

Possessives as Extended Projections*

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Abstract: Arguing that Saxon Genitive possessives like *Pers* in *Pers bil* ‘Per’s car’ consist of a phrasal possessor (*Per*) and a possessive head (*-s*), this paper proposes that the possessive head takes the possessor as a complement assigning a theta role and case to it. The possessive head builds an extended projection. The possessive head and the possessor may move inside that projection and the projection as a whole may move as a unit. It is proposed that Possessor Doubling Constructions like *Per sin bil* ‘(Per his=) Per’s car’ have the same analysis as the Saxon Genitives. More generally, it is shown that this type of account fares better than the standard analysis, which takes possessives to be part of the extended projection of the noun. The main languages discussed are German and Norwegian.

1. Introduction

Expressing possession in language has attracted a lot of attention in the literature.¹ This paper offers a uniform analysis of different possessive constructions in the noun phrase. The constructions under investigation consist of a possessor and a second element indicating a possessive relation between the possessor and the possessum. This second element is either *-s* or a possessive pronoun. The construction involving *-s* is labeled SAXON GENITIVE CONSTRUCTION (SGC) and the construction involving a possessive pronoun is called POSSESSOR DOUBLING CONSTRUCTION (PDC). These two-component possessives are illustrated with German and Norwegian in (1) and (2), where the possessive as a whole precedes the possessum head noun:

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¹ For instance, see the collections of papers in Alexiadou & Wilder (1998) and Coene & D’hulst (2003); for typological surveys over possessive noun phrases and pronouns, see Koptjevskaja-Tamm (2003a) and Manzelli (1980), respectively; for model-theoretic semantics of possessives, see Barker (1995); for inalienable possession, see Guéron (2006); for recent discussion of possession in the clause, see Boneh & Sichel (2010).

- (1) Pre-nominal Saxon Genitive Construction
- a. *Peters Auto* (German)
Peter's car
'Peter's car'
 - b. *Pers bil* (Norwegian)
Per's car
- (2) Pre-nominal Possessor Doubling Construction
- a. *Peter sein Auto*
Peter his car
'Peter's car'
 - b. *Per sin bil*
Per his car

Multi-component possessives may also follow the possessum head noun with the qualification that to the best of my knowledge, West Germanic does not have a post-nominal PDC. Consider (3) and (4):²

- (3) Post-nominal Saxon Genitive Construction
- a. *die Eroberung Peters* (German)
the conquest Peter's
'Peter's conquest'
 - b. *lausn Péturs* (Icelandic)
solution Peter's
'Peter's solution'
- (4) Post-nominal Possessor Doubling Construction
- a. * DET N PRON POSSESSOR (West Germanic)
 - b. *bilen hans Per* (Norwegian)
car-DEF his Per
'Per's car'

² Both (3a) and (3b) are provided with abstract/theta possessum nouns (as they are sometimes given as marked with concrete possessum nouns; for German, see Lattewitz 1994: 119, 123; for Icelandic, see Sigurðsson 2006: 210, 218).

As pointed out by, among many others, Delsing (1998), multi-component possessives are quite common in Germanic. Interestingly, these possessives exhibit a number of cross-linguistic differences. I briefly mention three here.

First, not all languages have both possessive constructions. For instance, note that the PDC is only possible in earlier stages of English:

- (5) Canterbury and Chillingworth their books (Early Modern English)
(Verhaar 1997: 96, Janda 1980: 249)

Second, comparing (2a) to (4a), languages may vary as to which position a certain possessive construction can appear in.³ Third, contrasting (1) with (3), languages show differences in the syntactic distribution of possessives depending on what type of possessum noun (or possessor, for that matter) is used. I take these points of cross-linguistic variation to involve no “deep” differences in the relevant grammars.⁴

In this paper, I will focus on proper names like *Peter* as possessors and on concrete/non-theta nouns like *car* as possessum nouns. As to the investigated languages, the following analysis recruits German and Norwegian as representatives of the West and North Germanic languages. To make certain points, I will occasionally make use of different types of possessor and/or possessum nouns as well as other languages.

To sum up thus far, possessives involve two components: a possessor and an element indicating the possessive relation between the possessor and the possessum. Second, putting certain cross-linguistic differences aside, the SGC

³ Note that the modern West Germanic languages do not tolerate simple possessive pronouns in post-nominal position either (with Yiddish being the exception presumably due to Slavic influence). I take this to mean that possessive pronouns have a tighter connection to D in West Germanic than in North Germanic. As I will show below, this is particularly clear in German as opposed to Norwegian.

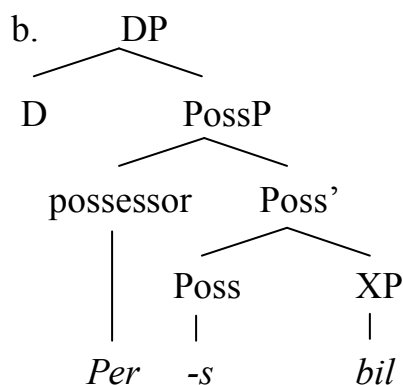
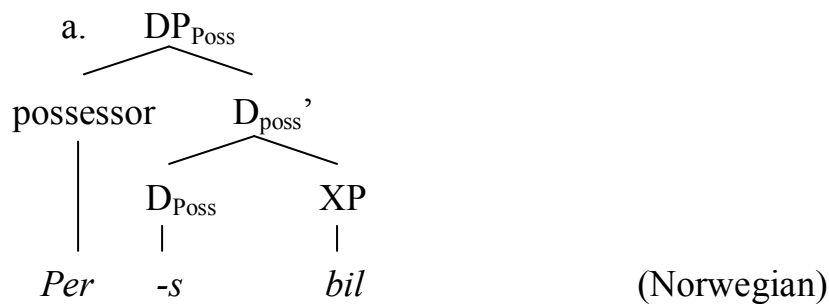
⁴ In certain ways, this stance seems to be echoed by Koptjevskaja-Tamm (2003a), who points out that possessives are prone to grammaticalization. For instance, the morphological manifestation of the *-s* in SGC ranges from a case suffix in Old High German to a cliticized element in English to an (apparently) free-standing morpheme in West Flemish (for examples, see the main text). I refer to this varying element as *-s* throughout the paper.

More generally, this means that some of the following discussion has to be taken with a pinch of salt as it is not always easy to determine which construction is at what stage of grammaticalization in the individual languages. In a sense, then, the proposal to be developed intends to provide a general framework for the syntactic analysis of possession.

and the PDC can appear before or after the possessum. I will propose that these commonalities in composition of elements and syntactic distribution are not accidental. I will make the theoretically desirable proposal that these types of possessives have the same underlying structure.

The second main goal of this paper is to provide an alternative perspective to the – what some scholars might call – standard view on the structure of possessives. As just illustrated, multi-component possessives consist of a possessor (e.g., *Per*) and a possessive element (e.g., *-s*). I label the latter Poss. The standard account treats these complex possessives as non-constituents such that Poss is part of the extended projection of the head noun and the possessor is in the specifier position of Poss (for discussion and references, see, e.g., Alexiadou, Haegeman & Stavrou 2007). One variant of this type of analysis is illustrated in (6a) and, abstracting away from movement of the possessor and *-s* to the DP-level, another is provided in (6b):

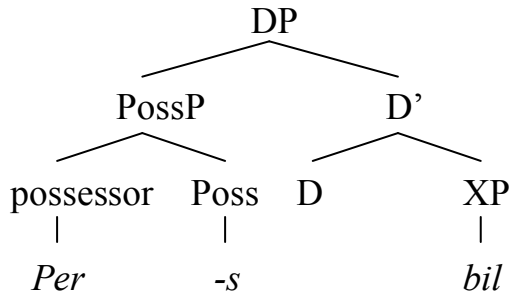
(6) *Two Variants of the Standard Analysis*



In contrast, in the proposal to be developed here, complex possessives make up constituents. Specifically, the possessor and Poss form a PossP (Anderson 1983-

83). Importantly, the latter is not part of the extended projection of the head noun. For concreteness, I put PossP in Spec,DP:

(7) *Proposal to be Developed*



Although I will devote some attention to a direct comparison between the proposals in (6) and (7), I will concentrate on the detailed discussion of (7). In the course of this discussion, I will flesh out PossP in (7) in various ways for both the SGC and the PDC.

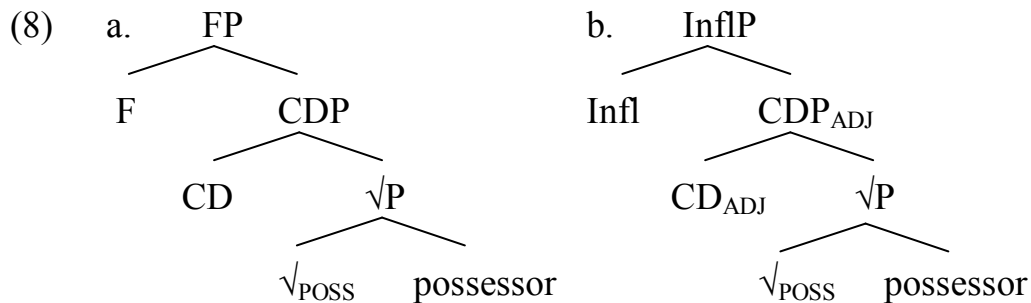
The three main claims of this paper can be summarized as follows:

- (i) possessive heads (Poss) are predicates that take the possessor as an internal argument and assign case to it
- (ii) these multi-component possessives form constituents inside the matrix DP
- (iii) possessive heads build extended projections

The first two claims go back to Anderson (1983-84). The third claim is based on more recent work (Leu 2008, Roehrs 2005b). Below I provide arguments for all three claims. Since the third claim is more recent, I briefly outline two arguments in the introduction. These points serve to lend some initial credence to the third claim.

