects, on the other hand, can be both null and overt in both positions, but whether the subject is overt or not has an effect on the meaning of the sentence, as the differences in the restrictions on the range of possible interpretations of (49) and (50) shows.

(49) Pekka$_i$ sano-o että *pro*$_{i/*j}$ sa-a panki-sta laina-a
Pekka[NOM]$_i$ say-3SG that get-3SG bank-ELA loan-PAR
'Pekka says he (himself) is getting a loan from the bank'

(50) Pekka$_i$ sano-o että hän$_{i/j}$ sa-a panki-sta laina-a
Pekka[NOM]$_i$ say-3SG that s/he$_{i/j}$ get-3SG bank-ELA loan-PAR
'Pekka says s/he's getting a loan from the bank'

Furthermore, where the subject is null, its interpretation varies according to whether it is in SpecTP or SpecAGRP, for while a null subject in SpecTP functions as a bound pronoun, a null subject in SpecAGRP can receive only a generic interpretation as the contrast between (49) and (51) shows.

(51) Pekka$_i$ sano-o että panki-sta sa-a *pro*$_{*i}$ laina-a
Pekka[NOM]$_i$ say-3SG that bank-ELA get-3SG loan-PAR
'Pekka says one can get a loan from the bank'
*'Pekka says he can get a loan from the bank'

The following sections will investigate the extent to which these differences can be attributed to lexical properties of the null pronoun *pro* and the heads AGR and T, with which it interacts.

2.3.1 Subjects in SpecAGRP

Patterns of the kind illustrated in (49) to (51) are particularly problematic for the deletion analyses, which have no way of preventing the structures with null subjects being derived from their equivalents with overt subjects, thereby predicting erroneously that it should at least be possible for the meaning of the two to be identical. The null-pronoun analysis, on the other hand, can draw on the differences of interpretation to determine the lexical differences

between overt pronouns and *pro*, beyond the fact that the φ-features of the former, but not of the latter are valued. Consider first of all the referential properties of overt and null third person pronouns. If the ability to function as a fully referential category (rather than as an anaphor) is dependent on having a D-feature, then it follows that such a feature is somehow associated with the overt pronoun *hän* in the embedded clause in (50) but not with the null subject in (49) or (51). Since the verbs in all three sentences show third person agreement, the D-feature must be a lexical property of the overt pronoun, rather than a property that it inherits from the agreement head, for if this were the case, there would be no way to prevent the null subject from inheriting it as well in the same contexts. A *pro* that is identified by third person agreement therefore differs from the overt pronoun *hän* in being anaphoric and requiring a linguistic antecedent. Suppose, following Holmberg (to appear), that the SpecTP is high enough for an anaphor to be accessible to potential binders in the matrix clause, but that the lower position is not: when *pro* is merged in SpecAGRP and inherits third person singular features from AGR, no binder will be available, with the consequence that it can only be interpreted as generic.

If D-features are a property of overt pronouns, then it follows that overt first and second person subjects can be merged in SpecAGRP, delete the uninterpretable φ-features of AGR and function as fully referential pronouns and this is indeed the case. If *pro* does not have a D-feature, then it follows that even when the φ-features of AGR are first or second person, the category will remain anaphoric and need an antecedent in a higher clause, presumably for much the same reasons as the argumental first and second person possessor agreement morphemes in the participial construction and rationale adjunct could not remain unbound. It has just been argued, however, that SpecAGRP is not accessible to binding from outside the clause when occupied by third person *pro* and there is no reason to suppose that this should be any different with first or second person *pro*. Since the option of generic interpretation is not available in these cases, as it was for the third person, such structures can never be well-formed, thereby explaining why referential subjects in SpecAGRP are always overt[12].

[12] It could, of course, be argued that the fact that such subjects are always focussed is sufficient to require them to be overt. In the light of the argument presented in section 1.2 of chapter two, however, this should probably be thought of as part of the design specifications of language, rather than a principle that influences the operation of the computational system.

