

Lexical Splits in Finnish Possession

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May 18, 1998

1 Introduction

In Finnish, pronominal possession is marked with both suffixes and independent possessive pronouns. The interaction of suffixes, independent possessive pronouns and non-pronominal possessors is complex and no existing analysis correctly accounts for all the relevant facts (Pierrehumbert (1980), Nevis (1984), Dolbey (1995), and Trosterud (1993)). I will argue that in order to solve the puzzle of Finnish pronominal possession, we need to recognize the existence of certain *lexical splits*; that is, we need to recognize that two morphemes may be phonologically identical, but still have different lexical features. Lexical splits are sometimes easy to recognize, especially when the homophony is a result of historical phonetic merger. Examples of lexical splits in English include *knight* and *night*, which are homophonous but have two different and unrelated meanings. Another example is the ending ‘-z’ (with its allomorphs) which corresponds to three different meanings. The lexical splits that will be discussed in the present paper are not quite so obvious. The complication lies in the fact that we will analyze lexical items which are *different but partially related*. The distribution of possessive suffixes and independent pronouns on nominals will prove that there is a lexical split. This analysis also provides an account for the distribution of possessive suffixes on verbal elements. Moreover, the lexical split analysis allows us to understand dialectal variation which would otherwise be puzzling.

The Finnish pronominal possessors are presented in Section 2. Previous attempts to account for the distribution of suffixes and pronouns are discussed in Section 3. The syntactic framework of Lexical-Functional Grammar (LFG) provides the tools necessary to formally describe the linguistic generalizations that result from a full analysis of the relevant data. In fact, the analysis that proves to be empirically adequate naturally falls out of the formal machinery of LFG. Section 4 briefly introduces some of the concepts and formal mechanisms of LFG. Section 5 presents and discusses the ‘lexical split’ analysis of the possessors. Section 6 shows how the present analysis sheds light on previously mysterious facts concerning the distribution of suffixes on non-finite elements. Finally, Section 7 puts the phenomenon in a historical perspective. We will explore the origins of

the Finnish possessors and also study the development of the possessors in related languages and dialects. The cross-linguistic data will be shown to provide independent support for the lexical split analysis.

2 Pronominal Possession in Finnish

There are two ways to mark a pronominal possessor in Finnish.¹ An independent pronoun may be used together with a possessive suffix as in (1), or the possessive suffix may be used alone as in (2).²

- (1) (a) *Pekka näkee minun ystävä-ni.*
P. sees my friend-1sgPx
‘Pekka sees my friend.’
- (b) *Pekka näkee sinun ystävä-si.*
P. sees your-sg friend-2sgPx
‘Pekka sees your friend.’
- (c) *Pekka näkee hänen ystävä-nsä.*
P. sees his/her friend-3Px
‘Pekka sees his/her friend.’
- (d) *Pekka näkee meidän ystävä-mme.*
P. sees our friend-1plPx
‘Pekka sees our friend.’
- (e) *Pekka näkee teidän ystävä-nne.*
P. sees your-pl friend-2plPx
‘Pekka sees your friend.’
- (f) *Pekka näkee heidän ystävä-nsä.*
P. sees their friend-3Px
‘Pekka sees their friend.’

The examples in (1) show that the person and number information of the possessor can be given twice within the same noun phrase. For example, both *minun* and *-ni* mark first person singular possession in (1a). The examples in (2) show that such ‘double marking’ is not always necessary.

- (2) (a) *Pekka näkee ystävä-ni.*
P. sees friend-1sgPx
‘Pekka sees my friend.’

¹The following abbreviations will be used in this paper: Px=possessive suffix, sg=singular, pl=plural, NOM=nominative case, GEN=genitive case, ACC=accusative case, PART=partitive case, ALL=allative case, ADE=adessive case, COND=conditional, BIND=binding, HUM=human.

²In example (1), Pekka has nominative case and *ystävä-* has accusative case. The accusative case ending *-n* is dropped before a possessive suffix. I will henceforth not specify the details of Finnish grammar that are not directly relevant to the issues discussed in this paper. For more information about the Finnish language, see Hakulinen and Karlsson (1988), Karlsson (1991), Stenberg (1971).

Table 1: The possessive pronouns and suffixes

	pronoun	suffix		pronoun	suffix
1sg	minun	-ni	1pl	meidän	-mme
2sg	sinun	-si	2pl	teidän	-nne
3sg	hänen	-nsA	3pl	heidän	-nsA

- (b) *Pekka näkee ystävä-si.*
P. sees friend-2sgPx
‘Pekka sees your friend.’
- (c) *Pekka näkee ystävä-nsä.*
P. sees friend-3Px
‘Pekka sees his friend.’
- (d) *Pekka näkee ystävä-mme.*
P. sees friend-1plPx
‘Pekka sees our friend.’
- (e) *Pekka näkee ystävä-nne.*
P. sees friend-2plPx
‘Pekka sees your friend.’
- (f) *Pojat näkevät ystävä-nsä.*
boy-pl see friend-3Px
‘The boys see their friend.’

The possessive pronouns and their corresponding suffixes are displayed in Table 1.³

We see below in (3) that the possessive suffixes never co-occur with non-pronominal possessors. In fact, *personal pronouns with human referents* (henceforth *human possessive pronouns*) are the only possessors that can appear in prenominal position when the possessed nominal hosts a possessive suffix. This is illustrated in examples (3-6). The possessor *Jukan* in (3) is a proper name, the possessor *pojan* in (4) is a lexical NP, the possessor *kenen* in (5) is an interrogative pronoun and the possessor *sen* in (6) is a non-human (non-personal) pronoun.⁴

³Finnish has vowel harmony, so the third person suffix is sometimes *-nsa*, sometimes *-nsä*. I will therefore refer to it as *-nsA*.

⁴Some speakers apparently accept sentences like that in (6b), but none of my informants do. The analysis to be presented in Section 5 can easily be modified to account for the grammars that do accept (6); in these grammars, the lexical entry for the agreement suffix *-nsA* is not specified with a *GEN* *HUM* feature in these grammars. This lexical features of the suffixes will be discussed in Section 5.

- (3) (a) *Pekka näkee Jukan ystävän.*
P. sees J-GEN friend-ACC
‘Pekka sees Jukka’s friend.’
(b) **Pekka näkee Jukan ystävä-nsä.*
P. sees J.-GEN friend-3Px
- (4) (a) *Pekka näkee pojan ystävän.*
P. sees boy-GEN friend-ACC
‘Pekka sees the boy’s friend.’
(b) **Pekka näkee pojan ystävä-nsä.*
P. sees boy-GEN friend-3Px
- (5) (a) *Kenen auto on ruma?*
who-GEN car is ugly
‘Whose car is ugly?’
(b) **Kenen auto-nsa on ruma?*
who-GEN car-3Px is ugly
- (6) (a) *Minä annan koira-lle sen ruokaa.*
I-NOM give dog-ALL it-GEN food
‘I give the dog its food.’
(b) **Minä annan koira-lle sen ruokaa-nsa.*
I give dog-ALL its food-3Px

We thus arrive at the following generalization: within a noun phrase, possessive suffixes can co-occur with *all* and *only* human possessive pronouns.⁵

Although *-nsA* can *agree* with nothing but third person human possessive pronouns within the NP, it can *refer* to other kinds of elements outside the NP, as can be seen in (7-10).

- (7) *Pekka näkee ystävä-nsä.*
P._i sees friend-3Px_i
‘Pekka sees his friend.’
- (8) *Poika näkee ystävä-nsä.*
boy_i sees friend-3Px_i
‘The boy sees his friend.’
- (9) *Kuka näkee ystävä-nsä.*
who_i sees friend-3Px_i
‘Who sees his/her friend?’

⁵There is another form of the third person suffix that sometimes appear; *-An*. This form is sometimes interchangeable with *-nsA*, but in some environments one form is preferred to the other. The distribution seems to be both phonologically and morphologically conditioned. See Kanerva (1987) for discussion.

- (10) *Se heiluttaa häntää-nsä.*
 it_i wiggles tail-3Px_i
 ‘It wiggles its tail.’

The preceding examples all contain the suffix *-nsA*, which, we see, can corefer with a proper name (7), a lexical noun (8), an interrogative pronoun (9), and a non-human pronoun (10). Unlike the (b) examples in (3-6), the sentences in (7-10) are completely grammatical.

We have seen that the independent possessive pronouns (e.g., *minun*) do not need to be present to indicate pronominal possession. Instead, the possessor may be expressed with a possessive suffix alone (compare the sentences in (1) to the sentences in (2)). In order to express the first person singular owner of *koira* ‘dog’, we can say either *minun koira-ni* or just *koira-ni*. So the suffix is obligatory, but the independent pronoun is optional: **minun koira* is ungrammatical. This seems to be a case of morpho-syntactic optionality. There is probably a pragmatic difference between sentences like (1a) and (2a), but we will not be concerned with that here. The optionality holds for first and second person singular and plural, but in the case of third person possessors, there is an important difference in meaning between a phrase where an independent pronoun is expressed and a phrase where no such element is expressed. The sentences in (11) show that the presence of an independent possessive third person pronoun in the possessed phrase entails disjoint reference of the possessor and the subject of the clause.

- (11) (a) *Pekka näkee hänen ystävä-nsä.*
 P. sees his/her friend-3px
 ‘Pekka_i sees his/her_{*i/j} friend.’
- (b) *Pekka näkee ystävä-nsä.*
 P. sees friend-3Px
 ‘Pekka_i sees his_{i/*j} friend.’
- (c) *Pojat näkevät heidän ystävä-nsä.*
 boys see their friend-3Px
 ‘The boys_i see their_{*i/j} friend.’
- (d) *Pojat näkevät ystävä-nsä.*
 boys see friend-3Px
 ‘The boys_i see their_{i/*j} friend.’

In (11a), Pekka sees someone else’s friend, not his own friend. Likewise, in (11c), the boys see someone else’s, not their own, friend. On the other hand, when the suffix *-nsA* alone marks the possessor, it *must* be coreferent with the subject of the sentence. Therefore the friend in (11b) is necessarily interpreted as Pekka’s friend, and the friend in (11d) must be interpreted as a friend of the boys’. In other words, *-nsA* must be bound by a subject, and *hänen/heidän + -nsA* may not be bound by a subject.

Again, first and second person pronominal possessors are not restricted by such constraints. This can be seen by contrasting (12a) and (12b).

- (12) (a) *Auto-ni on ruma.*
 car-1sgPx is ugly
 ‘My car is ugly.’
 (b) **Auto-nsa on ruma.*
 car-3Px is ugly

In (12a) as well as in (12b), a possessive suffix is affixed to a subject. Sentence (12a) is grammatical, because the first person suffix *-ni* need not be bound by a subject. However, (12b) is ungrammatical, since *-nsA* must cooccur with a independent possessive pronoun, unless the clause contains a potential subject binder.

The binder for *-nsA* is necessarily a subject (and not, e.g., an object):

- (13) (a) *Pekka näyttää Jukalle auto-nsa.*
 P. shows J-ALLATIVE car-3px
 ‘Pekka_i shows Jukka_j his_{i/*j/*k} car.’
 (b) *Pekka näyttää Jukalle hänen auto-nsa.*
 P. shows Jukka-ALLATIVE his/her car-3Px
 ‘Pekka_i shows J._j his/her_{*i/j/k} car.’

The possessive suffix in (13a) can only be coindexed with the subject, and not with the object, or some person not mentioned in the sentence. The possessor in (13b), however, is marked with both an independent pronoun and a suffix, and it may not corefer with the subject. However, it may refer to the object, or to some person not mentioned in the clause. We can thus conclude that *-nsA* is a subject-bound reflexive possessor, and that *hänen/heidän* and *-nsA* together make up a free pronominal possessor which cannot be bound by a subject.⁶

Furthermore, the suffix *-nsA* and its subject binder must be found within the same minimal tensed clause:

- (14) *Hän auttaa minua pesemään auto-nsa.*
 he helps me-PART wash-INFINITIVE car-3Px
 ‘He_i helps me wash his_i car.’
 (15) **Pekka sanoi että minä pesin auto-nsa.*
 P. said that I washed car-3Px

⁶Throughout this paper, I will refer to *-nsA* and *hänen/heidän -nsA* as being subject-bound and not subject-bound, respectively. There are facts that suggest that this may be an oversimplification. Consider for example (i) and (ii) below:

(i) *Pekka ja vaimo-nsa tulivat yhdessä juhliin.*
 P. and wife-3Px came together party-ILLATIVE
 ‘Pekka and his wife came to the party together.’
 (ii) *Minä panin laukun paikoille-en.*
 I put bag-ACC place-ALLATIVE-3Px
 ‘I put the bag in its place.’

These facts are of course important for determining the exact binding facts of the Finnish possessors. However, the binding details are not important for the main points made in this paper. The generalizations pointed out in this section are sufficient for present purposes.

If there are several potential binders within a tensed clause, only the closest third person subject can bind the *-nsA*.

- (16) *Kalle auttaa Leenaa pesemään auto-nsa.*
 K. helps L.PART wash-INFINITIVE car-ACC
 ‘Kalle_i helps Leena_j wash her_{*i/j/*k} car.’

As we can see in example (16), the subject of a non-finite clause can bind *-nsA*.