The first argument derives from the solution to an interesting puzzle. Specifically, as is well known, possessive heads can be of different lexical categories. To name just two, they can be adjectival and prepositional. Now, although possessive heads may involve different lexical categories, they all have the same basic possessive semantics. I will propose that an abstract, categoriless root ($\sqrt{\text{ }}$) forms the possessive head at the bottom of the tree. Immediately

dominating this abstract head, there is a category-determining head CD, which lexically specifies the possessive root (cf. Marantz 1997). Finally, depending on the kind of category-specifying head, the topmost head F of the extended projection may vary. For instance, F may stand for Infl(ection) with adjectival possessives. Compare (8a) to (8b):



A second argument for extended projections of possessives derives from movement facts. I will argue below that PossP in (7), fleshed out now as (8), is base-generated low in the noun phrase and can undergo movement as a unit to the left. This accounts for the pre- and post-nominal possessives in (1-2) and (3-4). Furthermore, while the possessive head and the possessor can move independently of each other inside the extended projection, as suggested by the mirror image-like distributions in (2b) and (4b), the individual components cannot undergo subextraction out of FP thereby “stranding” the other component. To be clear then, deriving the different lexical categories of possessives and explaining certain restrictions on movement provide some initial argumentation for possessives as extended projections, the third claim above.

To sum up this introduction, this paper focuses on the compositional and distributional commonalities of possessives. Putting aside many interesting language-specific differences, I will provide a homogenous structural account for the Saxon Genitive Construction and the Possessor Doubling Construction. Unlike the standard account, I will argue for a new structural proposal where possessives form extended projections in their own right and as such, they form constituents. The commonalities follow from the same internal syntactic

structure and the cross-linguistic variation is held to follow from different morphological realizations on the surface.⁵

The paper is organized as follows: after giving some arguments that possessives are in specifier positions, I lay out the proposal in more detail. Section 3 provides some evidence in favor of the view that possessives contain heads and section 4 discusses some arguments that point in the same direction. Before I summarize the main findings of this paper, I discuss two potential counterarguments to the present analysis in section 5 showing that they are not conclusive.

2. Proposal

In the first part of this section, I present arguments that possessives or components thereof are not in D but rather in specifier positions. Next, I develop my proposal that possessives build extended projections. Finally, I provide some arguments for the proposal briefly comparing the new account to the standard analysis.

2.1. *Possessive Components are not in D*

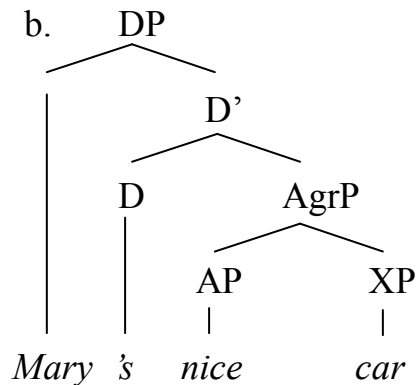
Abney (1987: 79) proposes (but ultimately “disprefers” the idea, p. 85) that the *-s* in the Saxon Genitive Construction in (9a) is in D. This fits well with the standard analysis, (9b), where I abstract away from the possibility that both the possessor and *-s* have moved to the DP-level:

⁵ The syntax of the cases in the main text is quite different from Possessor Raising Constructions (for recent discussion, see Lee-Schoenfeld 2006, from which the following datum is taken):

- (i) *Tim hat der Nachbarin das Auto gewaschen.* (German)
 Tim has the-DAT neighbor the car washed
 ‘Tim washed the neighbor’s car.’

Of the many interpretative and distributional differences, I mention just two: the dative possessor is understood as benefactive or malefactive and adverbial elements such as *gestern* ‘yesterday’ may intervene between the possessor and the definite possessum noun phrase.

- (9) a. Mary's nice car



However, considering overt distributional evidence from certain varieties of Scandinavian, (10a-c), one notices that possessives may co-occur with definite articles:

- (10) a. *Karins **den** stora bilen* (Finland Swedish)
 Karin's the big car-DEF
 'Karin's big car'
 (Santelmann 1993: fn. 19)
- b. *naboens **den** stribede kat* (Danish)
 neighbor-DEF's the striped cat
 'the neighbor's tabby cat'
 (Delsing 2003: 26)
- c. *minn **inn** hvassi hjorr* (Old Icelandic)
 my the sharp sword
 'my sharp sword'
 (Wessén 1970: 49, Heusler 1932: 126)

It is unlikely that articles as heads are adjoined to the phrase containing the adjective (cf. (9b)). Rather, it is standardly assumed that articles are in D. If so, the possessive including -s cannot be in D. Furthermore, possessives can also occur lower in the structure, namely between the determiner and the head noun. In fact, they can surface on either side of the same adjective:

- (11) a. *in dhemu heilegin **daniheles** chiscribe* (Old High German)
 in the holy Daniel's scripture
 'in Daniel's holy scriptures'
 (Demske 2001: 227)
- b. *in dheru **sineru** heilegun chiburdi*
 in the his holy birth
 'in his holy birth'
 (Harbert 2007: 155)

I assume that the determiners *dhemu* and *dheru* in (11a-b) are in D. It is clear that the possessive in (11a) cannot be in D.⁶ Furthermore, assuming that D can host only one element, I conclude that the possessive co-occurring with the determiner in (11b) cannot be in D either. I turn to evidence that possessives are in specifier positions.

2.2. Possessives as a whole are in Specifier Positions

As is well known, possessives – be they pronouns or full DPs – may occur in different positions in one and the same language. In fact, they can appear not only in different positions before the head noun, as just illustrated with Old High German in (11), but may also follow the head noun:

- (12) a. *den gamle skoen **min*** (Norwegian)
 the old shoe-DEF my
 'my old shoe'
- b. ***min** gamle sko*
 my old shoe
- (13) a. *(ther) fater **min*** (Old High German)
 the father my
 'my father'
 (Demske 2001: 173)

⁶ There is no claim here that the genitive -s on *danihel* 'Daniel' in (11a) has the same status in modern German. The important point here is that this possessive or any of its components cannot be in D.

- b. (ther) *min fater*
 the my father

First, it is clear that the possessive pronoun in (12a) cannot be in D. The same holds for (13a-b). This is particularly clear when the determiner is present. However, one might still claim that the possessive pronouns are in lower head positions. Interpretative restrictions on the distribution of possessives with deverbal possessum nouns militate against such a claim (for some general differences between non-theta and deverbal/theta possessum nouns, see Koptjevskaja-Tamm 2003b).

Grimshaw (1990) argues for a distinction between result and process nouns (for a convenient summary of Grimshaw's work and a following critique, see Alexiadou 2001: 10ff). To set the stage, I start with result nominals. One can observe that just like above, the possessive can follow or precede the head noun:

- (14) a. *die Eroberungen Cäsars* (German)
 the conquests Caesar's
 'Caesar's conquests'
 b. *Cäsars Eroberungen*
 Caesar's conquests

Something similar holds for process nominals. However, here the distribution of two co-occurring arguments correlates with an interesting interpretative restriction.

Note that unlike concrete/non-theta nouns, these nouns assign "verbal" theta roles such as agent and theme. As pointed out in Gallmann (1990: 113) and Harbert (2007: 150), the agent must precede the theme, (15a). In fact, while the theme may occur in initial position, it can do so only in the absence of the agent, (15b). Interestingly, if the agent is not a DP but a PP, the theme can precede the agent, (15c):

- (15) a. *Cäsars Eroberung Galliens*
 Caesar's conquest Gaul's
 'Caesar's conquest of Gaul'

- b. ***Galliens Eroberung*** (**Cäsars*)
Gaul's conquest by Caesar
- c. ***Galliens Eroberung durch Cäsar***
Gaul's conquest by Caesar

Besides this interpretative restriction on the distribution of arguments, Binding facts show that agents are higher than themes and extraction facts indicate that hierarchically higher genitive arguments block the extraction of lower ones (for details, see Cinque 1980, Giorgi & Longobardi 1991: 68, Mallén 1991, Valois 1991, Ticio 2003: 20ff). There is good evidence then for some restrictions on the interpretation and distribution of the DP-internal arguments.

Assuming that the agent argument c-commands the theme argument in their base-generated positions, these restrictions are easy to capture by movement that is subject to Relativized Minimality (cf. Rizzi 1990).⁷ Considering (14) and (15), it is clear that arguments can move across the head noun. A simple way to capture this fact is that unlike the head noun, the arguments involve phrases. As phrases, the arguments can move across the head noun. As to the aforementioned restrictions, given a certain base-generated order, two DP-arguments are subject to Relativized Minimality and cannot cross each other, (15a-b). In contrast, a DP-argument can cross a PP-argument, (15c). If these considerations are viable, then possessives cannot be heads but involve phrases.

2.3. *The Proposal*

In this subsection, I propose in detail that possessives involve extended projections. Making some refinements, I will basically follow Anderson (1983-84) in treating possessives as involving Possessive Phrases (cf. also Abney's 1987: 84-85 KP in Spec,DP). However, I will argue for the presence of more structure on top of PossP. This additional structure will allow me to account for the different lexical categories of possessives, certain movement restrictions, and other facts to be discussed below.

⁷ An account involving different base-generations seems less straightforward (but see section 3.1 for non-theta nouns).