2.3.2 First and Second Person Subjects in SpecTP

The accessibility or otherwise of the two positions under discussion to binding from a higher clause does not, however, explain why it is that null first and second person subjects in SpecTP can remain free, as the following examples show they can be.

(52) (Minä) puhu-n englanti-a
(I[NOM]) speak-1SG English-PAR
'I speak English'

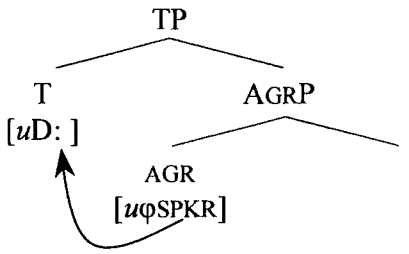
(53) (Sinä) puhu-t englanti-a
(you.SG[NOM]) speak-2SG English-PAR
'You speak English'

Since it has already been established that the category *pro*, assumed to occupy SpecTP in the null-subject variant of these sentences, does not have a D-feature of its own, and since this category clearly is referential in (52) and (53), it follows that it must have inherited it from elsewhere in the structure. Furthermore, the fact that this feature is not accessible to null subjects in SpecAGRP suggests that it resides in a position between the two positions into which subjects may be merged; in other words, it is a property of T. However, it cannot be the case that copying the feature to the subject position is effected by *pro* having an unvalued D-feature, for if this were the case, null third person subjects should be possible whether or not they are bound, since there would be nothing to stop *pro* inheriting the D-feature from T in that case too.

Considering in more detail the precise nature of first and second person features, it seems clear that they contain more semantic information than third person features and, to the extent that they identify the speaker and addressee in any given context, are in some sense inherently referential. Suppose that this intuition is formalised in the syntax, such that the set of possible values for the person feature is not {1, 2, 3} but {SPKR, ADDR, 3}[13], where the features SPKR and ADDR, being referential, are not only possible goals for unvalued φ-features, but also for unvalued D-features. Where a T head is merged with an AGRP headed by first or second person agreement, its D-feature will probe and be valued by the SPKR- or ADDR-feature of AGR.

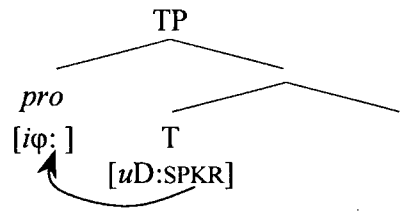
[13] Béjar (2003) and Béjar and Rezac (2004) make use of similar features.

(54)



When *pro* is subsequently merged in SpecTP, its φ-features will identify the SPKR- or ADDR-feature of T as the nearest accessible goal and inherit the feature, along with the D-feature of T with which it is now associated (55). The result is a fully referential null first or second person pronoun in SpecTP with exactly the same features as its overt counterpart, predicting correctly that a sentence with a null first or second person subject will have the same properties as one where such a subject is overt.

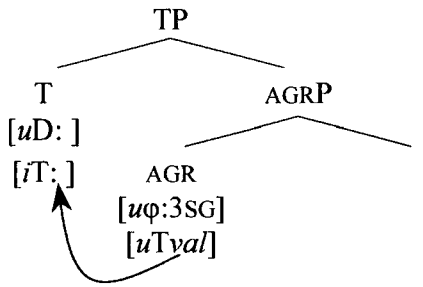
(55)



2.3.3 Null Third Person Subjects in SpecTP

The derivation proceeds differently where AGR has third person agreement features, since these are not identified by the D-feature in T as an accessible goal. Movement of AGR to T still takes place, but this is motivated by the unvalued tense feature of the T head alone, rather than the D-feature (see section 2.2.2.3 above).