This section has presented the main characteristics of the Finnish pronominal possessors:

- In first and second person, the suffixes are obligatory, whereas the independent pronouns are optional.
- In third person, the presence or absence of an independent pronoun entails a difference in meaning.
- When the pronoun is *present*, the possessor *cannot* be coreferential with the subject of the clauses.
- When the independent pronoun is *absent*, the possessor *must* corefer with the subject.

3 Pronouns or agreement markers?

Several analyses have been proposed to account for the data presented in Section 2, but none of them manage to explain all the aspects of the data. This section discusses three previous analyses, as well as some other seemingly attractive hypotheses. We will see that the problem rests on the fact that the suffixes display mixed behavior: there is some evidence that they are agreement markers, but there is other evidence that they are incorporated reflexive pronouns. All of the potential analyses that will be discussed in this section attempt a unified account of the suffixes; that is, they assume that all suffixes that are identical in form are also identical in lexical features. This should of course be the ‘null hypothesis’, the first hypothesis to be tested. However, it is *impossible* to analyze the Finnish pronominal possessors under such a hypothesis. We cannot construct a formal account of the possessors unless we recognize certain splits within the relevant lexical representations. In this section, we will see exactly how different ‘unified’ hypotheses fail to account for the data. It will also be noted that every attempt to analyze the Finnish possessive system involves extensive reference to lexical features. Under the present analysis (Section 5), an investigation of the lexical entries is all that is needed for a satisfactory analysis; the rest will follow from independently motivated syntactic principles.

3.1 Three previous analyses

Trosterud (1993) attempts an account within the Government and Binding framework. He argues that the possessive suffixes are syntactic arguments, and not agree-

ment markers. This hypothesis explains why phrases with both a non-pronominal possessor and a suffix are ungrammatical (see (3b) and (11b)), repeated below as (17a-b)), although suffixes alone can refer to non-pronominals.

- (17) (a) **Pekka näkee Jukan ystävä-nsä.*
 P. sees J-GEN friend-3Px
- (b) *Pekka näkee ystävä-nsä.*
 P. sees friend-3Px
 ‘Pekka_i sees his_i/*_j friend.’

Trosterud assumes that nouns can assign Abstract Case (presumably Genitive). If *-nsA* has argument status, phrases such as **Jukan ystävä-nsä* are ruled out by the Case Filter, since the head noun can only assign Case to one argument. However, sentence (17b) is correctly predicted to be grammatical, since *-nsA* as an argument can receive Case from the noun *ystävä*. In order to account for all the details of the data, Trosterud is forced to suggest changes in the theory that he is adopting (241-242). His analysis involves extensive syntactic machinery (which does not seem to be independently motivated), and in addition, he needs to make very detailed analysis of the relevant lexical items. Although Trosterud’s analysis quite cleverly captures the data of (17a-b), it cannot account for the fact that independent pronominal possessors may cooccur within an NP with possessive suffixes:⁷

- (18) (a) *Pekka näkee sinun ystävä-si.*
 P. sees your-sg friend-2sgPx
 ‘Pekka sees your friend.’
- (b) *Pekka näkee hänen ystävä-nsä.*
 P. sees his/her friend-3Px
 ‘Pekka sees his/her friend.’

In Trosterud’s analysis, the Case Filter should rule out sentences (18a-b). The noun *ystävä* should assign exactly one Case. However, under an analysis where the possessive suffixes are arguments, both (18a-b) contain two arguments within the NP which need to be assigned Case. In sum, Trosterud’s analysis predicts that possessive suffixes never cooccur with independent possessive pronouns. Examples (18a-b) show that the prediction is false, and we can therefore not adopt Trosterud’s analysis.

Like Trosterud, Pierrehumbert (1980) argues that the Finnish possessive suffixes are syntactic arguments; specifically, clitic possessive reflexive pronouns. In fact, she analyzes the possessive suffixes as allomorphs of the independent reflexive pronoun *itse*. In order to account for the data, she is forced to posit four different

⁷Trosterud himself points out that his analysis fails to account for the cooccurrence of possessive pronouns (such as *hänen*) with possessive suffixes. He admits that he is not able to explain this further, and refers to the fact that other languages display differences between personal pronouns and other nominals (230-231).

language specific syntactic rules, and she must in addition make reference to specific lexical features of the relevant lexical entries (e.g., *+human*, *-interrogative*). Pierrehumbert analyzes the suffixes as clitics, but Kanerva (1987) shows on phonological and morphological grounds that the Finnish possessive suffixes are bound affixes, not clitics. For further evidence against Pierrehumbert's account, I refer to Nevis (1984), who argues quite convincingly against her proposal.

Although Nevis (1984) rejects Pierrehumbert's specific analysis, his account is similar to Pierrehumbert's in that it treats the possessive suffixes uniformly as clitic anaphors. Nevis needs to posit three syntactic rules in order to account for the data: one rule of clitic movement, one of clitic doubling, and one of clitic deletion. The rule of clitic deletion is the weakest point in Nevis's line of argumentation. He needs this rule in order to account for the fact that the first and second person independent pronouns are optional. Unfortunately, this clitic deletion rule does not explain why the third person pronouns are not optional as well. Since it is not clear from Nevis's proposal how the deletion rule can make reference to the first and second person pronouns without making reference to the third person pronouns, it does not successfully account for the data. Another problem with Nevis's account, is that it relies heavily on the clitic status of the possessive suffixes, which Kanerva (1987) refutes. Furthermore, Nevis (just like Pierrehumbert and Trosterud) is forced to make extensive reference to specific lexical features in addition to positing heavy syntactic machinery.

In sum, there are several reasons to reject the analyses that have previously been proposed. They all have to introduce syntactic machinery for which they give no independent motivation. They fail to account for all the details of the data. In addition to the syntax the authors invoke, they are all forced to rely heavily on the lexicon, whereas, as mentioned above, in the current analysis, investigation of the lexical features will be enough; the rest will follow from independently motivated principles. A final objection to the proposals discussed in this section is that they rely on outdated theories and ideas that have been rejected on independent grounds.

3.2 Further possibilities

When one first examines the data of the Finnish possessors, three potential analyses come to mind. One possibility is that the suffixes are incorporated anaphoric pronouns which need to be bound by some element higher up in the clause. This element could be defined as 'subject', since, as has often been noted, possessors share much in common with subjects. A second plausible hypothesis is that the suffixes are incorporated pronouns that are not specified with respect to binding, and that can optionally be doubled for emphasis. Thirdly, the suffixes could be analyzed as agreement markers that must agree with an independent possessive pronoun. We will consider each of these three hypotheses below, and see that they are all problematic.

3.2.1 Incorporated reflexive pronouns?

Let us first try to analyze the possessive suffixes as incorporated reflexive pronouns, which need to be bound by the subject of the clause, or by a syntactically independent possessor.⁸ Thus, in (19a), Pekka is the binder of *-nsA*, and in (19b), *hänen* is the binder.

- (19) (a) *Pekka pesee autoa-nsa*
 P. washes car-3Px
 ‘Pekka_i is washing his_i / *j car.’
- (b) *Pekka pesee hänen autoa-nsa.*
 P._i washes his/her_{*i/j} car-3Px
 ‘Pekka is washing his/her car.’

Example (20) is ungrammatical, because no potential binder is available.

- (20) **Auto-nsa on ruma.*
 car-3px is ugly

However, this hypothesis cannot explain sentences like (21):

- (21) *Minä pesen Pekan autoa/*autoa-nsa.*
 I wash P.-GEN car/car-3px
 ‘I am washing Pekka’s car’

If Pekka can bind *-nsA* in (19a), and *-nsA* does not care if a binder is a genitive possessor or a clausal subject, nothing should prevent *Pekan* from binding *-nsA* in (21), however, (21) is ungrammatical if the suffix is included.

The first and second person possessors cause further complications. This will be exemplified here with the first person singular possessor, which is representative of all first and second person possessors.

- (22) *Minä näen (minun) kissa-ni.*
 I see (my) cat-1sgPx
 ‘I see my cat.’

Example (22) is not a problem. If *minun* is present, it can bind *-ni*, and if it is absent, *minä* binds the suffix.⁹ However, now consider (23).

- (23) (a.) *Pekka näkee (minun) kissa-ni.*
 P. sees (my) cat-1sgPx
 ‘Pekka sees my cat.’
- (b) *(Minun) kissa-ni on ulkona.*
 my cat-1sgPx is outside
 ‘My cat is outside’

⁸Cf. Dolbey 1995.

⁹The subject pronoun *minä* is also optional, which adds a complication.

‘incorporated reflexive pronoun hypothesis’, the absence of *minun* should cause both sentences in (23) to be ungrammatical, since there no other possible binder is present. However, both sentences are grammatical without the independent pronoun. The examples in (23) are thus evidence that our hypothesis is false.

In order to rescue our hypothesis, we could attempt a ‘pro-drop’ analysis. That is, we could hypothesize that when *minun* is absent (in, e.g., (23)), a phonologically null copy of *minun* has taken its place. We would then have the following:

- (24) (a) *Pekka näkee pro kissa-ni.*
 P. sees *pro* cat-1sgPx
 ‘Pekka sees my cat.’
- (b) *pro kissa-ni on ulkona.*
pro cat-1sgPx is outside
 ‘My cat is outside’

If we adopt this ‘pro-drop’ analysis, we are giving up our original unified idea which stated that the suffix is bound by the nearest potential binder, regardless of whether it is a clausal subject or a possessor. If we introduce a phonologically null ‘pro’, then we cannot maintain the idea that the subject *minä* in (22) binds the suffix when *minun* is absent. Instead, ‘pro’ would bind *-ni* in (22) as well. Moreover, if phonologically empty ‘pro’ is available to us, it should be able to rescue (20), above, but (20) is not grammatical. An attempt to analyze the possessive suffixes as incorporated reflexive pronouns thus fails to account for the first and second person possessors, as well as for the third person possessors.

3.2.2 Incorporated pronouns?

A second hypothesis that springs to mind involves analyzing the possessive suffixes as incorporated pronouns¹⁰ which are not specified with respect to binding. We must then assume that these pronouns can be optionally doubled with independent pronominal adjuncts. That is to say that *-ni* in (25) has pronominal status, whereas *minun* is a double, added for emphasis.

- (25) *Pekka näkee minun auto-ni.*
 P. sees my car-1sgPx
 ‘Pekka sees my car.’

This analysis may work for first and second person possessors. However, as we have seen above, third person independent possessive pronouns are not added for emphasis; instead, the presence or absence of an independent third person pronoun is relevant for the *meaning* of the sentence (cf. the sentences in (19a-b), for example). It could perhaps be argued that the fact that *hänen/heidän* is present only when the possessor is not subject bound has nothing to do with syntax or the lexicon. One could argue that when the possessor is not subject bound, the

¹⁰Or pronominal clitics, but, as mentioned above, Kanerva 1987 shows on phonological and morphological grounds that the possessive suffixes are affixes, not clitics.

independent pronoun is added to emphasize the possessor to make clear that it does not refer to the subject. This would be parallel to the use of English pronominal possessors: some speakers of English feel that stress on *his* in a sentence like *Fred lost his money* changes the meaning of the sentence.¹¹ Imagine an analysis where this means of distinguishing the reference of ‘his’ was not considered to be governed by the syntax or the lexicon.¹² Could a similar analysis be extended to the Finnish third person possessors to rescue our incorporated pronoun hypothesis? I have four reasons to believe that it could not. First of all, the generalization for when the independent third person pronouns may and may not occur in Finnish is consistent. Second, stress is available for emphasis in Finnish, and the independent pronoun may optionally be stressed, which makes it more difficult to say that *hänen* is present to emphasize the possessor (we then have three levels of emphasis: no independent pronoun, unstressed independent pronoun and stressed independent pronoun). Third, recall that *hänen* may refer to objects. In a sentence like (13b), repeated below as (26), *hänen* may refer to the object *Jukka*.

- (26) *Pekka näyttää Jukalle hänen auto-nsa.*
 P. shows J.-ALL his/her car-3Px
 ‘Pekka_i shows Jukka_j his/her_{*i/j/k} car.’

It seems odd to propose that emphasis must be added to a possessor to clarify that it refers to what directly precedes it (especially keeping in mind that emphasis may be added to clarify that the possessor refers to somebody not mentioned in the sentence at all).

A fourth complication is added by the fact that this hypothesis forces us to posit an NP internal or external position (presumably topic or focus) position for the ‘double’ pronoun to occupy, since it is not an argument and cannot occupy an argument position. If such a position is available, there is no way to explain why other nominals cannot occupy that position as well, for emphasis. It seems like this hypothesis would predict that we could get phrases like **Jukan auto-nsa*, where *Jukan* is occupying the emphasis position. The fact that **Jukan auto-nsa* is ungrammatical speaks against this option.¹³

There are thus numerous reasons why we should reject the ‘incorporated pronoun hypothesis’ in which the possessive suffixes are taken to be the ‘real’ pronouns, i.e., arguments, and the independent pronouns mere doubles.

¹¹For the readers who don’t get this difference in meaning: stress on *his* and pronounced initial [h] means somebody else’s money, no stress and no initial [h] means Fred’s money.

¹²I will not develop the English case further here, but one can imagine an analysis where the stress was added for discourse purposes by some extra-syntactic pragmatic principle of communication.