Discussing the Saxon Genitive Construction (SGC) in English, Anderson makes a distinction between concrete and abstract nouns (this basically corresponds to my non-theta and theta nouns). She proposes that the former type involves a lexical possessive head ('s), which projects a Possessive Phrase (PossP) and assigns case and a theta role to the possessor (cf. the structure in (7) again). In contrast, Anderson argues that it is the abstract/theta noun itself that assigns a theta role to the possessor and 's is simply inserted to assign case. The latter option does not involve a PossP. As such, possessives with non-theta and theta nouns do not involve the same structure.

While I will follow many aspects of Anderson's proposal, I will diverge from her in certain ways. For instance, I will propose that possessives with both non-theta and theta nouns involve PossP and, in addition, more structure. Furthermore, I will extend her analysis to the Possessor Doubling Construction (PDC) (for the latter parallelism, see, e.g., Fiva 1985, Krause 1999, and also Weiß 2008). Consider this in more detail.

Both the SGC, (16a-b), and the PDC, (16c-d), consist of two clearly separable elements: head-like pronouns like *se*, *'s*, *ihr*, or *d'r* and phrasal possessors like *Marie*, *Mary*, *der Maria*, or *Mieke*:

- | | | | |
|------|----|---|----------------|
| (16) | a. | <i>Marie se boek</i> | (West Flemish) |
| | | (Haegeman 2003: 221) | |
| | b. | Mary's book | (English) |
| | c. | <i>(der) Maria ihr Buch</i> | (German) |
| | | the Mary her book | |
| | d. | <i>Mieke d'r boek</i> | (Dutch) |
| | | Mary her book | |
| | | (de Schutter 1994: 459, Verhaar 1997: 93) | |

With Anderson (1983-84), I propose that possessives are complex structures. They involve a PossP, which consists of a head labeled Poss and a complement to the right, the possessor. To be precise, I claim that the head Poss is a predicate that takes the possessor as its sole argument. However, I assume that the possessive head does not only involve a PossP but also involves more

structure (also Leu 2008: 149ff, Roehrs 2005b). To motivate this claim, I will discuss certain properties shared by possessives and other elements.

First, possessives pattern like demonstratives in that they can both precede articles ((17a) is a googled example by Marit Julien, p.c.; (17b) is from Julien 2005b: 113):⁸

- (17) a. *mit (det) første kys* (Danish)
 my the first kiss
 ‘my first kiss’
 b. *dette (det) høje hus*
 this the high house
 ‘this tall house’

Second, possessives are also similar to adjectives, both with regard to syntactic distribution and morphological inflection. I illustrate this with a somewhat old-fashioned possessive in German. Note that both elements have the same basic internal makeup:

- (18) a. *die sein-ig-e Familie* (German)
 the his-ADJ-INFL family
 ‘his family’
 b. *die lust-ig-e Familie*
 the fun-ADJ-INFL family
 ‘the funny family’

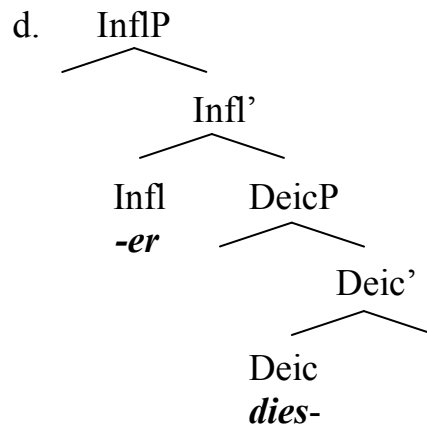
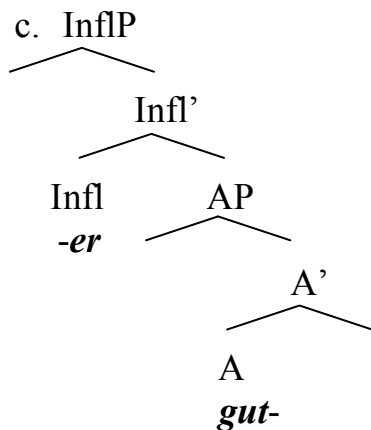
⁸ Marit Julien (p.c.) informs me that possessives do not occur with definite articles in Norwegian (although demonstratives and definite articles do co-occur). In the West Germanic languages, the occurrence of a definite article with a preceding possessive pronoun or demonstrative pronoun is not possible at all. Given the fact that the Scandinavian languages tolerate two determiner elements, this absence in West Germanic is unlikely to follow from a structural account involving the same position. In order to capture their non-occurrence in the left periphery, one could either assume some kind of Doubly-filled DP Filter for West Germanic (e.g., Abney 1987: 271; Giusti 1997: 109, 2002: 70) or one could follow the functional account of Haspelmath (1999).

To repeat, possessives can precede and follow definite articles. As such, possessives behave like demonstratives when they are pronominal or like adjectives when they are adjectival.

In the context of Grimshaw (1991), Corver (1997) proposes that adjectives involve extended projections. This proposal is extended to demonstrative pronouns by Leu (2008) and Roehrs (2013a), among others. Simplifying somewhat, both structures can be illustrated as follows where the A(djective) and the Deic(ic) head at the bottom of the tree undergo head movement to “pick up” the inflection at the top (not shown here):

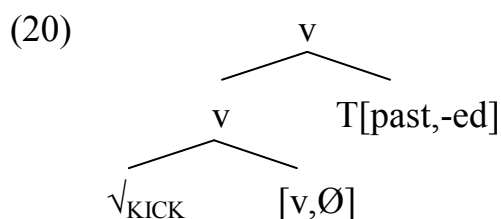
(19) a. *gut-er*
good-INFL

b. *dies-er* (German)
this-INFL



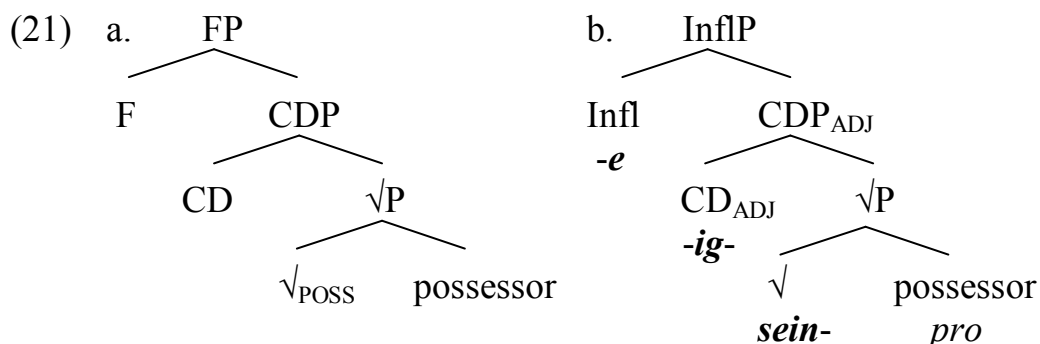
With this in mind, recall the distributional and inflectional similarities between possessives, on the one hand, and adjectives and demonstratives, on the other. Furthermore, as seen above, possessives can be of different lexical categories. Crucially though, all these possessive elements have the same basic semantics. These properties present an intriguing state-of-affairs.

To solve this puzzle, I assume with Marantz (1997) that lexical items have category-neutral roots ($\sqrt{}$) that have to be specified with regard to their part of speech. The roots are at the bottom and a category-defining head is immediately above. Illustrating with the implementation in Embick & Marantz (2008: 5), the English verb *kicked* has the root KICK and the category-defining head *v*. The tense inflection is at the top:



This categorization of roots is argued to hold for open-class vocabulary items. Here, I would like to extend this proposal to other elements, specifically the possessive heads, where there is good evidence for different lexical categories. Assuming that each individual part projects a phrase, we wind up with extended projections, similar to regular adjectives and demonstratives.

In more detail, I propose that the possessive head *Poss* involves a category-neutral root at the bottom of the tree. Immediately on top is a category-determining head (CD) that specifies the lexical category of the root. Finally, the functional head (F) at the very top may vary with the lexical category of the lower part of the structure. Consider the general structure in (21a). To be more concrete, (21a) can most straightforwardly be fleshed out with adjectival possessives such as German *seinige* ‘his’ in (21b): *sein-* ‘his-’ is the root, *-ig-* is the category-determining head, and *-e* is an inflectional head. I assume for now but argue later that the possessor is the null argument *pro*:



To bring about the final form in (21b), the root undergoes head movement via CD to F. For expository purposes, I will, for the most part, not distinguish between CDP and \sqrt{P} in the remaining discussion collapsing them into *PossP* and I will not be specific about the different instantiations of FP. The main point here was to argue that the different lexical categories of possessives can be captured by category-defining heads, which results in extended projections.

Having established that possessives are complex phrases, I turn to the question as to where possessives are located in the larger DP-structure. For adjectival possessives, I propose that they are in positions similar to regular adjectives. With Cinque (2005) and others, I assume they are in specifier positions. Furthermore, due to their semantics, I suggest that they are usually in a very high adjectival position. In other words, the lexical category and the semantics of the possessive, at least in part, determine the position of the possessive in the DP.⁹ Next, I turn to pronominal possessives, which deserve more space.