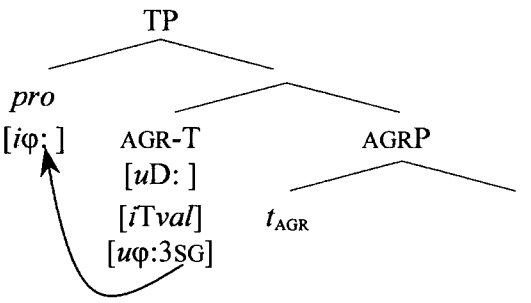
(56)



When *pro* is merged in SpecTP, its unvalued φ-features probe and are valued by the φ-features of AGR, which has by this stage moved to T, and since those φ-features are not

associated with a D-feature, as they were in the case of first and second person agreement, the null category remains anaphoric[14].

(57)



It remains only to determine how it is that such structures are able to converge, since the presence of the unvalued uninterpretable D-feature in T means that they do not consist entirely of LF-legitimate objects. The analysis of constructions with null first and second person subjects proposed in the last section showed one way in which this feature can be eliminated, but there is good reason to believe that there are others. Holmberg and Nikanne's (2002) observation that the condition that the preverbal subject position be filled in Finnish "can be satisfied only by categories which are referential in a broad sense, including locative and temporal adverbials but excluding sentence adverbials and manner adverbials" (Holmberg and Nikanne, 2002:81) suggests that the feature that facilitates a fully referential interpretation of first and second person null subjects is also the source of the Finnish EPP, a view which is consonant with Chomsky's own assertion that the presence of a D-feature in T is the natural successor in feature-driven syntax to the extended projection principle of Government and Binding Theory (see particularly Chomsky (1995) and Alexiadou and Anagnostopoulou (1998)). What is intriguing about the Finnish EPP is that it appears to be optional, applying only where a category capable of satisfying it is present in the numeration. Where no such category is available (as is the case in (58), where the word *kiire* 'haste' is not an argument, but part of a complex predicate) the condition is suspended and the derivation is able to converge, despite the position remaining unfilled.

(58) Tul-i kiire
come-PAST[3SG] haste
'There was a rush' (Holmberg and Nikanne, 2002:82)

[14] Clearly this analysis cannot apply to languages which do allow referential null third-person subjects. These languages must be assumed to have a different set of possible values for person features, e.g. {SPKR, ADDR, R}, where R is a third-person discourse referent. This feature R differs from the feature 3 proposed above for Finnish, in that it is a possible goal for an unvalued D-feature.

The fact that sentences interpreted as having generic subjects cannot be verb initial (unless no category capable of satisfying the EPP is present in the numeration) shows clearly that the null pronoun merged in SpecAGRP in such constructions is not able to satisfy the EPP itself, in other words, that it is not an accessible goal to the D-probe.

(59) *Istu-u mukavasti tä-ssä
sit-3SG comfortably here-INE
'One sits comfortably here' (Holmberg, to appear)

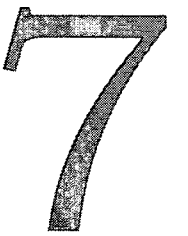
(60) Tä-ssä istu-u mukavasti
here-INE sit-3SG comfortably
'One sits comfortably here' (Holmberg, to appear)

If a postverbal null third person pronominal is not able to value and delete the uninterpretable D-feature in T, then there is no reason why a preverbal one should be able to, leading to the conclusion that the structure in (57) is possible only because of the optionality of the Finnish EPP. Given a workspace containing only *pro* and the T'-level constituent of (57), the requirement that the φ-features of *pro* be valued, being obligatory, takes precedence over the optional requirement that the D-feature of T be eliminated.

3 CONCLUSION

The aim of this chapter has been to show that a purely syntactic analysis of optionally null subjects is preferable to one that makes reference to the relatively poorly understood properties of the phonological component. Aside from the conceptual problems that allowing either economy principles motivated in the phonological component to be operative in the narrow syntax or syntactic features to remain active in the phonological component entails, the model developed here is empirically superior, to the extent that it predicts accurately contexts in which null arguments are not possible and differences in interpretation that follow both from the choice of a null or overt argument and from the position of a null argument in a clause. Most importantly, though, this was possible without invoking any principles of the phonological or semantic modules other than the axiomatic principle of full interpretation and without proposing any alterations to the standardly accepted properties of the computational component beyond the dissociation of interpretability and valuedness.