¹³Another relevant fact is that demonstratives like *tämä* ‘this’ may occupy some position before (or higher than) the independent pronoun:

Tämä minun talo-ni on kaunis.
 this my house-1sgPx is beautiful
 ‘This house of mine is beautiful.’

Focus positions are usually phrase initial, but the example above shows that the independent pronoun *minun* appears after demonstrative *tämä* within the NP (or DP). This potentially adds a further complication to the ‘doubling’ hypothesis.

3.2.3 Agreement markers?

There is a third hypothesis we should consider before moving on. This is the agreement marker hypothesis. Perhaps the possessive suffixes have no pronominal status at all. Instead, they might just be agreement markers, agreeing with the independent pronoun. This obviously could account for some of the data we have encountered before, including the examples below.

- (27) (a) *Pekka näkee minun ystävä-ni.*
P. sees my friend-1sgPx
'Pekka sees my friend.'
- (b) *Pekka näkee sinun ystävä-si.*
P. sees your-sg friend-2sgPx
'Pekka sees your friend.'
- (c) *Pekka näkee hänen ystävä-nsä.*
P. sees his/her friend-3Px
'Pekka sees his/her friend.'

It would be straightforward to analyze the *-ni* in (27a) as an agreement marker agreeing with *minun*. If we want to maintain this hypothesis, we must assume that a phonologically empty element, corresponding to *minun*, is present when *minun* is absent.

- (28) *Pekka näkee pro ystävä-ni.*
P. sees \emptyset -1sgGEN friend-1sgPx
'Pekka sees my friend.'

According to this hypothesis, *-ni* agrees with the phonologically empty pronominal element *pro* in (28). This information must somehow be encoded in the lexicon. Each lexical entry for an independent possessive pronoun must correspond to two phonetic realizations, one of which is empty. The empty first person possessive pronoun must have the features that the phonetically realized *minun* does, in order for *-ni* to agree with it. This would also be true for the phonetically null and overt versions of *sinun*, *meidän* and *teidän*.

This is all plausible, but now let us again consider the troublesome third person possessors. Recall that the third person independent pronouns are not *optional*; the presence or absence of such a pronoun entails a *difference in meaning* (cf., (11)). If we try to analyze *-nsA* as an agreement marker, we run into several problems. First of all, the covert third person possessor cannot be a phonologically null copy of its overt counterpart *hänen*. The null pronoun must be specified as anaphoric, whereas the overt pronoun must be specified as non-anaphoric. We thus have two distinct lexical items for the third person pronominal possessor, in addition to the suffix. Another problem with the unified agreement marker analysis is that it does not give us a natural way to formally account for the fact that the *-nsA* cannot agree with an overt non-human or possessor, although it can agree with a phonologically null element which is non-human (cf. examples (6), (10)).

We can thus conclude that even though the agreement marker hypothesis might seem attractive (although not perfect) when we consider the examples in (27), it cannot be used to analyze the third person possessors.

3.3 Summary

The discussion in this section shows that previous analyses do not manage to account for the distribution of the possessive suffixes in a satisfactory way. It also shows that three alternative hypotheses, which at first seem straightforward, require complicated stipulations, and even with those stipulations, they do not manage to account for the data in a satisfactory way. Moreover, for each one of these hypotheses, we were forced to make several stipulative, *ad hoc* assumptions, and we were *in addition* forced to posit very elaborate lexical specifications for the lexical items involved.

In my own analysis, reference to the lexicon will be not an embarrassing escape hatch, but rather the *key* to solving the puzzle of the Finnish possessors. In this section I hope to have shown that all plausible analyses of the Finnish possessors need to make claims regarding the lexical features of the items involved, and this is thus *not* a peculiar quirk of the analysis which will be argued for in this paper. I hope that I have also shown that a *unified* analysis of the possessors, where unified means maintaining the proposition that elements identical in form are identical in meaning is not possible. The Finnish possessors cannot be properly analyzed unless we recognize that there are some important lexical splits in the system. Such an analysis will be introduced in Section 5. Before that, I will briefly present LFG.

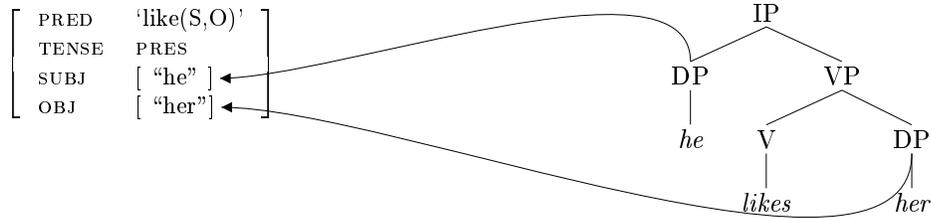
4 Lexical-Functional Grammar

In Lexical-Functional Grammar, the syntax is modelled as linked parallel structures. There are several dimensions of structure, including c-structure (constituent structure), f-structure (functional structure) and a-structure (argument structure). The surface word order is modelled by the c-structure and can vary from language to language. The f-structure, which is assumed to be universal, represents grammatical relations such as subject and object, which are treated as nonreducible to phase-structure categories. The grammar consists of a set of local, co-descriptive constraints on partial structures. There are no transformations involved; instead, grammatical structures are defined by constraint satisfaction.

The different syntactic structures (e.g., c-structure and f-structure) are associated by principles of functional correspondence.¹⁴ To get a sense of what kind of information is expressed at different structures, and how the structures are connected, let us consider the English sentence *He likes her*.

¹⁴For a thorough explanation of how the different structures are linked, see Bresnan 1997, Chapter 3, and Dalrymple et al. 1993.

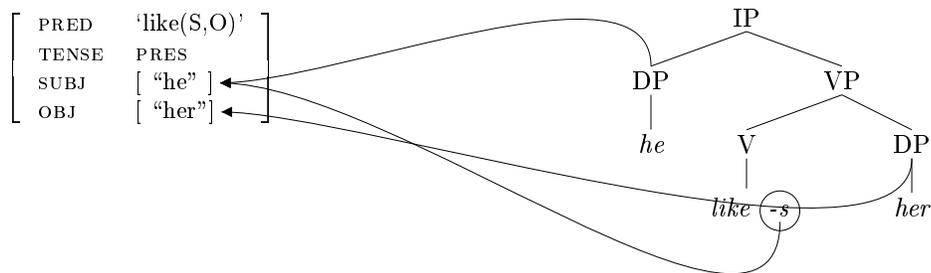
(29) ‘He likes her.’



The whole sentence (that is, the verb and its arguments) map onto the whole f-structure. The subject ‘he’ and the object ‘her’ map onto the subject and object f-structure, respectively. The f-structures consist of attribute-value pairs. In the f-structure in (29), the values of the subject and the object are not specified but merely abbreviated in quotation marks. A value can be a symbol, an f-structure, or a semantic form. The semantic form is the value of the PRED attribute. By ‘semantic form’, we mean a lexical item’s referential semantics and its subcategorization frame.

In figure (29), no units smaller than words are mapped into an f-structure. However, a bound morpheme can also correspond to an f-structure. The verb *likes* ends with an *-s* which conveys information about the subject of the sentence. So, the subject agreement marker on the verb also maps into the subject f-structure.

(30) ‘He likes her.’



The subject and object values come from the lexical entries corresponding to the c-structure nodes and morphemes that map into those f-structures. Thus, the value of the subject attribute corresponds to the lexical feature specifications of *he* and *-s*, and the value of the object attribute corresponds to the lexical feature specification of the lexical entry of *her*. (A subset of) the features included in those lexical entries are given below.

- (31) *he*: (↑ PRED) = ‘pro’
 (↑ PERS) = 3
 (↑ NUM) = SG
 (↑ GEND) = MASC
 (↑ CASE) = NOM

$$(32) \quad -s: \quad (\uparrow \text{SUBJ}) = \downarrow \\ (\downarrow \text{PERS}) = 3 \\ (\downarrow \text{NUM}) = \text{SG}$$

$$(33) \quad \textit{her}: \quad (\uparrow \text{PRED}) = \textit{'pro'} \\ (\uparrow \text{PERS}) = 3 \\ (\uparrow \text{NUM}) = \text{SG} \\ (\uparrow \text{GEND}) = \text{FEM} \\ (\uparrow \text{CASE}) = \text{ACC}$$

The features provided by *he* and *-s* unify in the f-structure. They both map their information into the subject value, and since they do not contribute conflicting information, their features unify:

$$(34) \quad \left[\begin{array}{c} \text{SUBJ} \\ \left[\begin{array}{cc} \text{PRED} & \textit{'pro'} \\ \text{NUM} & \text{SG} \\ \text{GEND} & \text{MASC} \\ \text{PERS} & 3 \end{array} \right] \end{array} \right]$$

The principle of *functional uniqueness* prevents conflicting features from mapping into the same f-structure. Thus, if the verb is inflected for a third person singular subject, no other subjects are allowed. For example, the sentence **I goes to the store* is out¹⁵ because the value of the PERS feature of the subject *I* is not compatible with the PERS feature provided by the inflection of the verb. The features cannot unify and the sentence is ruled out by the principle of functional uniqueness.

We have seen that the formal machinery of LFG allows information from bound morphemes (as well as information from independent words) to be mapped into the f-structure. This gives us the formal tools necessary to capture the observation that languages vary as to whether they express certain meanings with *bound morphology* or with *independent words*. Consider for example the French sentence in (35) and the Ulster Irish sentence in (36) below.

$$(35) \quad \textit{Il} \quad \textit{partir-a} \quad \textit{bientôt.} \\ \text{he} \quad \text{leave-FUTURE} \quad \text{soon} \\ \textit{'He will leave soon.'}$$

$$(36) \quad \textit{Chuirfinn} \quad \textit{isteach} \quad \textit{ar} \quad \textit{an} \quad \textit{post} \quad \textit{sin.} \\ \text{put-COND-1sg} \quad \text{in} \quad \text{on the} \quad \text{job} \quad \text{that.} \\ \textit{'I would apply for that job.}$$

Now compare the French and Ulster Irish sentences to their English glosses. In French, the future tense is expressed with a bound morpheme, whereas in English, it is expressed with an independent word *will*. In Irish, the conditional mood as well as the subject appear as bound morphology, but in English both of these items

¹⁵Of course, this is fine in some varieties of English. Here, I am concerned with dialects where it is not grammatical.

are independent words.¹⁶ The ending *-inn* in (36) and the independent pronoun *I* in English both correspond to the f-structure in (37):

$$(37) \quad \left[\begin{array}{c} \text{SUBJ} \left[\begin{array}{cc} \text{PRED} & \text{'pro'} \\ \text{NUM} & \text{SG} \\ \text{PERS} & 1 \end{array} \right] \end{array} \right]$$

Note that in Ulster Irish, the ending *-inn* cannot cooccur with the syntactic pronoun *mé* ‘I’, as shown in (38).

$$(38) \quad *Chuirfínn \quad mé \quad ar \quad an \quad post \quad sin. \\ \text{put-COND-1sg} \quad \text{I} \quad \text{in} \quad \text{on} \quad \text{the} \quad \text{job} \quad \text{that}$$

The cooccurrence of both pronouns results in a functional uniqueness violation, because each PRED feature has a unique value,¹⁷ and PRED features thus cannot unify.

5 The Lexical Split

As we have seen in Sections 2 and 3, the first and second person possessors behave quite differently from the third person possessors. I will propose an analysis of the first and second person possessors in which the PRED feature ‘pro’ is optional (following Andrews 1990). When an independent pronoun is present, the PRED feature is absent, and when no independent pronoun is present, the suffix provides the necessary PRED feature. A suffix without a PRED feature functions as an agreement marker, whereas a suffix with a PRED feature has pronominal status. The first and second person possessors will be analyzed in Section 5.1.

The third person possessors call for a more elaborate analysis. The third person agreement marker and the third person suffixal pronoun differ in several features, not just the PRED feature. A detailed analyses of the exact lexical features of the two lexical entries corresponding to *-nsA* will be provided in Section 5.2.

5.1 First and Second Person Possessors

Recall that the first and second person independent possessive pronouns are only optionally present.

$$(39) \quad (Minun) \quad auto-ni \quad on \quad ruma. \\ \text{(my)} \quad \text{car-1sgPx} \quad \text{is} \quad \text{ugly} \\ \text{'My car is ugly.'}$$

In an example like (39), the pronoun *minun* is thus optional, whereas the suffix *-ni* is obligatory. Previous LFG analyses of optional pronouns make reference to

¹⁶For further discussion of subjects in Ulster Irish, see Andrews (1990), and also McCloskey (1984).

¹⁷Each value ‘pro’ has a unique index, and is thus unique.

optionality within the lexical entry of the morphologically bound affix, rather than to the independent pronoun (Andrews 1990, Bresnan and Mchombo 1985. See also Sadler 1997 for an LFG analysis of Welsh clitics). To illustrate how this works, let us first consider sentence (39) *without* the independent pronoun (*auto-ni on ruma*). The fact that LFG allows morphologically bound material to map into the f-structure in the same way as independent words makes it possible for the morpheme *-ni* alone to contribute all the information necessary for a referential possessive pronoun. The lexical entry of *-ni* is given in (40).