In German the possessive pronoun *sein* ‘his’ is completely parallel to the indefinite article *ein* ‘a’. This point can be made in two ways. First, as is well known (Duden 1995), both of these elements have the same inflections and are often referred to as *ein*-words. Second, both *sein* ‘his’ and *ein* ‘a’ take adjectives with the same endings. I illustrate this with the masculine singular in the four morphological cases: nominative in (22a), accusative in (22b), dative in (22c), and genitive in (22d):

- (22) a. *sein / ein kalter Saft*
 his / a cold-ST.NOM juice
 b. *durch seinen / einen kalten Saft*
 through his / a cold-WK juice
 c. *von seinem / einem kalten Saft*
 of his / a cold-WK juice
 d. *trotz seines / eines kalten Saftes*
 despite.of his / a cold-WK juice-GEN

To be clear, the presence of the possessive element does not make a difference for adjective endings in German. A simple way to account for the same inflections, both on the *ein*-words themselves and on the adjectives, is to assume that possessive pronouns are composite forms consisting of a possessive

⁹ Considering the different positions and the different lexical categories of possessives, it should be clear that the distribution of possessives is not simply a matter of genitive case assignment. Rather, I take it that a number of different, in part language-specific factors are responsible. However, as I argue below, there is case assignment inside the possessive.

element and *ein*.¹⁰ For instance, *sein* ‘his’ consists of *s-* and *ein*. I will categorize *s-* as a demonstrative-like element.¹¹

Turning to the PDC, *Peter* appears in front of *sein*. Importantly, there is no change on either the possessive pronoun itself or the adjective. I illustrate this with the masculine nominative singular:

- (23) a. *sein kalter* *Saft*
 his cold-ST.NOM juice
 b. *Peter sein kalter* *Saft*
 Peter his cold-ST.NOM juice

Before I related the PDC in (23b) to the simple possessive pronoun in (23a) in detail, I compare the PDC and the SGC in two aspects.

¹⁰ A reviewer points out that the possessive components of the pronouns *m-ein* ‘my’, *d-ein* ‘your(sg.informal)’, and *s-ein* ‘his’ appear elsewhere in German: *m-ich* ‘me/myself’, *d-ich* ‘you/yourself’, and *s-ich* ‘himself’. Second, the remaining possessive pronouns (i.e., *ihr* ‘her/their/your(formal)’, *unser* ‘our’, and *euer* ‘your(pl.informal)’) involve feminine and plural forms. Similar to other nominal elements in German, they pattern together. Specifically, they form a different set in that these pronouns cannot be neatly parsed into subparts. For this second set, I assume that the possessive element and *ein* undergo Fusion bringing about opaque surface forms. Finally, assuming that inflections involve a separate head in syntax, they will not undergo this Fusion. As such, only the stem forms between the two sets of possessive pronouns differ but not their inflections (cf. the masculine dative forms *s-ein-em* ‘his’ vs. *ihr-em* ‘her’).

¹¹ Possessive pronouns seem to be hybrid in character. As Sternefeld (2008a: 221) points out, they may assign case like certain adjectives do (see section 3.2). In contrast, their word order properties are similar to those of demonstratives, as seen above. Furthermore, Roehrs (2013a) argues that irregular demonstrative forms can be explained by Fusion. In the previous footnote, I suggested something similar for a certain set of possessive pronouns.

In view of these sets of properties, the question arises if there is a category-defining head in the possessive structure and if so, what it is. There are two options: either there is such a head but it does not categorize the root strictly allowing for the hybrid properties, (ia). Alternatively, there is no such head, (ib):

- (i) a. [FP F [CDP Ø [√P *s-*]]]
 b. [FP F [?P *s-*]]

As far as I can tell, the evidence for a null category-defining head is, at best, meager. To maintain structural simplicity, I will assume (ib) and classify possessive elements like *s-* as demonstrative-like. More generally, this might imply that there are category-inherent possessive elements (e.g., *s-ein* ‘his’) and category-derived ones (e.g., *sein-ig-e* ‘his’).

First, consider adjectives following the SGC. As can be observed in (24), the presence of the possessive does not make a difference with regard to the endings on the adjective:

- (24) a. *(Peters) kalter Saft*
 Peter's cold-ST.NOM juice
 b. *durch (Peters) kalten Saft*
 through Peter's cold-ST.ACC juice
 c. *von (Peters) kaltem Saft*
 of Peter's cold-ST.DAT juice
 d. *trotz (Peters) kalten Saftes*
 despite.of Peter's cold-WK juice-GEN

More generally, possessives in German, be they simple possessive pronouns, the PDC, or the SGC, do not have an influence on adjectival inflection. There is a second similarity between possessives containing overt possessors.

The possessor in both the SGC and the PDC has case. This can be illustrated with the dative:

- (25) a. *der froys auto* (Yiddish)
 the-DAT woman's car
 b. *dem Mann sein Auto* (German)
 the-DAT man his car

It is clear that the noun does not assign dative in either Yiddish or German. I propose that the possessive head assigns case to its argument, the possessor. Assuming that case assignment is a matter of heads, there is evidence then for the presence of a head inside the possessive. In other words, theta-role assignment coincides with case assignment inside the possessives. Given this proposal, the connection between these semantic and morpho-syntactic aspects avoids the assumption of “optional” case assignment with non-theta possessum nouns:

- (26) a. Peter's car
b. the car

In particular, the syntactically optional presence of the possessive is explained by the fact that, when a possessive predicate is present, so is the possessor and crucially also *vice versa*. In other words, the presence of the possessor and the possessive head has nothing to do with head nouns like *car*. To sum up, possessives as a whole have no influence on adjectival inflection and possessive heads assign case and a theta role to the possessor.

To derive the similarities in inflection on (following) adjectives and case on (preceding) possessors, I propose that the PDC and the SGC have the same basic structures. Furthermore, as proposed above, *pro* functions as the argument for simple pronominal possessives. In other words, simple possessive pronouns are analyzed here as PDC. Now, recalling the composite analysis of possessive pronouns, the possessive as a whole is in Spec,DP and D involves an indefinite article, *ein* with PDC or null with SGC. With possessives instantiating phrases and articles involving heads, both of these elements can be hosted by the DP-level in the required order. The schematic structures are as follows (note that (27d) is out as the possessive head has no overt host):¹²

¹² Two comments are in order here. First, unlike the Scandinavian dialects in (10), Yiddish allows an indefinite article to intervene between the possessive and the possessum:

- (i) *mayner a guter khaver* (Yiddish)
mine a good friend
'a good friend of mine'

This makes Yiddish similar to (27a-b). However, note that the indefinite article in Yiddish is not part of the possessive pronoun. In Roehrs (2011b), I propose that the possessive pronoun in Yiddish is in a position higher than the DP-level.

Second, it is often assumed that possessive pronouns are the spell-out forms of the relevant personal pronouns and possessive *-s*. For instance, at a more abstract level, *his* consists of *he* and *-s* (cf. Stockwell *et al.* 1973: 676). So, traditionally, possessive pronouns are taken to be equivalent to the SGC. In the main text, I argued that possessive pronouns are equivalent to possessive *s-* only, which can be preceded by a possessor such as *Peter* and must be adjacent by *ein*.

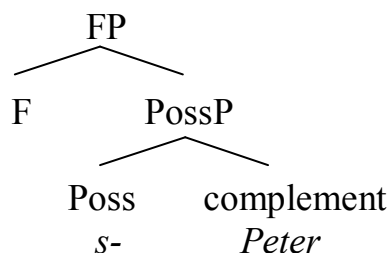
- (27) a. $[_{FP} \text{Peter } s\text{-}] \text{ein}_D \text{Buch}$
 Peter his book
 b. $[_{FP} \text{pro } s\text{-}] \text{ein}_D \text{Buch}$
 his book
 c. $[_{FP} \text{Peter's}] \emptyset_D \text{Buch}$
 Peter's book
 d. * $[_{FP} \text{pro 's}] \emptyset_D \text{Buch}$
 's book

It is interesting to point out that a definite determiner in the appropriate form can be added before the possessor in German in (27a), yielding *dem Peter sein Buch*, but not in (27c). Krause (1999: 203) proposes that *-s* and the possessive pronoun are allomorphs. In simplified terms, if the possessor is phrasal, Poss is spelled out as *sein*, (27a-b); if the possessor is head-like, Poss is spelled out as *-s*, (27c). In what follows, I will be more specific about the structures and derivations involved in (27).

I argued above that possessives involve extended projections. I illustrate the SGC and the PDC with the German PDC in (28a). The proposed underlying structure for pronominal possessives is given in (28b):

- (28) a. *Peter sein Buch* (German)
 Peter his book
 ‘Peter’s book’

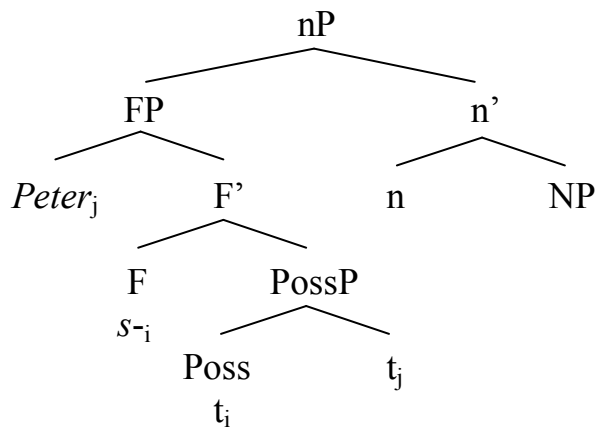
b. *Extended Projection of Possessives (Simplified)*



I propose that all possessives have this (simplified) underlying structure. As such, I make the strongest and theoretically, most interesting claim. Divergences from this structure are taken to hold on the surface only.