Conclusions



The principal aim of this study was to determine the syntactic properties of the morphemes that encode φ-features, traditionally thought of as agreement affixes. For both empirical and conceptual reasons, I have argued that the interpretability and the valuedness of grammatical features are independent properties determined at different points in a derivation. In the case of valuedness, the model proposed here does not diverge from the mainstream of minimalist thinking, considering it to be a lexical property and hence subject least to idiosyncratic cross-linguistic variation. Interpretability, on the other hand, I have argued to be determined in the course of a derivation, according to the relationships that the element hosting the features in question enters into with other categories in the structure: specifically, φ-features are interpretable when their host is merged in a position where it receives a θ-role and uninterpretable where it is not. In this respect my proposals differ from those of others who have argued for a dissociation of interpretability and valuedness, most notably Pesetsky and Torrego (2005a, 2005b, 2006), for whom both properties are lexical. Which of the two models is correct is ultimately an empirical question. If interpretability is lexically determined, then a single lexical item should behave in a uniform fashion in all the constructions in which it appears. Allowing this same property to be determined at a later stage in the derivation, on the other hand, admits of the possibility that the features of one and the same lexical item may be interpretable in one context and uninterpretable in another. A detailed examination of Finnish possessor agreement lent empirical support to this latter position, showing that whether or not the suffixes may co-occur with an overt argument co-varies with word-order properties of the constructions in which they appear in a predictable manner. By allowing the interpretability of φ-features to be determined in the computational component, the lexical split proposed in existing work on the subject and which Pesetsky and Torrego's model would have to preserve in some form or other, was shown to be superfluous.

Of course, the benefits of this alternative model would be easily negated if it could be shown that allowing θ-roles to be assigned to affixes as well as phrasal constituents necessarily entailed an undue proliferation of computational mechanisms. Indeed, considerations of precisely this kind lead Alexiadou and Anagnostopoulou (1998) to stop short of arguing that agreement affixes can be fully argumental and Platzack (2004), who does take this step, is

forced to allow heads to merge with their specifiers, following a proposal by Matushansky (2006), which has yet to gain widespread acceptance. Solutions of this degree of complexity are, however, only necessary as long as thematic relations are taken to be encoded as configurations in a particular restricted part of the clausal structure, an assumption which closer scrutiny reveals to sit ill with certain basic theoretical tenets of Chomskyan minimalism. Once alternatives to this position are explored, the picture that emerges is remarkable for its simplicity: a predicate assigns a θ-role to an immediately c-commanding nominal category and retains the capacity to do so even after adjoining to a higher head, where no such category is available in the lower position. An examination of patterns of agreement in Modern Standard Arabic, Modern Irish and Finnish finite and non-finite clauses shows that this model of θ-role assignment, in conjunction with the proposal that interpretability of φ-features is syntactically determined, is able to account for a wide range of data from genetically unrelated languages.

When addressing one set of questions in depth, it is inevitable that others which deserved no less attention do not receive it and, equally, that new questions arise which must be left to others to answer, and this dissertation is no exception in this respect. As far as the first category goes, I have had little to say on the subject of expletives, which appear to constitute an exception to the rule I have sought to establish that only categories to which a θ-role has been assigned have interpretable φ-features. My analysis of the Arabic data relied on there being an expletive to check the uninterpretable φ-features of the verb, but the φ-features of the expletive must, in the absence of any other category to delete them, be presumed to persist at the LF-interface, for reasons which remain unclear. I content myself with the knowledge that mine is not the first theory that has had difficulty accommodating such data in a completely consistent manner and can only hope that any future solution to this problem will not stand at odds with the proposals I have advanced here. It must also be left to future research to explain why it should be the interpretability of φ-features, rather than of any other class of feature, that interacts with θ-role assignment; but that, and the broader question of to what extent this model is applicable not only to φ-features but to grammatical features in general, would yield enough material for another dissertation.

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