- (40) *-ni*: (↑ POSS) = ↓
 (↓ PRED) = ‘pro’
 (↓ PERS) = 1
 (↓ NUM) = SG

The same information must be included in the lexical entry for *minun*, which is also a first person pronoun. The lexical entry for *minun* is thus very similar to the lexical entry for *-ni*; the only difference perhaps being that *minun* has a CASE feature, whereas *-ni* does not.¹⁸ The lexical features of *minun* are given in (41).

- (41) *minun*: (↑ PRED) = ‘pro’
 (↑ PERS) = 1
 (↑ NUM) = SG
 (↑ CASE) = GEN

Given the lexical entries in (40-41), sentences like (42) should be ruled out by functional uniqueness:

- (42) *Minun auto-ni on ruma.*
 my car-1sgPx is ugly
 ‘My car is ugly.’

If both *minun* and *-ni* provide a referential PRED feature, there will be a functional uniqueness violation, since both of them map their information into the POSS(essor) f-structure. This indicates that the PRED feature of the bound suffix is optional.¹⁹ In the correct version of the lexical entry for *-ni* the PRED feature is marked as optional; this is indicated here with parentheses.

- (43) *-ni*: (↑ POSS) = ↓
 ((↓ PRED) = ‘pro’)
 (↓ PERS) = 1
 (↓ NUM) = SG

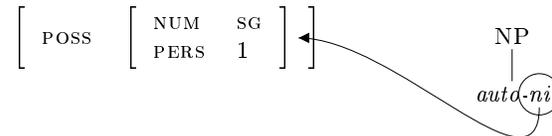
From general principles of completeness and coherence (see, e.g., Bresnan 1997), it follows that when the independent pronoun is present (as in (42), for example),

¹⁸The case features of the independent possessors will not be discussed further, since they have no bearing on the points made in this paper. The possessive suffixes are attached to nouns which are case marked.

¹⁹See Andrews 1990, and also Sadler 1997.

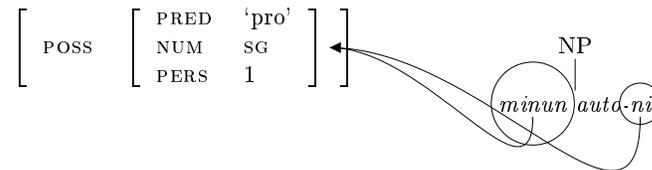
the suffix *-ni* does not include a PRED feature, and it is acting as a mere agreement marker.²⁰ Figure (44) illustrates the lexical features provided to the f-structure by the agreement marker *-ni*.

(44) The suffix *-ni* as an agreement marker:



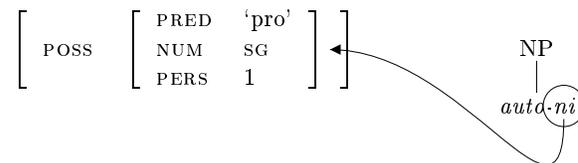
Example (45) illustrates the f-structure corresponding to the possessive pronoun *minun* and its agreement marker *-ni*. The pronoun *minun* provides the PRED feature and all the other features can unify.

(45) The agreement marker *-ni* together with *minun*:



On the other hand, when there is no independent pronoun present (as in *autoni on ruma*, for example), then the suffix *-ni* has pronominal status and contributes a PRED feature. Again, this follows from principles of completeness and coherence. In this case, the suffix is functioning as an incorporated pronoun rather than an agreement marker.

(46) The suffix *-ni* as a pronoun:



Since this analysis applies equally to the second person singular possessor and to the first and second person plural possessor, no further explication of these cases is necessary.

According to the analysis outlined above, one possessive suffix (e.g., *-ni*) corresponds to two separate lexical entries; one with a PRED feature and one without. Instead of analyzing the agreement *-ni* and the pronominal *-ni* as two completely separate lexical entries, one could analyze them as *partially* different lexical entries, which share some features in common; for *-ni*, these features would be NUM and PERS.²¹ What is important here is that the phonological form *-ni* (as well as that

²⁰We could state the following definition of an agreement marker:

A is an agreement marker agreeing with *B* iff the set of lexical features of *A* is a proper subset of the set of lexical features of *B*, and *A* and *B* are mapped into the same f-structure.

²¹This can be done formally by using, e.g., lexical subsumption hierarchies (Markantonatou and Sadler (1996)).

of the other possessive suffixes) corresponds to two different functions; this is thus a ‘lexical split’.

The solution outlined here offers a straightforward explanation for the mixed behavior of the possessive suffixes. The reason why the Finnish possessive suffixes behave both as incorporated pronouns and as agreement markers, is that they *are*, in fact, sometimes functioning as pronouns and sometimes as agreement markers.

5.2 Third Person Possessors

It is easy to see that the simple solution outlined in Section 5.1 for first and second person possessors will not work for third person possessors, since there is no optionality involved in the case of the third person possessors, and the presence or absence of an independent pronoun marks an important difference in meaning. This was illustrated with (19 a-b) above, repeated here as (47 a-b).

- (47) (a) *Pekka pesee autoa-nsa*
 P. washes car-3Px
 ‘Pekka_i is washing his_{i/*j} car.’
- (b) *Pekka pesee hänen autoa-nsa.*
 P. washes his/her car-3Px
 ‘Pekka_i is washing his/her_{*i/j} car.’

The possessor is reflexive when the independent pronoun (*hänen*) is absent (47a), but it cannot be interpreted as a reflexive when the independent pronoun is present (47b). An analysis similar to that outlined in section 5.1 would posit that the *-nsA* in (47a) has a PRED feature, whereas the *-nsA* in (47b) does not. This would correctly capture the fact that the *-nsA* in (47a) alone contributes the information which maps into the POSS f-structure, whereas in (47b), the independent pronoun and the suffix both map their information into the f-structure value of POSS. However, this analysis does not capture the following facts: (i) The possessor in (47a) is reflexive whereas the possessor in (47b) is not; (ii) The suffix *-nsA* cannot *agree with* genitive non-human pronouns or non-pronominal elements preceding the possessed nominal, although the reflexive *-nsa* can *refer to* non-human pronominal subjects as well as to non-pronominal subjects (cf. examples (3-10)).

The solution to these problems is to treat the *-nsA* in (47a) and (47b) as two different lexical entries.²² The *-nsA* in (47a) is a reflexive pronoun which is specified as being subject bound. It has a PRED feature. The *-nsA* in (47b) is an agreement marker, and it does not have a PRED feature. It is specified for human gender, which makes agreement with non-human possessors impossible. Although the agreement marking *-nsA* does not function as a pronoun, I will assume it has a pronominal feature which prevents it from agreeing with anything but pronouns. (cf. Bresnan 1997,²³ Börjars, Chapman and Vincent 1997, Bresnan and Mchombo

²²This is similar to Andrews’s (1990) analysis of Spanish clitic doubling.

²³Bresnan 1997 also provides a list of references to discussions of languages where bound morphemes may double or agree with syntactic pronouns, but no other nominals.

1987, 1995 for discussion on pronominal incorporation in other languages; particularly Bantu languages). I will assume that all pronominal elements have a feature which specifies them as such, but I will only mark it where it is directly relevant to the discussion.²⁴ The f-structure corresponding to the lexical entry of the reflexive pronoun *-nsA* is shown in (48).²⁵

$$(48) \quad \textit{pron. -nsA}: \quad \left[\begin{array}{ll} \text{PRED} & \text{'pro'} \\ \text{PERS} & 3 \\ \text{SB} & + \end{array} \right]$$

The f-structure corresponding to the agreement marker *-nsa* is given in (49).

$$(49) \quad \textit{agr. -nsA}: \quad \left[\begin{array}{ll} \text{PERS} & 3 \\ \text{PRO} & + \\ \text{GEND} & \text{HUM} \end{array} \right]$$

Note that the pronominal *-nsA* and the agreement marking *-nsA* are different with respect to lexical features, although they share the same phonology.²⁶ The f-structure containing the lexical features specified by the independent pronoun *hänen* are given in (50) below.²⁷

$$(50) \quad \textit{hänen}: \quad \left[\begin{array}{ll} \text{PRED} & \text{'pro'} \\ \text{NUM} & \text{SG} \\ \text{PERS} & 3 \\ \text{GEND} & \text{HUM} \\ \text{SB} & - \end{array} \right]$$

It is quite straightforward to illustrate how the data presented in Section 2 follows if we assume the lexical feature specifications of (48) and (49). In examples (3-4), repeated below as (44-45), we see that the suffix *-nsA* cannot cooccur with proper names and lexical nouns.

- (51) (a) *Pekka näkee Jukan ystävä.*
P. sees J-GEN friend-ACC
‘Pekka sees Jukka’s friend.’
- (b) **Pekka näkee Jukan ystävä-nsä.*
P. sees J.-GEN friend-3Px

²⁴It is clear that some feature is needed to distinguish pronominals from nominals, since they differ from nominals in several respects (e.g., they can have an antecedent in the sentence, and they are different NUM and CASE morphology). Here, I use the feature PRO + to specify that a lexical item is pronominal. It might be possible to attain the same goal by binding features specification, which differ between pronominals and other nominals (Bresnan 1997).

²⁵The abbreviation SB stands for ‘subject binding’.

²⁶Neither entry has a NUM specification, since both *-nsA* suffixes can refer to both singular and plural.

²⁷In (50), *hänen* is specified SB -; preventing *hänen* from being bound by a subject. A blocking analysis would also be possible, where the subject binding value is left unmarked. Under such an analysis, the pronominal *-nsA* is used when the possessor is subject bound, and *hänen* together with agreement *-nsA* is used elsewhere. See Andrews (1990) for a discussion of morphological blocking in LFG.

- (52) (a) *Pekka näkee pojan ystäväin.*
 P. sees boy-GEN friend-ACC
 ‘Pekka sees the boy’s friend.’
 (b) **Pekka näkee pojan ystävä-nsä.*
 P. sees boy-GEN friend-3Px

We can immediately see that the reflexive *-nsA* with a PRED specification cannot be used in (51-52), since that would result in a functional uniqueness violation: both the non-pronominal possessor and the pronominal possessor would contribute a PRED value to the POSS f-structure, with the result of a PRED clash; i.e., a functional uniqueness violation. The agreement marking *-nsA* without a PRED feature cannot occur here either, since it is specified as PRO +, and cannot unify with non-pronominals.²⁸

Now let us look at the interrogative pronominal, exemplified in (5), which is repeated here as (53).

- (53) (a) *Kenen auto on ruma?*
 who-GEN car is ugly
 ‘Whose car is ugly?’
 (b) **Kenen auto-nsa on ruma?*
 whose car-3Px is ugly

Example (53) shows that *-nsA* is not compatible with interrogative pronouns either. The reason why it cannot cooccur with the pronominal *-nsA* is quite obvious; it would result in a PRED-clash. It is also not surprising that the agreement marker cannot cooccur with the interrogative *kenen*, since non-interrogative pronouns cross-linguistically display different behaviors than the interrogative pronouns (see, e.g., Haviland 1987). However, this is something that must be made precise.²⁹ Since interrogative pronouns are indefinite and other pronouns are definite in nature, I propose that the clash is due to the fact that *-nsA* is specified with the feature DEF + and *kenen* has the feature DEF -. An attempt to unify the two would thus lead to a functional uniqueness violation.

Finally, let us again look at the examples in (6), repeated here as (54).

- (54) (a) *Minä annan koiralle sen ruokaa.*
 I-NOM give dog-ALL it-GEN food
 ‘I give the dog its food.’
 (b) **Minä annan koiralle sen ruoka-nsa.*
 I-NOM give dog-ALL it-GEN food-3Px

²⁸ Andrews (1990) discusses verbal agreement morphology of the Peninsular Spanish, which can only double pronouns (540-544). He proposes a *constraining equation* associated with the lexical entry for the agreement morpheme, specifying that it must agree with a pronoun (PRED=_c ‘pro’). I use a defining equation instead, assuming that all non-pronominals are negatively specified for PRO. Either solution will work for the Finnish data.

²⁹ This is important not only to account for the Finnish facts, but also to fully understand the cross-linguistic behavior of interrogative pronouns.

As (54) shows, the suffix *-nsA* cannot cooccur with non-human possessive pronouns. If the suffix in (54b) is a reflexive pronoun, then the sentence is ungrammatical because both *sen* and *-nsA* are contributing a PRED feature. If the suffix is an agreement marker (corresponding to (30)), then the sentence is out because the agreement marker is specified for the the gender feature HUMAN, and therefore cannot agree with non-human possessors such as *sen*. Thus, neither reading of *-nsA* gives a well-formed sentence.

As stated earlier, the pronominal *-nsA* is also specified for *subject* binding. Therefore, it cannot be bound by anything but a subject.³⁰ This was illustrated in (13) above, which is repeated here as (55).³¹

- (55) (a) *Pekka näyttää Jukalle auto-nsa.*
 P. shows J-ALLATIVE car-3px
 ‘Pekka_i shows Jukka_j his_{i/*j/*k} car.’
- (b) *Pekka näyttää Jukalle hänen auto-nsa.*
 P. shows Jukka-ALLATIVE his/her car-3Px
 ‘Pekka_i shows Jukka_j his/her_{*i/j/k} car.’