Next, the possessor in the complement position in (28b) may move to Spec,FP. Furthermore, the possessive element *s-* may move to F. Importantly, this reordering makes use of the extended projection of the possessive head. With all syntactic movements completed inside FP, FP itself is now ready to be merged in Spec,nP:

(29) *Base Position of Possessives inside the DP*

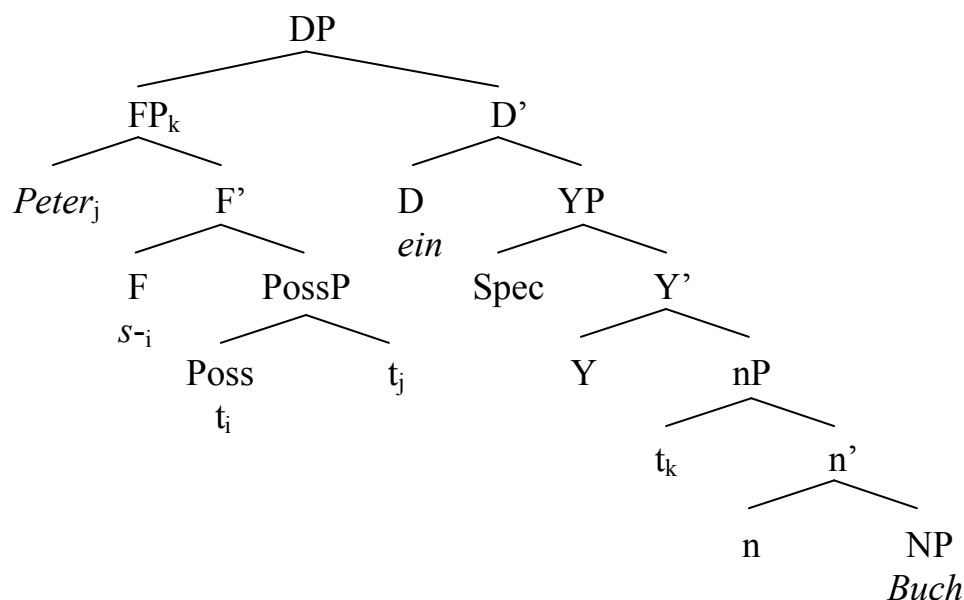


Unless indicated otherwise, I assume throughout that FP is merged in Spec,nP.¹³

Recall that pronominal possessors are similar to demonstrative pronouns. I propose that FP raises to Spec,DP to license D as in Longobardi (1994), Julien (2005a), and Roehrs (2009a). Finally, possessive *s-* is supported by *ein* in D under adjacency. This completes the derivation of *Peter sein Buch* ‘Peter’s book’.¹⁴

¹³ As mentioned above, I focus here on non-theta nouns. As for theta head nouns, depending on the theta-role to be assigned to the possessive (cf. (15)), FP is merged in different positions in the nP-shell (cf. Valois 1991).

¹⁴ Note that YP in (30) stands in for a number of intermediate phrases that can host other elements, for instance, adjectives. For simplicity’s sake, I abstract away here from the finer (i.e., intermediate) structure of the noun phrase (but for detailed discussion, see Julien 2005a and Roehrs 2009a).

(30) *Position of Possessives after Movements inside the DP*

Below, I provide evidence for each of these movements: the possessor moving to Spec,FP, the possessive head Poss moving to F, and FP as a whole moving to Spec,DP.

To repeat, the possessive element and *ein* combine under adjacency. Now, adjacency between the possessive head and *ein* in D only holds if FP is in Spec, DP and the possessor has moved to Spec,FP. This is the case in (30). Interestingly, these assumptions also rule out some ungrammatical cases. For instance, unlike certain Scandinavian dialects (see section 4.4), German cannot have a post-nominal PDC, (31a), or a pre-nominal PDC with the possessor left in situ, that is, in the complement position of Poss, (31b):

- (31) a. * *das_D Auto sein Peter*
 the car his Peter
 b. * *sein Peter D Auto*
 his Peter car

In both (31a-b), the possessive element is not adjacent to D, which hosts *ein*. The claim that possessive pronouns involve composite forms where the relevant components are subject to adjacency rules out the cases in (31). Note in this respect that SGC do not involve possessive pronouns. As such, they can occur

in post-nominal position, as seen above. The assumption that possessive pronouns are composite forms has more explanatory power.

It is usually assumed that the phi-features of a noun phrase originate with different heads inside that noun phrase; for instance, gender originates with the head noun N, number with Num, and person with D. As has been noted before (e.g., Behaghel 1923: 638), there is a person restriction on the PDC in that the possessive cannot be in the first or second person, (32a-b). To find a plausible analysis, I also consider a certain pronominal form that morpho-syntactically, is third person plural but semantically, is ambiguous in its reference: *sie* can be third person plural or, when used as a type of formal address, second person singular or plural. In the latter case, this element is usually capitalized (not shown here). All these interpretations are possible in (32c):¹⁵

- (32) a. * *dir Idioten dein Auto*
 you idiot your car
 b. * *uns Linguisten unsere Bücher*
 us linguists our books
 c. *ihnen ihre Bücher*
 them their books
 ‘their books’
 ‘your books’

Given the different felicitous readings in (32c), the ungrammaticality of (32a-b) is presumably not due to the semantics but rather to a morpho-syntactic restriction. Semantically, interpretations involving second person elements are clearly possible, (32c). Morpho-syntactically, the ungrammatical data in (32a-b) are in the first or second person but the felicitous example in (32c) is in the third person. Considering my proposal that possessive pronouns are composite forms and possessives as a whole involve extended projections, one can formulate a straightforward morpho-syntactic account for this restriction in person.

As discussed above, possessive pronouns are composite elements consisting of a possessive element and *ein*. I would like to suggest that third-

¹⁵ Note that these pronominal DPs can be arguments in German: *Sie haben mir Esel Geld geklaut* ‘They stole money from me (donkey)’ (see Roehrs 2005a: 256).

person possessive pronouns such as *sein* ‘his’ have a possessive element in a head position but that first- and second-person possessive pronouns such as *mein* ‘my’ and *dein* ‘your’ involve a possessive element as a phrase. In more detail, I propose that third-person *s-* is the possessive head, (33a), but that first-person *m-* is in the complement position of a null possessive head, (33b). The element *ein* originates in the matrix noun phrase in both cases:¹⁶

(33) a. [DP [FP XP_k [PossP *s*-Poss t_k]] *ein* ...]

b. [DP [FP [PossP POSS *m-*]] *ein* ...]

Recall again that the possessor marked as XP in (33a) has to move to Spec,FP to bring about adjacency.

If *m-* is in the complement position, then one can explain the person restriction noted above. Since the possessive head takes only one complement, this slot is already taken by the first-person possessive element but not by the third-person one. Consequently, the former does not allow a(nother) possessor but the latter does. The same argumentation extends to second-person possessive elements.¹⁷

To capture this restriction in the standard account, one could put *mein* ‘my’ in a specifier position and *sein* ‘his’ in a head position. For instance, *mein* could be in Spec,DP and *sein* in D. Unlike the former, the latter type of pronoun would tolerate a possessor in Spec,DP. However, taking these elements as

¹⁶ Note that my claim about the different positions of the relevant possessive elements is in keeping with Cardinaletti (1998) and Cardinaletti & Starke (1999), who propose that pronouns may differ in structural size (cf. also Fiva 1985, Taraldsen 1990).

¹⁷ For some unclear reason, adjectival possessive heads of the third person cannot take an overt possessor:

(i) *die (*Peter) seinige Familie*
the Peter his-ADJ-INFL family

Above, I assumed that the possessor is *pro* (cf. (21b)). If so, it is not entirely clear why *pro* cannot be replaced by an overt possessor. As an alternative, one could speculate for these types of possessive heads that the stem *sein-* actually consists of a root *s-* and an anaphoric part *ein* ‘one’, which gets the theta-role of the possessor.

Second, note also that this person restriction does not hold in the SGC in general:

(i) a. us linguists’ favorite thing to do
b. you kids’ ideas about fun

This hints at the fact that possessive *-s* is always in Poss.

unanalyzed words, it is not clear what would motivate this difference in position and why the distribution could not be the other way around. To motivate the different positions of the possessive pronouns, the standard account would also have to posit that possessive pronouns are composite forms where the possessive element itself can be of different sizes.

More generally, this subsection has shown that the proposal that possessives involve extended projections and possessive pronouns are composite forms explains a number of phenomena. In the next subsection, I provide more arguments that possessives form extended projections briefly showing that the new proposal fares better than the standard analysis.

2.4. *Two Arguments for the New Structure*

First, the assumption of an extended projection explains certain agreement facts. If one compares a noun phrase involving a possessive pronoun to one headed by a pronominal determiner (e.g., Postal 1966), one can construct another argument in favor of possessives being complex projections. While the verb and the reflexive anaphor agree with the pronominal determiner and the third-person possessive pronoun, (34a-b), they do not with the first-person possessive pronoun, (34c):

- (34) a. *Ich armer Lehrer habe mich immer geärgert.* (German)
 I poor teacher have REFL.1.sg always be-angry
 ‘I (poor teacher) was always angry.’
- b. *Sein armer Lehrer hat sich immer geärgert.*
 his poor teacher has REFL.3.sg always be-angry
 ‘His poor teacher was always angry.’
- c. *Mein armer Lehrer hat sich immer geärgert.*
 my poor teacher has REFL.3.sg always be-angry
 ‘My poor teacher was always angry.’

Similar facts hold for data in the second person.

These agreement facts follow if one assumes that the person feature of the relevant element percolates up to DP and then enters into an agreement relation

with the verb and reflexive anaphor. Specifically, if the relevant element is in a head position (e.g., D), the feature percolates in a direct fashion to its phrase (e.g., DP); if the element is in a specifier position, it percolates in an indirect manner, that is, by a Spec-head relation with its head (cf. Corver & van Koppen 2010: 120).

Turning to (34) in more detail, independently of whether the pronominal determiner is a head in D or a head inside a phrase in Spec,DP (cf. Roehrs 2005a), these assumptions immediately explain the agreement facts in (34a). The latter, more complex option is illustrated in (35a) below (percolation is illustrated with superscripts). More needs to be said about the possessive pronouns, (34b-c). Note now that I proposed above that both types of possessive pronoun are part of FP, the difference being that the third-person pronoun itself is the possessive head but the first-person pronoun is in the complement position of an abstract possessive head. I analyze the relevant parts of (34b) and (34c) as (35b) and (35c), respectively:

- (35) a. $[DP^i \quad \quad \quad [_{DemP}^i \text{ ich}^i] \quad D^i \quad [_{NP} \text{ armer Lehrer }]]$
- b. $[DP^i \quad [_{FP}^i \quad XP_k^i \quad F^i \quad [_{PossP} \text{ s-} Poss \quad t_k]]] \quad ein^i \quad [_{NP} \text{ armer Lehrer }]]$
- c. $[DP \quad [_{FP} \quad \quad \quad F \quad [_{PossP} \text{ POSS } m-]]] \quad ein \quad [_{NP} \text{ armer Lehrer }]]$

Above, I also proposed that the possessor XP has to move to Spec,FP so that *s-* and *ein* can combine under adjacency. Notice that movement similar to that of XP is not needed for *m-*, which is adjacent to *ein* when it is in situ. Compare (35b-c). With movement not needed, it is out by economy considerations. Consequently, *m-* stays in the complement position of Poss. If so, *m-* is not in a Spec-head relation with any head and cannot percolate its person feature. The same argumentation applies to the cases in the second person. Note that in the standard analysis, possessors are not in complement positions when they are in the left periphery of the matrix DP. Rather, they are either in specifier or head positions. Unlike complement positions, these two types of position should, at least in principle, allow percolation, contrary to what is needed here.

Continuing with the explanation of the third-person feature on the DP, there are two options: either one assumes that (34b) involves a (double) Spec-head relation and percolation, (35b), or, alternatively, one assumes for both (34b) and (34c) that the third-person feature is a default option (cf. Julien 2005a: 147). The latter option can be illustrated by leaving out the superscripts, cf. (35c). More generally, the different positions of the relevant possessive elements in conjunction with the assumption of an extended projection of the possessive head affords us an explanation of the above agreement facts. Before I close this section, I consider a second argument for possessives involving extended projections. It derives from restrictions on movement.

Recall that in PDC, a possessor occurs with a possessive pronoun. These two elements either precede the head noun, (36a), or follow it, (36b):¹⁸

- (36) a. *Per sin bil*
 Per REFL car
 ‘Per’s car’
 b. *bilen hans Per*
 car-DEF his Per
 ‘Per’s car’

Notice also that both types of possessive pronouns can occur independently of the possessor. In fact, they both may precede, (37a), or follow the head noun, (37b):

- (37) a. *{hans / sin} bil*
 his / REFL car
 ‘his car’
 b. *bilen {sin / hans}*
 car-DEF REFL / his
 ‘his car’

¹⁸ Norwegian *sin* is often glossed as ‘REFL(exive)’ and *hans* as ‘his’. This distinction will become relevant in the discussion of simple possessive pronouns in the clause.

Crucially, though, the possessive pronoun and the possessor cannot be split up; that is, one component cannot “strand” the other:

- (38) a. * *{hans / sin} bil(-en) Per*
 his / REFL car-DEF Per
 ‘Per’s car’
 b. * *Per bil(-en) {sin / hans}*
 Per car-DEF REFL / his
 ‘Per’s car’

To be clear, the following issue arises: while multi-component possessives can appear either before or after the head noun, (36), their individual components cannot occur separately, (38).

It is not clear how the standard analysis in (9b) can capture these facts in a non-stipulative way. To account for the post-nominal PDC, proponents of the standard analysis could assume that the possessor and the possessive head are base-generated below the head noun. Note in this regard that the possessor and possessive pronouns occupy different positions with regard to each other depending on whether the PDC is pre- or post-nominal, (36). Since the possessor and the possessive head occupy different positions in the extended projection of the noun, they can move independently of each other inside the matrix noun phrase. This would explain the different distributions in (36). However, if the possessor and the possessive head can move independently of each other, they could, at least in principle, “strand” the other component, contrary to fact.

Alternatively, advocates of the standard account could suggest that the possessor and possessive head are base-generated above the head noun. Delsing (1998) has made a proposal along these lines. He proposes that PossP is between DP and NP and that the possessive pronoun is the head in Poss. Delsing (1998: 103) derives the post-nominal PDC by moving the possessor *Per* to Spec,PossP, *hans* to D and *bilen* to Spec,DP. The derivation in (39a) is slightly adapted from Delsing’s work. However, I side with Julien (2005a: 166ff) in that I cannot see how the Double Definiteness effect can straightforwardly be derived when an adjective is added as in (39b):

- (39) a. [DP *bilen_k* [D' *hans_i* [PossP *Per_j* [Poss' *t_i* [NP *t_k t_j*]]]]]]
 car-DEF his Per
 b. *den gamle bilen hans Per*
 the old car-DEF his Per
 ‘Per’s old car’

To be clear, independent of the position of PossP, the standard analysis faces serious problems.

The current proposal in (28b) treats multi-component possessives as constituents and faces no such problems. First, possessives as a whole can surface in their low base-position, as shown in (29), but they can also move to a higher position, as depicted in (30). This explains the different positions of the PDC with respect to the noun, (36a-b). Second, the possessor and the possessive head can reorder inside FP. Given certain assumptions, this derives the facts in (36a) and (36b).

Finally and most importantly, the current analysis captures the ungrammaticality in (38) if one recalls that multi-component possessives are phrases in specifier positions. Now, it is well documented that subextraction out of this type of position is not possible. This, then, explains why possessives cannot be split up whereby one component strands the other. If so, this provides a strong argument in favor of analyzing possessives as complex constituents in specifier positions.

To sum up, having argued that possessives are phrases, I made the proposal that possessive heads take possessors as complements. Furthermore, I suggested that possessives involve extended projections and that possessors and possessive heads may move inside those projections. Finally, I provided some empirical arguments for the extended projection of possessives. I showed that unlike the new analysis, the standard account faces some serious problems.

3. Possessives Contain Heads

Having provided the basic derivations and some evidence, I now offer some more detailed argumentation that the possessive (= FP) contains a possessive

In the last section, I showed that possessive heads can be adjectival and pronominal (i.e., demonstrative-like). It is well known that predicate heads can be of different lexical categories. If so, one could also expect to find possessives of other lexical categories such as prepositional phrases or nominal phrases.

(40) a. *das Buch von der Mutter* (German)
the book of the mother
'mother's book'

b. *von der Mutter* { *das* / *ein* / ?**dieses* / * \emptyset / **ihr*¹⁹ } *Buch*

c. * of the mother('s) { the / a / this / \emptyset / her } book

¹⁹ The possessive pronoun seems to be possible in very colloquial German (as recently heard on the radio).

the possessive and the remainder of the noun phrase, I conclude that the pre-nominal *von*-phrase forms a constituent with the possessum nominal, (41a).²⁰ In fact, the *von*-phrase is outside the DP proper, assuming that the quantifier *alle* ‘all’ in (41b) and (41c) is higher than the DP (for more arguments, see also Roehrs 2013b):

- (41) a. [*Von Peter das Buch*] *habe ich gelesen*
 of Peter the book have I read
 ‘I have read Peter’s book.’
 b. *von Peter {alle / ?all die} Bücher*
 of Peter all / all the books
 ‘all (of) Peter’s books’
 c. ?* *alle von Peter die Bücher*
 all of Peter the books

Note that if the *von*-phrase is outside the DP proper and recalling the typical complementary distribution of the determiner and the possessive in German, then it is not surprising to find both elements at the same time in (40b).²¹ In fact, assuming that the *von*-phrase is base-generated outside the DP, my proposal is compatible with the presence of both a definite and an indefinite determiner.

For the sake of argument, let us assume for a moment that the *von*-phrase has undergone movement from a position inside the DP. With a definite article present, cf. (40b), this DP is definite and movement out of it should be degraded (e.g., Bowers 1988). However, the example is fully grammatical. Furthermore, movement through Spec,DP should leave a copy behind presumably triggering

²⁰ A similar point can be made with possessives in Spec,CP of an embedded clause (data are from Fortmann 1996: 118):

- (i) a. *Was sagst du [wessen Bruder] er angerufen hat?*
 what say you whose brother he called has
 ‘Whose brother do you say he has called?’
 b. *Was sagst du [von wem den Bruder] er angerufen hat?*
 what say you of whom the brother he called has

²¹ In other words, this analysis allows us to avoid issues related to a doubly-filled DP. The only potential violation of this constraint in German is the current analysis of composite possessive pronouns involving a possessive element supported by *ein*. However, I argued above that the two underlyingly separate elements get spelled out as one. If one takes the Doubly-filled DP filter as a post-syntactic phenomenon, then this does not pose a problem.

definiteness of the DP (see section 3.3, also cf. (10) above). In the latter scenario, the possibility of the indefinite determiner would be unexpected. These problematic issues do not arise under base-generation of FP outside of the DP. Crucially now, if this is correct, then it is hard to see how *von* in (40b) can be the morphological realization of abstract case as FP is not even part of the DP proper.