We have seen that the syntactic framework of LFG provides the formal tools necessary for a straightforward analysis of the Finnish pronominal possessors. This analysis involves recognizing the existence of lexical splits. The lexical split is most clear in the case of the third person suffix *-nsA*, where the pronominal suffix differs the most from the agreement suffix. In the first and second person suffixes the difference is more subtle, and I have chosen to illustrate this difference here with optionality of the PRED feature. In essence, however, this is of course also a lexical split, since the result is an agreement suffix (without PRED feature) and a pronominal suffix (with PRED feature), i.e., two suffixes.

The analysis proposed here is preferable to the analyses considered in Section 3 for several reasons. The most important reason is that this analysis accounts for all the facts, whereas the others do not. Moreover, this analysis can be formalized with syntactic machinery previously established to account for other data. We thus do not need to stipulate syntactic principles that are not independently motivated. Furthermore, we will see in the following sections that the present analysis helps us understand the distribution of possessive suffixes on infinitival elements, as well as cross-dialectal behavior of the possessors.

6 Possessive suffixes on non-nominals

If the lexical split analysis is correct, it would not be surprising if there were classes of words which can host only one of the two kinds of suffixes.³² That is,

³⁰But see footnote 7.

³¹It is also necessary to define the domain in which a subject can bind *-nsA*. A preliminary analysis suggests that the relevant domain is the minimal finite clause.

³²Much of the data discussed in this section are taken from Toivonen 1995. For a more detailed discussion of the Finnish infinitives, I refer the reader to that paper.

we would expect that certain constructions or word forms could be a host to one kind of suffix, but not the other. We indeed find such a case: some non-finite verb forms can host a *pronominal* possessive suffix, but not a possessive suffix *agreeing with a genitive pronominal*. In this section, I will present nine types of non-finite verb forms. Six of them cannot host a possessive suffix at all, one can host only the pronominal suffix, and two can host both the pronominal and the agreement marking suffix. This section provides the following explanation of the distribution of possessive suffix on infinitives: (i) some infinitives are nominal whereas others are not, and agreement marking suffixes can only attach to *nominal* elements; (ii) some (but not all) non-finite elements block control from the main clause. That is, the subjects of some infinitives may not be controlled by a higher subject or object. This type of non-finite verbs have other means of expressing subjects: they use possessive suffixes.

6.1 Overview of the Finnish non-finite verb forms

There are six infinitives which never take a possessive suffix. Two of them, inf(initive)I-a and infII-ins(uctive)³³ can have an overtly expressed subject in the lower clause. The subject is then in genitive case, as shown in example (56), which contains an example of infI-a, and (57), which contains an example of infII-ins.

- (56) *Minä annan hänen olla.*
 I give he-GEN be-infI-a
 ‘I let him be’; ‘I leave him alone.’
- (57) *Opettaja teki sen minun nähden.*
 teacher did it I-GEN see-infII-ins
 ‘The teacher did it in front of my eyes.’

There is no possessive suffix present in either sentence.³⁴ Recall that the possessive suffixes are *required* when the independent pronouns specify nominals. In some clauses containing these infinitives there is no subject at all:

- (58) *Minä yritän tanssia.*
 I try dance-infI-a
 ‘I try to dance.’
- (59) *Hän tuli kotiin itkien.*
 he came home cry-infII-ins
 ‘He came home crying.’

³³I use the labels of Toivonen 1995 for identifying the different kinds of infinitives. The labelling in Toivonen 1995 is in turn based on traditional grammars.

³⁴According to some traditional grammars, it is possible to have a possessive suffix on the infII-ins to agree with the genitive subject: *Opettaja teki sen (minun) nähte-ni*. None of the Finnish speakers I have surveyed accept such forms.

Examples (58-59) show that when the subject of the infinitive is the same as the subject of the main clause, the infinitival subject is not (overtly) realized within the non-finite clause. The distribution of the subjects of infI-a and infII-ins can thus be summarized as follows: The subject is either controlled by the main clause subject and not expressed; or it is different from the main clause subject and expressed by a nominal in genitive case.

The subject of another infinitive, infIII-ade(ssive), is always subject controlled (60).

- (60) *Minä opin lukemalla tämän kirjan.*
 I learn read-infIII-ade this book
 ‘I learn through reading this book.’

The infinitive infIII-ade differs from infI-a and infII-ins in that it cannot have an overtly expressed subject, and the subject of the infinitive cannot be different from the subject of the main verb. It is impossible for the subject of infIII-ade to be controlled by an object.

Subjects of infIII-ine(ssive), infIII-ela(tive) and infIII-ill(ative) are controlled by the subject or the object of the main clause. Examples (61-63) include these three infinitives with subject controlled subjects.

- (61) *Minä seison kadulla katselemassa autoja.*
 I stand street-on watch-infIII-ine cars.
 ‘I am standing in the street watching the cars.’

- (62) *Nyt minä lakkaan pelaamasta.*
 now I stop play-infIII-ela
 ‘Now I stop playing.’

- (63) *Minä olen valmis tanssimaan.*
 I am ready dance-infIII-ill
 ‘I am ready to dance.’

Examples (64-66) include the same three infinitives as (61-63), but here the infinitival subjects are controlled by the object of the main verb.

- (64) *Minä näen hänet nousemassa linja-autoon.*
 I see he-ACC rise/step.up-infIII-ine bus-ILL
 ‘I see him getting into the bus.’

- (65) *Pekka pelasti minut hukkumasta.*
 P. rescued I-ACC drown-infIII-ela
 ‘Pekka rescued me from drowning.’

- (66) *Minä autan häntä pesemään auton.*
 I help he-PART wash-infIII-ill car
 ‘I help him wash the car.’

The three types of infinitives exemplified in (61-66) are similar to infIII-ade in that the non-finite clause never contains a subject.

The six infinitives expressed thus far (infI-a, infII-ins, infIII-ade, infIII-ine, infIII-ela and infIII-ill) cannot host possessive suffixes. We will now see examples of three types of infinitives that can host a possessive suffix. Two of them (infII-ine(ssive) and infI-tra(nslative)) can host both pronominal suffixes and agreement marking suffixes. However, the third type, namely the (present and past) participle, can only host a pronominal suffix. First, let us look at infII-ine.³⁵

- (67) *Mika tuli kotiin Leenan katsellessa televisiota.*
 M. came home L.-GEN watch-infII-ine television
 ‘Mika came home when Leena was watching television.’
- (68) *Aurinko oli jo korkealla (sinun) noustessa-si.*
 sun was already high (your) get-up-infII-ine-2sgPx
 ‘The sun already stood high in the sky when you got up.’
- (69) *Pekka näki hirven kulkiessa-an metsässä.*
 P. saw moose walk-infII-ine-3px forest-in
 ‘Pekka saw a moose when he (Pekka) was walking in the forest.’
- (70) *Pekka näki hirven hänen kulkiessa-an metsässä.*
 P. saw moose he-GEN walk-infII-ine-3px forest-in
 ‘Pekka saw a moose when he (**not** Pekka) was walking in the forest.’

In example (67) the infinitival subject is a lexical NP in genitive case. It is not surprising that the agreement marking *-nsA* does not appear on the non-finite verb in (67), since the suffixes never agree with lexical NPs. The infinitive in (68) has a pronominal subject. The independent pronoun, *sinun*, is optional, but the possessive suffix, *-si*, is obligatory. This exactly parallels the distribution of the genitive pronouns and suffixes as they appear with nominals: first and second person independent pronouns are optional but the suffixes are obligatory. Under my analysis, the suffix is an agreement marker when *sinun* is present and a pronoun when *sinun* is absent. The third person genitive pronouns and suffixes also have the same distribution with infII-ine as with nominals, as can be seen in (69-70). If the subject of the infinitive corefers with the subject of the main clause, the lower subject is marked with a suffix only. However, if the two subjects do not corefer, the infinitival subject is marked with both a genitive pronoun (*hänen* in (70)) and an agreeing suffix. Now let us briefly consider infI-tra.

- (71) *Minä muutin Ruotsiin saadakse-ni paremman työn.*
 I moved Sweden-to get-infI-tra-1sgPx better job
 ‘I moved to Sweden in order to get a better job.’

³⁵Recall that *-Vn* (in (69), for example) is an allomorph of *-nsA*.

In (71), the subject of the non-finite clause is expressed with a possessive suffix. The subject of this type of infinitive is always the same as the subject of the main verb (although logically, it seems like this infinitive could be used in sentences like *I moved to Sweden in order for my husband to get a job.*) However, some speakers marginally accept *Minä muutin Ruotsiin minun saadakse-ni paremman työn* ‘I moved to Sweden in order to get a better job’ (cf., (71)). It thus seems as if this infinitive can host an agreement marker as well as a pronominal suffix, and that is why it is grouped here with infII-ine, which was exemplified in (67-70).³⁶

Now consider the verbal participles.³⁷

- (72) *Minä näen Pekan tulevan.*
 I see P.-GEN come-prt
 ‘I see that Pekka is coming.’
- (73) *Minä näen heidän tulevan.*
 I see they-GEN come-prt
 ‘I see that they are coming.’
- (74) *He sanoivat palaava-nsa piakkoin.*
 they said return-prt-3Px soon
 ‘They_i said that they_i would return soon.’
- (75) *Minä näen sinun tulevan.*
 I see you-GEN come-prt
 ‘I see that you are coming.’
- (76) *Sinä sanoit palaava-si piakkoin.*
 You said return-prt-2sgPx soon
 ‘You said that you would return soon.’

If the subject of the non-finite clause is a non-pronominal NP, no suffix will appear on the participial verb form (72). If the subject of the lower clause is pronominal but not coindexed with the subject of the main clause, the participle cannot host a suffix ((73) and (75)). In other words, *no agreement marking suffix can appear on a participial verb form.* However, as exemplified in (74) and (76), a suffix *can* and *must* appear on the participle if the subject of that participle is coindexed with the subject of the main clause. These are the pronominal suffixes, not the agreement markers. They are bound by the subject of the main verb. The facts of (72-76) would be very difficult to explain, if we did not recognize that *-nsA* as an agreement marking suffix is different from *-nsA* as a pronominal suffix (with a referential PRED feature). In the light of the analysis developed in Section 5, it is

³⁶If it would turn out that it is better to analyze infI-tra as a form which can only host a pronominal suffix, it will not have any consequences for the present analysis. The only difference is that it will then be analyzed like the participles (to be discussed below), rather than like infII-ine.

³⁷Prt= participle.

Table 2: Non-finite verb forms

	takes agreement Px	takes pronominal Px
1. infI-a	NO	NO
2. infII-ins	NO	NO
3. infIII-ade	NO	NO
4. infIII-ine	NO	NO
5. infIII-ill	NO	NO
6. infIII-ela	NO	NO
7. participle	NO	YES
8. infII-ine	YES	YES
9. infI-tra	YES	YES

possible to account for the data in (72-76). Since our analysis allows us to refer to two different kinds of possessive suffixes, we can posit the following restriction: participles cannot host agreement marking suffixes (although they can host the pronominal suffixes). In the next section, we will explore whether it is possible to state a more general restriction which will cover all the data from this section.

It should be noted that whatever mechanism we invoke account for (72-76), we need to recognize the difference between agreement marking suffixes and pronominal suffixes. If we did not recognize that distinction, the data in (72-76) would be very problematic.

Table 2 summarizes the distribution of possessive suffixes on the various non-finite forms.³⁸

6.2 Analyzing the non-finite verb forms

In the previous section, we saw that the possessive suffixes can attach to some non-finite verb forms but not to others. The distribution of possessive suffixes on participles was shown to provide independent evidence for the lexical split hypothesis developed in Section 5. We saw that a participle can host the pronominal suffix, although it cannot host the agreement marking suffix. The previous section does not, however, answer the following two questions: Why can some infinitives, but not others, host possessive suffixes at all? What prevents the participles from hosting agreement suffixes, although they can host pronominal suffixes? In order to find complete answers to these questions, it would be necessary to investigate the Finnish non-finite forms in depth. Such an investigation lies beyond the scope of this paper. I will, however, attempt some preliminary responses to the questions.

³⁸Note that the distribution of possessive suffixes does not follow from the distinction between arguments and adjuncts. The forms numbered 1, 4, 5, 6 and 7 in Table 2 are arguments, whereas the others are adjuncts.

Table 3: Domain and N distinctions

		takes agr. Px	takes pron. Px	
Domain A	1. infI-a	NO	NO	$[-N]$
"	2. infII-ins	NO	NO	"
"	3. infIII-ade	NO	NO	"
"	4. infIII-ine	NO	NO	"
"	5. infIII-ill	NO	NO	"
"	6. infIII-ela	NO	NO	"
Domain B	7. participle	NO	YES	"
"	8. infII-ine	YES	YES	$[+N]$
"	9. infI-tra	YES	YES	"

My answer to the first question is that the possessive agreement suffixes can only attach to *nominal* elements, and only infII-ine and infI-tra are nominal. As for the second question, I propose that some non-finites define a domain, outside of which subject control is impossible. Since their subjects cannot be controlled by the upstairs subject (or object), the subject must be overtly expressed within the non-finite clause, either with an independent nominal or a suffix. We thus have two distinctions; a nominal distinction and a domain distinction, and these distinctions do not go together, so the end result is three groups of nonfinite verb forms (Table 3).