Possessives can also be nominal in lexical category, (42a). More tentatively, I suggest that these possessives may, in fact, be the complement of an empty nominal possessive head, here illustrated by \emptyset_N , (42b):

- (42) a. *das Buch des Mannes* (German)
 the book the-GEN man
 ‘the man’s book’
 b. *das Buch* [_{FP} \emptyset_N [*des Mannes*]]

With the possessive head a null element, it needs to be licensed. I propose that it is a null suffix that attaches to the head noun in the sense of Bošković & Lasnik (2003: 534-536). This assumption derives the fact that the morphologically genitive phrase must be adjacent to the head noun. Evidence for the required adjacency comes from the different behavior of prepositional and genitive possessives with regard to demonstrative reinforcers such as *da* ‘there’:

- (43) a. *das Bild da von dem Mann*
 that picture there of the man
 ‘that there picture of the man’
 b. ?* *das Bild da des Mannes*
 that picture there the-GEN man-GEN

These facts follow from the assumption that unlike the preposition phrase in (43a), the genitive phrase in (43b) involves a null possessive head that needs to be licensed by adjacency to the head noun.²²

²² In fact, adjacency effects are often taken to be reflexes of morphological rather than syntactic phenomena (e.g., Lasnik 1981). This is of particular relevance here considering that the head noun undergoes partial movement as, for instance, in *die Wut_i des Präsidenten t_i auf sich* ‘the wrath of the President against himself’ (see in particular Vangsnes 1999, 2004;

With the discussion in section 2 in mind, one can summarize that possessive heads can be adjectival, demonstrative-like, prepositional, and nominal. In other words, possessive heads differ widely in lexical category. As such, I have provided more evidence that FP involves a head. Note that languages apparently differ with regard to what kind of possessive heads they make lexically available.

3.2. *Different Morphological Cases*

In section 2, I showed that possessors in the SGC and PDC have dative case. I illustrated this with Yiddish and German and I proposed that case is assigned by the possessive head Poss. Recall also that I proposed that Poss is a predicate.

It is well known that corresponding predicates may assign different cases in different languages and dialects. To illustrate this, one needs to draw on languages that have a fully functional case system. What I mean by that is that case assignment is not subject to some independent restriction. For instance, with regard to Germanic, one can state that Yiddish is quite similar in its case system to German. However, all prepositions in Yiddish assign dative case only. In other words, case assignment by prepositions in Yiddish cannot be used to help illustrate that predicates assign different cases.

As far as I know, German and Icelandic are not restricted in this (or any other relevant) way. I begin by illustrating the different case assignments with semantically similar prepositions. Consider the following two examples where the German prepositions assign different cases from their Icelandic counterparts (Icelandic data from Pétursson 1992: 124-125):²³

Julien 2002, 2005a; Roehrs 2009a: 20). If so, it is not clear how to capture this adjacency effect syntactically as the head noun and the possessive are neither in a Spec-head nor a head-complement but rather in a “head-lower phrasal position” relation. The latter should, at least in principle, allow the occurrence of an intervening phrase, contrary to the facts seen above. Given my structural assumptions, the adjacency effect follows from the assumption of a null suffix. A further consequence might be that one can now explain the well-known fact that unlike PPs, (genitive) DPs cannot be extracted (e.g., Sternefeld 2008b: 526).

²³ Depending on certain factors, German *zwischen* ‘between’ can also take the accusative (but not the genitive) case.

- (44) a. *zwischen den Bäumen; den Weg entlang* (German)
 between the-DAT trees; the-ACC path along
 ‘between the trees; along the path’
- b. *milli trjáanna; meðfram veginum* (Icelandic)
 between trees-DEF.GEN; along path-DEF.DAT

The same holds for adjectives (Icelandic is taken from Pétursson 1992: 134-135):

- (45) a. *etwas gewöhnt; die Sache los* (German)
 something.ACC used; the-ACC thing free
 ‘used to something; free of the matter’
- b. *vanur einhverju; laus allra mála* (Icelandic)
 used something-DAT; free all-GEN things

To be clear, both languages have predicates, here exemplified by certain prepositions and adjectives, that have similar meanings but different case assignment properties.

Assuming possessive heads to be predicates, one expects that their complements, the possessors, may also occur in different morphological cases in different languages or dialects. This is borne out as the following pre-nominal PDC show:

- (46) a. *dem Vater sein Auto* (German)
 the-DAT father his car
 ‘father’s car’
- b. *für des knaben sein leben* (Early New High German)
 for the-GEN boy his-ACC life
 ‘for the boy’s life’
 (Behaghel 1923 : 640)

- c. *bei den Doktor sein Haus* (Texas German)²⁴
 at the-ACC doctor his-ACC house
 ‘at the doctor’s house’
 (Eikel 1967: 94; Weiß 2008: 383)

Like the complements of prepositions and adjectives, the possessors may appear in the dative, genitive, and accusative case. Note that all these case patterns can basically be replicated by the other possessive constructions. To save space, this is not shown here (but see Roehrs 2005b: 124-125).

As far as I am aware, these different morphological cases on the possessors do not co-relate with (consistent) differences in interpretation. In other words, all examples in (46) involve the same (possessive) semantics. Also, all examples involve the same lexical category (pronominal, i.e., demonstrative-like). Recalling that possessors are proposed to be the internal arguments of possessive heads, the similarities in argument structure and case-assignment between prepositions, adjectives, and possessive pronouns follow from their similar analysis in terms of extended projections.

Besides these different case possibilities on the possessor, note also that the possessive pronoun and the possessor do not agree in case in (46). I propose that possessive pronouns involve regular “feature sharing”, that is, concord with the possessum noun. This follows from the composite analysis of the possessive pronoun discussed above. Specifically, case is assigned to the entire matrix DP and then “spreads” as part of concord to the supporting element (*ein*) of the possessive pronoun. In contrast, the PDC involves case assignment inside the FP, which excludes *ein*.

More generally, with the case on the possessor not uniform, one is led to conclude that the case assigner is not a functional head but a (semi-)lexical one (for recent discussion of non-structural case, see Woolford 2006). Unlike

²⁴ Note that in dialects where the dative case is being replaced by the accusative, one may find the accusative or the dative on the possessor. Compare (46c) to (i):

(i) *Er war bei dem Doktor sein Haus.* (Texas German)
 he-NOM was at the-DAT doctor his-ACC house
 ‘He was at the doctor’s house.’
 (Eikel 1967: 91)

Notice that the preposition *bei* ‘at’, although also changing in its case assignment properties, takes the accusative in both (46c) and (i).

functional heads, lexical heads are lower in the structure. Above, I identified this head as Poss, which is at the bottom of FP.

3.3. *Possessors are Arguments*

Above, I proposed that possessive heads assign one theta-role; that is, they are mono-valent functors. I now turn to some instances that do not seem to have an “obvious” possessor. I will strengthen the proposal that all possessive heads take a possessor, be it an overt element as already documented above, or a covert one as argued for in more detail in this section. Besides some other desirable consequences, this will allow me to keep the one-to-one relation between possessive heads and possessors, both with regard to case and theta-role assignment. Interestingly, both the SGC and the PDC provide evidence for the presence of argumental possessors albeit in quite different ways.

An argument for the presence of a null possessor can be derived from “(in)definiteness spread”, according to which the possessor of the DP determines the definiteness of the entire DP by Spec-head agreement (e.g., Alexiadou 2005). Note first that the definiteness of the possessor in the SGC has the same effect in the *there*-context in (47b) as the associate noun phrase does in (47a). Turning to German, it has been argued that German does not have a Definiteness Effect (e.g., Haeberli 2002: 270ff). However, Schoorlemmer (1998: 60) points out that such an effect may emerge in fairy-tale contexts. Relevant for current purposes and abstracting away from the slight stylistic clash of the colloquial PDC in a fairy-tale context, the definiteness of the possessor also determines that of the entire DP. Observe the contrast in (47c):

- (47) a. There is {a dog / *the dog} in the garden.
 b. There is {a man / *the man}’s dog in the garden.
 (Dobrovie-Sorin 2003: 97, Jackendoff 1977)
 c. *Es war einmal {einem König / *dem König} seine Tochter.*
 it was once {a-DAT king / the-DAT king} his daughter
 ‘Once upon a time, there was { a / *the } king’s daughter.’

These grammaticality judgments are not surprising given that the SGC and the PDC have essentially the same structure and the same mechanism brings about the “spread” in definiteness.²⁵ Crucially, both possessive -s and the possessive pronoun do not seem to play a role in (47b-c).

When no possessor seems to be present as in (48a) below, the sentence becomes ungrammatical (similar facts can be found in West Flemish, see Haegeman 2003: 233ff). Note now that it is straightforward to rule out this datum. On a par with the definiteness cases in (47), I propose that there is a null element that is definite in interpretation. In particular, I suggest that this element is the definite pronominal *pro*, (48b) (see also Alexiadou, Haegeman & Stavrou 2007: 611; for null possessors, cf. also Szabolsci 1994, Longobardi 1996, and Delsing 1998: 95):

- (48) a. * *Es war einmal seine Tochter.*
 it was once his daughter
 ‘Once upon a time, there was his daughter.’
 b. [*pro seine Tochter*]

One might object that (48a) is bad for an independent reason. Assuming that the reference of *pro* needs to be established, one could claim that there is no antecedent in existential/presentational contexts. However, different types of coordination indicate that the absence of an antecedent is not the (only) problem in (48a). Consider the following two constructions where *ein König* ‘a king’ can function as the antecedent for the pronoun in *seine Tochter* ‘his daughter’. Importantly, coordinating the two DPs is much better than the two CPs, (49a-b). The example in (49c) shows that coordinating two CPs is not generally out:

²⁵ This is straightforward for third-person possessives. As discussed in section 2.4, the moved possessor in Spec,FP agrees with F by Spec-head agreement percolating the definiteness feature to FP. FP in turn agrees with D by Spec-head agreement percolating the feature to DP:

(i) [DPⁱ [FPⁱ possessor_kⁱ Fⁱ [POSSP Poss t_k]]] Dⁱ [...]]