Let us try to make each of these proposals more specific. Cross-linguistically, some non-finite verb forms are ‘more nominal’ in character than others, which are ‘more verb-like’ (see Malouf 1998 and references therein). There have been several proposals in different frameworks about how to best analyze mixed categories such as infinitives, and how to capture their ‘gradient’ behavior (going from ‘more nominal’ to ‘more verbal’). Although the nature of the Finnish infinitives is not the main focus of this paper, I will attempt a preliminary analysis.³⁹ Let us assume that all verb stems have the feature $[+V]$. Let us further assume that the infinitive marker and the case marker that get attached to the verb stem are stored together as a unit in the lexicon. Consider, for example, infII-ine. Under this analysis, the composition would be the verb stem + *-essa*. Thus, *-e-* would not be an independent morphological unit, and neither would *-ssa*.⁴⁰ The unit *-essa* as such is thus

³⁹Thanks to Joan Bresnan and Mark Hale for useful suggestions.

⁴⁰Although *-ssa* is of course a case marker when it is attached to noun stems. This analysis of the infinitival endings may complicate the statement of the *-Vn/-nsA* allomorphy (see Section 2), as discussed in Kanerva 1987 (I want to thank Paul Kiparsky for bringing this to my attention). Kanerva states the generalization as follows: “The 3rd person Px may always be realized as *-nsa*; but following a vowel-final case suffix, it is preferably realized as *-Vn*” (508). The allomorph *-Vn* is allowed after the infinitival *-essa*, and we might thus lose a generalization if we do not regard *-ssa* as a case ending. However, as Kanerva points out, there are complications with his proposal (514), and a thorough analysis of the allomorphy is needed before we can say for certain that

associated with certain features in the lexicon. Under the present analysis, one of the features would be [+N]. I propose that the agreement suffixes can only attach to elements marked [+N], and the only infinitival morphemes that are marked [+N] are the morphemes specific to infII-ine and infI-tra. The morphemes of the other infinitives are marked [-N], and thus cannot host an agreement suffix.

In order to account for the fact that only three of the non-finite verbs (7-9 in Table 2) can host a possessive suffix at all,⁴¹ I want to suggest that a clause containing one of the non-finite forms from the Px-group (7-9) is somehow a ‘barrier’ to control from the main clause, although clauses containing any one of the other infinitives are not. The difference is perhaps that the members of the Px-group form IPs, whereas the other infinitives form VPs. Whatever the formal difference will prove to be, the consequence is that the subject of a participle or an infII-ine must be expressed in the lower clause, since it cannot be controlled. There is some independent evidence for the idea that the members of the Px-group are distinct from the other non-finites in that they head a different type of clause or “domain”: *The Px-group are not transparent to case-marking from the main verb, although the non-Px-group is* (Toivonen 1995). The type of case-alternation relevant here is illustrated in examples (77-82).

(77) *Minä ostan kirjan.*
 I buy book-ACC
 ‘I buy a book.’

(78) *Ostettiin kirja.*
 bought-PASSIVE book-NOM
 ‘One/people bought a book.’

In a ‘normal’ sentence, with no idiosyncratic case requirements, the object will take accusative case, as in (77). However, if the main clause predicate is a certain type of verb, e.g., a passive (as in (78)), an imperative or a “must”-verb, the object will have nominative case. Most infinitives are *transparent* to this requirement; that is, if the main verb is of the type that takes an nominative object, the object of the infinitive will be nominative:

(79) *Minun täytyy lukea tämä kirja.*
 I-GEN must read-infI-a this-NOM book-NOM
 ‘I must read this book.’

(80) **Minun täytyy lukea tämän kirjan.*
 I-GEN must read-infI-a this-ACC book-ACC

In (79), we see that the case marking requirement of the main verb has crossed *lukea* ‘to read’, an infinitive of type infI-a. Examples (81-82) show that *lukea* does not take a nominative object if it is the tensed verb in the clause.

this is a problem.

⁴¹Although they differ in what *kind* of Px they can host, since the participles can only host the pronominal Px.

(81) *Minä luen tämän kirjan.*
 I-NOM read this-ACC book-ACC
 ‘I read this book.’

(82) **Minä luen tämä kirja.*
 I-NOM read this-NOM book-NOM

All of the infinitives of the non-Px-group (1-6 in Table 2) behave like infI-a in this respect: They are all transparent to the NOM/ACC case assignment determined by the main verb.⁴² However, all of the non-finites in the Px-group (7-9 in Table 2) block this case assignment. This is demonstrated below for infII-ine in (83), infI-tra in (84), and the participle in (85).

(83) *Tultiin kotiin Leenan herättäessä Pekan/*
 came-PASSIVE home Leena-GEN wake-infII-ine P.-ACC/
 **Pekka.*
 *P.-NOM
 ‘One/people came home when Leena was waking Pekka up.’

(84) *Pekan täytyy säästää rahaa voidakseen ostaa uuden*
 P.-GEN must save money be.able-infI-tra buy-infI-a new-ACC
*auton/ *uusi auto.*
 car-ACC/ *new-NOM car-NOM
 ‘Pekka must save money in order to buy a new car.’

(85) *Lvullaan sinun tietäneen tämän/*
 believe-PASSIVE you-GEN know-PARTICIPLE this-ACC/
 **tämä.*
 *this-NOM.
 ‘One/people believe that you knew this.’

These facts provide support for the hypothesis that the members of the Px-group form a different type of clause than the members of the non-Px-group do. The exact formal status of the two groups remains to be established, but what is important here is that complements of the Px-group are inaccessible to the main clause verb with respect to case marking. I propose that they are inaccessible with respect to control of their subjects as well.

In this section I have argued that the agreement suffixes can only attach to elements with the feature [+N]. If we assume that infII-ine and infI-tra are nominal infinitives, that explains why they can host the agreement suffixes (as well as the pronominal suffixes), whereas none of the other non-finite verbs can. Furthermore, I have argued that the subjects of the Px-group cannot be controlled by any element outside of the infinitival clause. The subject must therefore be overtly expressed within the non-finite clause, either with a possessive suffix or

⁴²For further discussion and examples, see Toivonen 1995.

with a nominal in genitive case.⁴³ This analysis, which correctly captures the facts, cannot be formulated without the lexical split hypothesis.

7 The origin and development of the possessive suffixes

Systems of pronominal possession which have evolved in dialects and languages related to Standard Finnish provide striking evidence for the analysis developed here. For example, in several colloquial dialects of Finnish, the agreement marking *-nsA* has been lost, whereas the pronominal *-nsA* suffix is retained. If we do not recognize that there are two lexical entries which correspond to *-nsA*, such a development would be mysterious. In this section, the origins of the Finnish pronominal possessors will be explored. Furthermore, the development of these possessors will be traced in several dialects and languages.

This section begins with a review of the literature on the origin of the Finno-Ugric possessive suffixes. I will then discuss the changes that happened in closely related languages. I will also provide a hypothesis of how the relevant changes happened in Finnish. This hypothesis will rely on acquisition as the main source of language change. Finally, I will discuss how the suffixes have been reanalyzed in different dialects of “non-standard” Finnish. The lexical split analysis laid out in Section 5 will prove to be a necessary prerequisite for formalizing the historical developments which have led to the modern systems. The LFG formalism together with the lexical features provided above will prove to be as useful for analyzing historical change and lexical acquisition, as it was for analyzing synchronic linguistic facts of adult grammars.⁴⁴

The Finnish possessive suffixes have followed a path that is very common in language development; they were originally independent pronouns, but have, in some cases, been reanalyzed as agreement markers. It has often been noticed in the grammaticalization literature that agreement markers usually originate as incorporated pronouns. The sequence of changes tends to be as follows: syntactically free pronouns become incorporated, the incorporated pronouns lose their pronominal status and become agreement markers, and finally the agreement markers are lost altogether. This path of change is often described as “unidirectional” and attributed to some kind of internal force of language. According to this view, there are predetermined patterns or paths that linguistic changes necessarily follow (see references given and discussed in Janda 1997.). This view of historical change has been challenged by several scholars, e.g., Hale 1997, Janda 1997, who argue that any kind of unidirectionality in linguistic change must be regarded as

⁴³Finnish main clauses allow pro-drop. One might ask why this is not allowed in the case of the participles, where a subject is always overtly expressed. This might have something to do with the fact that in main clauses, the verb carries extensive agreement marking in person and number with the subject. Even if the subject is not overtly expressed, a main verb will tell you what that subject is. A participle will not.

⁴⁴For other analyses of diachronic data within the framework of LFG, see Vincent and Börjars 1996, Börjars, Vincent and Chapman 1997.

an epiphenomenon resulting from other factors. I adopt the latter view.

7.1 Origins

In Proto-Finno-Ugric, possession was marked with possessive suffixes, which originated as independent pronominal elements (see e.g., Raun 1988, Décsy 1990 and references therein). Were there independent possessive pronouns in Proto-Finno-Ugric, in addition to the possessive suffixes? There is no evidence in the literature that there were: there are no reconstructed possessive pronouns, although other pronominals have been reconstructed (Szinyei 1910). Moreover, if we look at the modern Finno-Ugric languages, only some of them seem to have independent possessive pronouns. The possessive pronouns that do exist in contemporary Finno-Ugric languages are often fairly transparently made up of the pronoun + genitive case marking. There is thus evidence for possessive suffixes in Proto-Finno-Ugric, but there is no evidence for syntactically independent possessive pronouns.

I will not attempt to trace the exact development of the possessors in every Finno-Ugric language. From now on, I will concentrate on Finnish and two of its close relatives: Sami and Estonian. The protolanguage that can be reconstructed from the time before Proto-Sami and Proto-Finnic split up in separate branches will be called Proto-Lappo-Finnic (following Décsy 1990). As discussed above, it seems that there were no independent possessive pronouns in Proto-Finno-Ugric. However, in many of the modern Finno-Ugric languages, and specifically in the Lappo-Finnic languages, there are. Where did these independent possessive pronouns come from? We cannot propose that these pronouns emerged out of nothing into the possessive pronouns we have today. The hypothesis I will adopt here goes as follows: The possessive pronouns originated as pronominal *topics* which did not have argument status.⁴⁵ These topics were presumably added for emphasis, since the suffixes cannot receive stress. The independent pronouns added for emphasis may have originally been in the nominative or the dative case,⁴⁶ and then the case ending merged with the genitive through sound change. Alternatively, the forms may have received the genitive ending through analogy with the genitive forms of lexical nouns.⁴⁷ We do not know exactly what happened, but the following is clear: In Proto-Finno-Ugric, there were no independent possessive pronouns, and pronominal possession was only marked through suffixes (see discussion and refer-

⁴⁵This pronoun might have been be a dislocated topic or external topic. This kind of topic is anaphorically linked to the pronominal suffix through the referential indexes of the two functions. This topic and the suffix are not linked through the f-structure value of the two functions, and there is thus no functional uniqueness violation (see Bresnan 1997, chapters 3 and 6, for details on how dislocated topics are formalized within LFG).

⁴⁶In Hungarian, the possessor appears before the possessed nominal in nominative or dative case.

⁴⁷It used to be possible for the possessive suffixes to attach to independent pronouns (see Forsman Svensson 1983:207-208 for data from the 17th century). This could be seen as support for the proposal that the independent pronouns had adjunct status, since it is not likely that two arguments with the same referent could be affixed to each other. Example (Ljungo Thomsson 1609, cited in Forsman Svensson 1983):

Mies cuole enmen emändä tiesi hänens wastoin oleuan
man dies before wife knew her-3Px pregnant be.PARTICIPLE.

ences above). Then, in Proto-Lappo-Finnic (or perhaps earlier) it became possible to add an independent adjunct pronoun for emphasis. We will see below that this scenario resulted in several distinct systems in different Lappo-Finnic languages and Finnish dialects.

If we only look at the surface string of words, the possessive phrases in Proto-Lappo-Finnic were ambiguous. It is easy to see how a child learning the language could interpret a sentence with both a possessive suffix and an independent pronoun in two ways: either the suffix has pronominal status and the independent pronoun is an adjunct, or the suffix is an agreement marker (without pronominal status) which agrees with the pronoun, i.e., with the independent syntactic pronoun which has the referential PRED feature. A reinterpretation of the emphatic adjunct as the grammatical marker of possession has happened in all of the Lappo-Finnic languages.⁴⁸ We will now look at exactly how that happened in Estonian, Standard Finnish and Northern Sami.

7.1.1 Estonian

Modern Estonian no longer has possessive suffixes. We know that they were there in the not-so-distant past, because they can still be found in archaic texts and in certain vocative expressions (Tauli 1966). When the adjuncts were reanalyzed as the elements contributing the PRED feature, the suffixes lost their referential status (i.e. the PRED feature) by the principle of functional uniqueness, and were reanalyzed as agreement affixes. The agreement affixes were then eventually lost altogether.⁴⁹

7.1.2 Northern Sami

In Sami, the different possessors took on different functions: that is, they developed different meanings. The possessive suffixes became reflexive possessors (they were reanalyzed as having the subject binding value +). That is, the independent pronouns are not specified for subject binding, whereas the suffixes are specified as being obligatorily subject bound. Consider the following examples from Northern Sami:⁵⁰

⁴⁸Similar interpretations of pragmatically marked material as not pragmatically marked but rather syntactically conditioned is one of the more common in the types of syntactic change in the languages of the world. This was pointed out to me by Mark Hale, p.c. See Hale 1997 for examples.

⁴⁹As pointed out above, this succession of changes seems to be common across languages. This section focusses on the reanalysis of incorporated pronouns as agreement suffixes. Something also need to be said about why this ‘final’ step is also commonly observed; why are the agreement affixes lost altogether? This question will not be answered in this paper, but it seems likely that the following two facts are relevant: Agreement morphology does not add much crucial information, and agreement affixes are unstressed. The fact that the morphemes are unstressed makes it more plausible for them not to be perceived and acquired by a child learning the language. The fact that these morphemes do not add much information, on the other hand, makes this ‘mistake’ in acquisition fairly easy to live with, without complications such as miscommunication.

⁵⁰Examples (86-90) were provided by Marit Julien. Some speakers of Northern Sami accept the sentences in (88) and (90) as awkward but not necessarily completely ungrammatical. The discussion here will be based on the speakers that reject those sentences.

- (86) *Mun gulan beatnaga-n*
 I hear dog-1sgPx
 ‘I hear my dog.’
- (87) *Mun gulan du beatnaga.*
 I hear your(sg) dog
 ‘I hear your dog.’
- (88) **Mun gulan beatnaga-t.*
 I hear dog-2sgPx
- (89) *Mun gulan mu beatnaga.*
 I hear my dog
 ‘I hear my dog.’
- (90) **Mun gulan mu beatnaga-n.*
 I hear my dog-1sgPx

Compare examples (86) and (88). These examples show that in Northern Sami a possessive suffix is obligatorily bound by a subject.⁵¹

The data in (86-90) demonstrate that two changes have taken place (compared to Proto-Lappo-Finnic). First, the independent pronouns have taken on argument status. This change made it impossible for the independent pronouns to double the suffixes and they are now in complementary distribution. Second, the suffixes have become reanalyzed as anaphoric. This development follows from the hypothesis that language learners assume that different forms never have exactly the same meaning⁵² (see e.g. Clark 1993 on “the principle of contrast”). When a child who encounters a language where pronominal possession can be marked either with a bound suffix or with an independent pronoun,⁵³ she is therefore able to reanalyze the system. In Northern Sami, the system has been reanalyzed so that the suffixes are marked as anaphoric, whereas the independent pronouns are not marked as such.

The Northern Sami system is quite similar to the Standard Finnish system, presented in Section 2 and formalized in Section 5. In Section 5, it was noted that the pronominal possessive suffixes serve the same function as the independent pronouns. That is, although suffixes like *-ni* and *-nsA* are very different from *minun* and *hänen* in c-structure, the information they contribute to f-structure is almost identical. The fact that Finnish in addition has agreement suffixes has led other researchers to ignore this generalization; especially since other syntactic frameworks do not allow bound morphemes to have the same function as independent words (cf. Section 3). The data in (86-90) make it clear that it is indeed possible for word-internal morphology to specify the function of a possessor, even though the same language also allow independent words to specify the same function.

⁵¹Karelian shows exactly the same pattern (Tauli 1966, p. 61)

⁵²Although two different *meanings* can of course correspond to the same *form*.

⁵³Of course, this doesn't mean that the two are identical in all respects. There might be differences having to do with, e.g., discourse focus.

7.1.3 Finnish

Now we will turn back to Finnish. The adjunct status of the independent pronouns seems to have been preserved until quite recently. Consider the following examples, which both contain possessive suffixes that are not agreeing with a genitive pronoun (*hänen*), although they are not bound by a subject within the tensed clause.⁵⁴ Recall that this would be ungrammatical in modern Finnish.

- (91) *Niin marja ylemä nousi polosille polville-nsa niin marja*
 so berry up rose dear.ALL knees.ALL-3Px so berry
ylemmä nousi riveille rinnoille-nsa
 up rose nimble.ALL breasts.ALL-3Px
 ‘Thus the berry rose up onto her dear knees, thus the berry rose up onto her nimble breasts...’

(Cajan 1836)

- (92) *Piltti pieni piikase-nsa sekä juoksi jotta ...*
 P. little servant.girl-3Px both ran and ...
 ‘Piltti her little servant girl both ran and...’

(Cajan 1836)⁵⁵

Examples (91-92) are consistent with the situation posited for Proto-Lappo-Finnic: there is one third person possessive suffix, and it to be an anaphor. The independent pronoun *hänen* is not an argument which must be present when the subject and the possessor have disjoint reference. We know that modern Standard Finnish is different from Proto-Lappo-Finnic, but the change might very well be quite recent, and (91-92) would be evidence for that.

Since the possessor could be emphasized with an adjunct, this led to ambiguity and the adjunct was reanalyzed as a grammatical pronoun.

Speaker A (“parent”):

- (93) *minun koira-ni*
 my dog-1sgPx
adjunct N-argument

Speaker B (“child”):

- (94) *minun koira-ni*
 my dog-1sgPx
argument N-agreement marker

⁵⁴Examples (91-92) are transcriptions of folk poetry, collected by J.F. Cajan in 1836. They are cited from DuBois 1995. DuBois discusses and cites numerous examples which are similar to (91-92) in structure.

⁵⁵Cajan transcribed these data in 1836, but the genre is folk poetry, and the style may have been archaic at the time.

Note that the change is not in the surface string, but in the representation assigned by the two grammars. The semantic PRED feature became optional in the suffixes, so that a suffix could either function as an independent pronoun or as an agreement marker. This in essence means that one suffix corresponds to two lexical entries; one with a PRED feature and one without. This analysis resembles Bresnan and Mchombos (1986) account of the historical emergence of optional PRED features in Bantu subject agreement markers. Bresnan and Mchombo argue that a syntactic framework needs to be able to formally accommodate the fact that “grammatical agreement systems evolve historically from the morphological incorporation of pronouns into their governing predicates” (p. 278). Here, the formal device needed is feature optionality. I want to take a stronger stand than Bresnan and Mchombo and say that precisely the fact that UG allows for optional features can help us understand why grammatical agreement so often evolve in such a way. Thus, the formal principles that govern the grammar and the lexicon are responsible for the fact that certain changes are very common and others less common. The explanation for grammaticalization lies both in the properties of specific grammars and in the universal properties that grammars must obey.

Let me spell out the evolution of Standard Finnish more explicitly. Imagine a child hearing the expression *minun koira-ni* ‘my dog’. In the grammar of the adult (e.g., the mother of the child in question), *-ni* is a pronominal element with argument status and *minun* is just an adjunct added for emphasis. However, since the phrase is ambiguous in the sense established above, it is possible for the child to analyze it differently. Let’s say that she (or he) does. The child now has *minun* stored as a pronominal element and *-ni* as an agreement marker without a PRED feature. Now, the child will also hear forms where the possessor is marked with only *-ni*, e.g., *koira-ni*. If UG did not allow for optional features, the child would have to revise her lexical entry for *-ni* and add a PRED feature. She would also have to modify her analysis of structures like *minun koira-ni* and the lexical entry for *minun* so that *minun* has adjunct status in such cases. However, if UG allows for optional features, the child does not have to revise her analysis of *minun koira-ni*, she can just posit an optional PRED feature, and the PRED feature will only be present when *minun* is absent. The latter scenario is what has taken place in Standard Finnish. The development from incorporated pronouns to agreement markers would be difficult to explain if features could not be optional. If optional PRED features were not allowed by UG, the learner B would have to revise her analysis of *minun koira-ni* as soon as she heard *koira-ni*.

Note that if speaker B posits an optional PRED ‘pro’, the distribution of *minun* will be less restricted in her language than in speaker A’s language, where *minun* is only used when the possessor is emphasized. Therefore, the speakers who get their input from speaker B will have no clues as to when *minun* should be used and when it shouldn’t be used. (However, at least in Standard Finnish, you must have a *minun* where it is emphasized, since the suffixes cannot receive phonological stress, although *minun* can also be used when it is not emphasized). We see that once the PRED feature is optional, there is nothing that would stop a speaker from using *minun* all (or almost all) of the time, although a phrase where the possessor is marked only by a suffix is not ungrammatical. A learner getting that kind of

input would of course assume that *-ni* had no PRED feature at all. That would get us to a system that has a pronominal *minun* and a plain agreement *-ni*.

The opposite scenario is also logically possible: the optional PRED feature could be reanalyzed as obligatory. The pronominal *minun* would then be reanalyzed as an adjunct. It is more difficult to imagine how this could happen. An adjunct doubling an already existing element would serve to emphasize the possessor, presumably. However, if the adult speaker is not using *minun* as an adjunct, *minun* will be used also when it is not emphasized, and the child would have positive evidence that *minun* could be used also without emphasis. This is different from the situation above where the adjunct was reanalyzed as a plain pronoun. In that case, the child had evidence that *minun* could be used when the possessor was emphasized, but no direct evidence that it could not be used when not emphasized. For this reason, a situation where an adjunct gets reanalyzed as a plain pronoun is more plausible than the reverse. With this discussion I hope to have clarified two things. First, the fact that UG allows for features to be optional makes it easier to understand how two grammars can coexist in a community although in one grammar a lexical entry is more ‘grammaticalized’ than in the other. Second, I hope to have shown how careful analysis of lexical features together with consideration of the acquisition process can explain why certain ‘directions’ of change are more likely to occur than others, although this should of course not be seen as any kind of ‘principle’, specific to language change.

Now let us turn to the third person possessors. It is clear that the difference between the old and the modern third person pronominal possessors is greater than the difference between the old and the modern first and second person possessors. We already discussed the fact that the surface strings created by an older grammar and by a modern grammar are identical with respect to the first and second person possessors.⁵⁶ We can assume that all the pronominal possessors (including the third person possessors) underwent the same reanalysis due to ambiguity. However, the two lexical entries corresponding to the third person suffixes develop a further meaning difference: the pronominal suffix *-nsA* was reanalyzed as a reflexive, that is, it became specified for subject binding. Thus, the third person suffix was reanalyzed in the same way that *all* the Sami suffixes were reanalyzed. It might at first seem puzzling that only one suffix should be reanalyzed in this way, when Sami shows that it is possible for all of the suffixes to undergo this reanalysis. There is a quite straightforward explanation for this. The first and second person reference is always fixed within an utterance situation. The first person is the speaker, and the second person is the hearer. Although it is possible for first and second person to develop morphologically specified reflexive forms (e.g., *myself*), this will not serve to disambiguate the utterances, since first and second person reference is never ambiguous. Third person, however, is quite different. In a sentence like *He washes his car*, the *his* is ambiguous: it could refer to the subject of the sentence or to someone else. It is therefore quite natural that if only one person differentiates the form of the reflexive and the form of the non-reflexive, it should be third person, where a difference in form in a concrete way serves to disambiguate the meaning.

⁵⁶Although there were probably differences with respect to discourse context of use.

Seen in this historical perspective, the puzzling fact that the same form can correspond to two different lexical entries, which was first presented in Section 5, seems quite natural. Although the end result might seem surprisingly complicated, it is easy to understand each step in the development which led to this complex system.

7.1.4 Summary

I will now illustrate these changes with the different f-structures that correspond to the lexical entries at different stages, and we can see how these changes are actually quite small. This is because the changes occur at the level of lexical features; the consequences of the changes may be considerable, the actual changes are minimal.

“Stage I.”

The suffixes in **Proto-Lappo-Finnic** had pronominal status. An adjunct pronoun could be added for emphasis. The first person singular possessive suffix is illustrated in (95) and the third person possessive suffix is illustrated in (96).⁵⁷

$$(95) \quad 1sgPx: \quad \left[\begin{array}{ll} \text{PRED} & \text{'pro'} \\ \text{PERS} & 1 \\ \text{NUM} & \text{SG} \\ \text{PRO} & + \end{array} \right]$$

$$(96) \quad 3Px: \quad \left[\begin{array}{ll} \text{PRED} & \text{'pro'} \\ \text{PERS} & 3 \\ \text{PRO} & + \end{array} \right]$$

“Stage II.”

Estonian: The independent adjuncts are reanalyzed as possessive pronouns. The suffixes are lost.

Sami: The independent adjuncts are reanalyzed as pronouns, and these pronoun can no longer cooccur with the suffixes. A split in meaning develops and the suffixes become reanalyzed as reflexive possessors. This is illustrated with the f-structure for the first person singular possessive suffix (second and third person are parallel).

$$(97) \quad 1sgPx: \quad \left[\begin{array}{ll} \text{PRED} & \text{'pro'} \\ \text{PERS} & 1 \\ \text{NUM} & \text{SG} \\ \text{SB} & + \end{array} \right]$$

⁵⁷The third person suffix in (96) may have been specified for GEND HUM. In the old texts that I have searched, the suffix *-nsA* is predominantly used for humans. The present analysis does not crucially depend on this, so I will assume for now that *-nsA* was originally not specified for a gender feature.

Finnish: The adjuncts get reanalyzed as pronouns, and the PRED feature of the possessive suffixes becomes optional (thus avoiding a functional uniqueness violation). This is exemplified below with the first person singular possessive suffix.

$$(98) \quad 1sgPx: \quad \left[\begin{array}{ll} \text{(PRED} & \text{'pro')} \\ \text{PERS} & 1 \\ \text{NUM} & \text{SG} \end{array} \right]$$

The pronominal third person suffix became specified with the subject binding value +. In addition, there was a change involving the GEND HUM feature. If it is established that the suffix *-nsA* could originally only refer to humans, then this feature was lost in the pronominal suffix. If we establish that it was originally unspecified for gender, then the third person agreement suffix was reanalyzed as having a human gender specification.

$$(99) \quad \textit{pron. 3Px}: \quad \left[\begin{array}{ll} \text{PRED} & \text{'pro'} \\ \text{PERS} & 3 \\ \text{SB} & + \end{array} \right]$$

$$(100) \quad \textit{agr. 3Px}: \quad \left[\begin{array}{ll} \text{GEND} & \text{HUM} \\ \text{PERS} & 3 \\ \text{PRO} & + \end{array} \right]$$

Note that this view of how the changes took place in effect *explains* why the agreement suffix can only agree with pronominal elements. In the earlier stage, only the adjunct pronouns could be used to double the suffixes; not, e.g., proper names. The child learner thus heard evidence which was consistent with agreement suffixes agreeing with nothing but pronominal elements, and the child's lexical representation thus had to capture that fact in some way. The current proposal captures this with pronominal binding features, incompatible with non-pronouns.⁵⁸

This section has demonstrated how the relationship between different related languages is easily characterized through careful analysis of the exact lexical features of different lexical entries. The phenomena I have presented would be difficult to analyze if only the phrase structure or universal syntactic principles were taken into account, without considering the lexicon. I also hope to have shown that certain types of linguistic variation that appear to be syntactic, can be straightforwardly analyzed in terms of differences at the lexical level.

An analysis of morphosyntactic change that involves lexical features is attractive because it allows for the 'development' of language within a society to be gradual and slow, although it is *abrupt* in the sense that it happens instantaneously in the acquisition process. This analysis also allows us to make precise how the difference between the possessive system in the grammar of speaker A (e.g. the parent) can differ from the system in the grammar of speaker B (the child). The difference may be the value specification of one single feature (for example, SB +).

It is important to note that although historical change is being discussed here as an individual event, that is not enough to account for the *spreading of a change*.

⁵⁸As discussed in Section 5.

In order to investigate how a change spreads in a speech community and between speech communities, we need to take into account factors other than first language acquisition, e.g., sociolinguistic factors.

7.2 Dialectal variation within Finnish

This section presents data from different Finnish dialects and shows how these differences can be explained with the mechanisms developed so far. We will see that the features that were proposed in Section 5 suffice to account for the differences we find across dialects.

7.2.1 The Tampere dialect

The possessors in the colloquial Finnish dialect of Tampere have a different distribution than the possessors of Standard Finnish. Below, I will summarize Vainikka's (1989) description of the properties of the Tampere dialect possessors.⁵⁹ In the Tampere dialect, the possessive suffixes have been lost in the plural, although they are retained in the first and second person singular. This can be seen in (101), adapted from Vainikka (1989:217).

- (101) (a) *mun kissa-ni*
my cat-1sgPx
‘my cat’
- (b) *sun kissa-s(i)*
your cat-2sgPx
‘your cat’
- (c) *sen kissa*
his/her/its cat
‘his/her/its cat’
- (d) *Jukan kissa*
J.-GEN cat
‘Jukka’s cat’
- (e) *meiän kissa*
our cat
‘our cat’
- (f) *teiän kissa*
your(pl) cat
‘your cat’
- (g) *nüitten kissa*
their(animate/inanimate) cat
‘their cat’

⁵⁹The dialect she describes is that of younger Tampere speakers.

When the possessor is disjoint in reference from the subject of the clause, the independent syntactic pronouns are obligatory. However, if the possessor is coreferential with the subject of the clause, then the independent pronouns remain only in first and second person plural. In third person, the suffix *-nsA* shows up as a reflexive pronoun, although it never appears as an agreement marker (102).

- (102) *Jukka/se kävelytti koiraa-nsa*
 J./(s)he walked dog-3px
 ‘Jukka/(s)he_i walked his/her_i dog.’

According to Väinikka, it is very awkward to include the independent pronouns *mun* ‘my-sg’ and *sun* ‘your-sg’ in sentences where the subject is the possessor (103).

- (103) *Mä kävelyttiin koiraa-ni/ ?mun koiraa-ni.*
 I walked dog-1sgPx/ ?my dog-1sgPx
 ‘I walked my dog.’

However, in first and second person plural, the independent pronoun appears no matter who the subject is, and no possessive suffix ever appears.

- (104) *Me kävelyttiin meidän koiraa.*
 we walked our dog
 ‘We walked our dog.’

It is not problematic to capture these changes in our framework. In first and second person singular, the pronominal suffixes have been reanalyzed as obligatorily reflexive. This amounts to the additional specification of one lexical feature. Compare the older lexical entry (105) to the newer one (106) for the first person singular pronominal suffix.

- (105) *1sgPx*: $\left[\begin{array}{ll} (\text{PRED} & \text{'pro'}) \\ \text{PERS} & 1 \\ \text{NUM} & \text{SG} \end{array} \right]$

- (106) *1sgPx*: $\left[\begin{array}{ll} (\text{PRED} & \text{'pro'}) \\ \text{PERS} & 1 \\ \text{NUM} & \text{SG} \\ \text{SB} & + \end{array} \right]$

The only difference is that the f-structure in (106) is specified for the subject binding value +.⁶⁰ The suffixes for first and second person plural have been lost altogether.

In the third person, the lexical entry for the agreement marker *-nsA* has been lost, but the lexical entry for the incorporated pronoun *-nsA* is retained. Note that this could not be explained if we did not analyze the ending *-nsA* as corresponding

⁶⁰Since *-ni* can co-occur with *minun*, we must say that *minun* is not specified as SB-, but rather underspecified for binding. Otherwise the binding features could not unify in examples like (101a).

to two different lexical entries. The analysis proposed in Section 5 predicts that something exactly like this could happen. Note also that the non-human possessive pronouns *sen* and *niitten* have been extended to cover also human possessors. There are no longer specific pronouns that refer only to human possessors. Recall that in standard Finnish, the agreement marker *-nsA* can only agree with the possessive pronouns positively marked for human gender. It is thus not surprising that the agreement *-nsA* has been lost together with the human pronouns.

7.2.2 The Helsinki dialect

In the Helsinki dialect, all of the possessive suffixes except the third person incorporated pronoun have been lost.⁶¹ This can be explained if we hypothesize that in first and second person, the optional PRED feature was lost, and the suffixes functioned as mere agreement markers, and all agreement markers (including the third person one) were eventually lost, perhaps influenced by the fact that the third person agreement suffixes had already been lost. Only the third person reflexive possessor, which is unambiguously pronominal, was retained. Let me lay out this hypothesis in some more detail.

As in the Tampere dialect, the third person non-human pronouns (*sen*, sg., and *niitten*, pl.) have been extended to cover all of the third person pronouns, human as well as non-human. We may therefore hypothesize that the change happened in the following steps: First, the first and second person optional PRED features were lost altogether, and the non-human pronouns were extended to all third person pronouns. Since the third person agreement marker cannot agree with pronouns other than those that are specified for human gender, no *-nsa* will appear when the possessor is *sen* or *niiden*. We now have the following situation: (i) there are no pronominal first and second person suffixes, the first and second person suffixes are mere agreement markers (ii) the third person agreement marker is lost (since it can never appear because the non-human independent pronouns have been extended). Since there are no third person agreement markers, this may get levelled across the paradigm, and the first and second person agreement markers are also lost. From an acquisition point of view, imagine a child who hears *sen auto* his/her/its car, which has no agreement marker. This is evidence for the child that a possessor can be marked by a pronoun alone (without any kind of suffix).⁶² Note that the Helsinki dialect would be mysterious if we did not recognize that difference between pronominal *-nsA* and agreement *-nsA*, since the former is retained and the latter has been lost. If we do not recognize a split in the first place, it is difficult to

⁶¹There are of course sub-dialects within the Helsinki dialect. Some speakers from Helsinki allow first and second person suffixes also in colloquial speech, but even for those speakers, the use seems to be very restricted. This, of course, deserves further investigation, but it is beyond the scope of this paper. Here, I will concentrate on the language of the speakers for which the first sentence in this section is true.

⁶²Now the question is, why would the child ignore the input *minun auto-ni* and produce *minun auto*, based on *sen auto*? One possibility is that the final unstressed vowel was changed into a *schwa*, and then lost. Refer back to section 7.2.1, and you'll see that the *-i* is optional in the second person singular in the Tampere dialect. If this happens in first person singular, the resulting form will be identical to the singular accusative form.

explain that the two forms can undergo different kinds of historical changes.

7.2.3 Other dialects

There are several variations of the possessive system in addition to the two discussed above. I will briefly present the ones that I have found documented, and show how these variations can be understood in the present framework. We will see that when suffixes are lost, certain features in the lexical entries for other suffixes may become underspecified, and these elements spread to fill the gap of the lost suffixes. A simple blocking mechanism will prevent the underspecified elements from marking a certain function, if there already exists a fully specified suffix that can mark that function. In some dialects of Finnish, the third person possessive suffix has become unspecified for person (recall that it was already unspecified for number). This can be seen in examples like (107-108).⁶³

- (107) *Veisatkaa kukin kovalla äänellä ja sydäme-nsä*
 sing-imperative-2pl each.one loud voice and heart-3Px
pohjasta!
 bottom-from
 ‘Sing loudly and from the bottom of your hearts, everybody!’

- (108) *no täälläkö sinä vielä asut emäntine-nsä?*
 well here-Q you-sg still live wife-3Px
 ‘so, do you still live here with your wife?’

In the dialects that allow sentences like (107-108), the suffix *-nsA* can refer to other persons than third, since it has lost its person specification. The second person suffixes have been lost in these dialects.

Tauli 1966 reports that in some South-West Finnish dialects, the first and second person plural suffixes have been replaced by the first person singular form. Tauli does not describe these dialects in detail, so I will assume that they behave like standard Finnish in other respects. The first person singular suffix has spread to the first and second person plural. The lexical features of *-ni* in these dialects are represented in (109).

- (109) *-ni*: [PRED ‘pro’]

Since there are no first and second person plural suffixes anymore, the *-ni* will appear in their place. However, *-ni* cannot replace the second person singular suffix *-si*, since this is more specific (it is still specified for person and number), nor can it appear in the place of *-nsA*, which is still specified for third person.

In the eastern part of the dialect area where South-West Finnish is spoken, the first and second person plural suffixes have been lost, just like in the dialect described above (Tauli 1966). In this dialect, the first person singular affix now has spread to cover both the singular and plural first person, and the second person

⁶³Example (107) is taken from Penttilä 1957, p. 126. Example (108) is taken from Tauli 1966.

singular affix *-si* covers singular and plural second person. The number feature has thus become unspecified in the lexical entries for both *-ni* and *-si*, as shown in (110-111).

$$(110) \quad -ni: \quad \left[\begin{array}{ll} \text{PRED} & \text{'pro'} \\ \text{PERS} & 1 \end{array} \right]$$

$$(111) \quad -si: \quad \left[\begin{array}{ll} \text{PRED} & \text{'pro'} \\ \text{PERS} & 2 \end{array} \right]$$

Note that in this dialect, none of the possessive suffixes are specified for number (third person was never specified for number in the first place (cf. section 7.1.4)), but all of them are specified for person.

7.3 Summary

This section has discussed the origin of the Finno-Ugric possessive system, and its development in different languages and dialects of Finnish. The fact that the possessive suffixes originated as independent pronouns, which were eventually incorporated, lends support for the present account, which analyzes some of the suffixes as having a referential pronominal PRED feature, whereas others are mere agreement markers. We have seen that the LFG analysis argued for in this paper provides the formal tools necessary to understand and describe the linguistic changes which have led to the cross-linguistic differences we see. We have also seen that there are several instances of historical change where the agreement marking suffixes but not the pronominal suffixes have been affected. This is clear evidence that the ‘lexical split’ hypothesis is correct: if there were no difference between pronominal and agreement marking suffixes, it would not be possible for one to be lost and the other to be retained.

8 Conclusion

This analysis of the Finnish possessors has crucially relied upon the existence of *lexical splits*: homophonous forms have been shown to differ in function, or, in other words, a single form corresponds to two distinct sets of lexical features. It is clear that homophony is very common cross-linguistically. Homophony is often a result of diachronic phonological merger (that is the case in the French verbal system, for example). The Finnish case, however, is somewhat unusual in that for each suffix, a lexical item has been split as a result of diachronic reanalysis. It can be argued that this analysis is unsatisfactory in that it calls for a more complex lexicon than other analyses would. We have seen, however, that this is the only analysis which manages to correctly account for the data. Moreover, this analysis is supported by the variation we see across dialects and languages.

A morpho-syntactic analysis in which idiosyncratic behavior is accounted for in the lexicon is to be preferred to an analysis in which the syntactic machinery is made more complicated in order to simplify the lexicon. This view is consistent

with all major syntactic theories. One goal of modern linguistic science is to create a hypothesis of what Universal Grammar might be. It seems reasonable to assume that unusual and complicated behavior such as that of the Finnish possessive system which *can* be accounted for lexically, *should* be accounted for lexically. LFG provides us with a well-developed machinery to formalize the lexicon in a constrained and insightful manner.

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