First- and second-person possessives have a different structure. With the possessive pronoun in the complement position, one needs to assume something else. For instance, unlike the agreement in phi-features, definiteness seems to be more of a semantic phenomenon. As such, one could suggest that these possessive elements move to Spec,FP at LF.

- (49) a. *Es waren einmal [ein König und seine Tochter].*
 it were once a king and his daughter
 ‘Once upon a time, there was a king and his daughter.’
- b. **? Es war einmal ein König, und es war einmal seine Tochter.*
 it was once a king and it was once his daughter
- c. *Es war einmal ein König, und es war einmal eine Königin.*
 it was once a king and it was once a queen
 ‘Once upon a time, there was a king and once upon a time there was a queen.’

To explain this grammatical contrast, I will assume first conjunct agreement for (49a) (cf. Julien 2005a: 182-183). With an indefinite DP present, the example is acceptable. This analysis is not available for (49b). Furthermore, with an antecedent present, the ungrammaticality of this example must be due to something else. I suggest that the example is bad due to the proposed presence of *pro*. I argue that it is this pronoun that makes the entire DP definite.²⁶ We are now ready to show that possessors are arguments.

Returning to my main line of argument, definiteness is usually assumed to originate at the DP-level. This means that *pro* itself involves a DP. Furthermore, DPs are usually assumed to be arguments (Longobardi 1994, 2008). This definiteness effect then provides evidence that possessive heads take possessor arguments. Syntactically, I assume that *pro* is the complement of the possessive head and gets case from it. To be clear, then, possessive pronouns always involve a PDC, either with an overt or a covert possessor. As usual, I will continue using traditional terminology. Before I proceed, I point out that the discussion of *pro* is not revealing for the SGC, where *pro* cannot occur by itself:

²⁶ A reviewer wonders if (in)definiteness spread is indeed what is involved in these cases (cf. also Sobin 2002: 608; Lyons 1999: 23 fn. 12, 25 fn. 14), considering that the indefinite DP in (ib) is degraded with a definite complement:

- (i) a. There is {a/??the} boy’s picture on the wall.
 b. There is a picture of {a/??the} boy on the wall.

I will assume here that specificity/presuppositionality is the relevant property, without reviewing the enormous literature on this topic. This does not present a problem as *pro*, unlike PRO, is specific.

(50) * *pro*'s {car/arrival of Peter}

As already mentioned above, I assume that this has to do with the fact that -s is an enclitic that requires a relevant overt host. However, the SGC is still relevant for the discussion although in a different way.

As can be seen in (51a-c), the possessor cannot be an expletive, both with non-theta and theta nouns (cf. Alexiadou 2001: 60 and references cited therein):

- (51) a. * there's car
 b. * there's arrival of Peter
 c. * I didn't expect its rain.

(Higginbotham 1983: 416 fn. 9)

This ungrammaticality follows straightforwardly if the possessive head is a mono-valent predicate that must assign a theta-role to the possessor. Crucially, theta-roles can only be assigned to non-expletive DPs. This then provides another piece of evidence that possessors are arguments of a predicate – the possessive head.

3.4. *Lack of Condition C Effects with DP-internal Binding*

In addition to providing more evidence that possessives involve heads, this section also documents that possessives move as constituents. As pointed out above, possessives can precede or follow the possessive noun. Specifically, besides the pre-nominal PDC, (52a), Northern Scandinavian also has a post-nominal PDC, (52b) (see Fiva 1985, Ramat 1986 and Delsing 1993: chap. 5; for other languages, see Koptjevskaja-Tamm 2003a: 665ff, Verhaar 1997: 96ff):

- (52) a. *Jon sin bil* (Norwegian)
 Jon REFL car
 'Jon's car
 b. *bilen hans Jon*
 car-DEF his Jon
 'Jon's car'

Unlike (52a), (52b) has received less attention in comparison. However, what is interesting to note about (52b) is that it contrasts with its clausal counterpart with regard to co-reference: while the pronominal element *han* ‘he’ in (53a) cannot be co-indexed with *Per*, *hans* ‘his’ has to be in (53b):

- (53) a. *Han*_{*i/k} *ser* *Per*_i *i* *speilet*
 he sees Per in mirror-DEF
 ‘He sees Per in the mirror.’
 b. *bildet* *hans*_i *Per*_{i/*k}
 picture-DEF his Per
 ‘Per’s picture’

Now, if one were to treat the clause and the noun phrase in a parallel fashion with regard to c-command, then one would also expect a Condition C violation of the Classical Binding Theory (Chomsky 1981) in (53b). However, the opposite state-of-affairs holds. This apparent problem is in dire need of an explanation. The following discussion argues that since possessive pronouns are predicate heads, they themselves do not directly participate in (syntactic) Binding relations. As such, this presents another argument that possessives contain heads. At the end of this subsection, I argue against an alternative account of (53b), which involves lack of c-command and as such, would not constitute a Condition C violation. Consider first some basic properties of the post-nominal PDC.

To begin, note that *hans* cannot be the genitive of the preproprial article *han* in cases like *han Per* ‘(he = the) Peter’. Among other things, Delsing (1998: 101-2) observes that *hans* may not only co-occur with a possessor in the dative, (54a), but also with a (true) preproprial article, (54b). As can be seen by comparing (54b) to (54c), *hans* can, in fact, be replaced by possessive *-s*. Finally, one can observe that unlike free-standing preproprial articles, *hans* can also follow the possessor, (54d):

- (54) a. *galom hans farfarom* (Västerbotten)
 farm-DEF his grandfather-DEF.DAT
 ‘grandfather’s farm’

- b. *bilen hans n Jon* (Norwegian/Northern Swedish)
 car-DEF his the Jon
 ‘Jon’s car’
 (Holmberg & Sandström 1995: 33, Julien 2005a: 178)
- c. *bilen n Jons*
 car-DEF the Jon’s
- d. *æ mand hans hat* (Western Jutlandic)
 the man his hat
 ‘the man’s hat’
 (Delsing 1993: 153, Verhaar 1997: 97)

Another characteristic of the PDC is that *hans* and its possessor cannot be separated by “rightward” movement, (55b). Recall also in this respect the discussion from section 2.4, where I showed that possessors and possessive pronouns cannot be split up in general. Furthermore, the FP cannot follow other complements, (55c):

- (55) a. *bildet hans_i Per_i av Kari*
 picture-DEF his Per of Kari
 ‘Per’s picture of Kari’
- b. * *bildet hans t_k av Kari Per_k*
 picture-DEF his of Kari Per
- c. ?* *bildet t_k av Kari [hans Per]_k*
 picture-DEF of Kari his Per

Crucially, however, there is evidence from Icelandic that the post-nominal PDC can move as a constituent.

Apart from partial N-raising of *bækur* ‘books’ to the intermediate Article Phrase (ArtP) (see Vangsnes 1999, 2004; Julien 2002, 2005a; Roehrs 2009a), I assume that (56a) presents the basic word order. With this in mind, I interpret the contrast in (56b-c) such that the FP *hans Péturs* first moves out of Spec,nP

to a higher specifier position and then ArtP raises across the numeral to Spec,DP as an instance of remnant movement. This is illustrated in (56d):²⁷

- (56) a. *þessar fjórar bækur_i mínar t_i* (Icelandic)
 these four books my
 ‘these my four books’
 b. *bækurnar fjórar hans Péturs*
 books-DEF four his Peter-GEN
 ‘Peter’s four books’
 (Vangsnes 2004)
 c. * *bækurnar hans Péturs fjórar*
 books-DEF his Peter-GEN four
 d. [DP [ArtP *bækurnar t_k*]_i D [CardP *fjórar* [FP *hans Péturs*]_{k t_i}]]

Interestingly, a PP-complement behaves just like the possessive FP in that it also has to vacate the phrase containing the partially raised head noun before remnant movement of that phrase takes place:

- (57) a. *frægu bækurnar fjórar um tónlist*
 famous books-DEF four about music
 ‘the four famous books about music’
 b. * *frægu bækurnar um tónlist fjórar*
 famous books-DEF about music four
 c. [DP [AgrP *frægu bækurnar t_k*]_i D [CardP *fjórar* [PP *um tónlist*]_{k t_i}]]

This parallelism between the PP and the post-nominal PDC provides good evidence that the latter is also a constituent as it can move as a unit inside the matrix DP.²⁸

²⁷ To complete the empirical picture, note that a *pronominal* possessive does not have to move out (Vangsnes 1999: 145):

- (i) a. *hinar þrjár frægu bækur mínar* (Icelandic)
 the three famous books my
 ‘my three famous books’
 b. *frægu bækurnar mínar þrjár*
 famous books-DEF my three
 c. [DP [AgrP *frægu bækurnar mínar*]_i D [CardP *þrjár t_i*]]

In a similar vein, Koptjevskaja-Tamm (2003a: 631) reports a personal communication by Marit Julien according to which post-nominal PDC can also be coordinated:

- (58) *huset* [hass] og [hennes Maria] (Kongsvinger)
 house-DEF his and her Maria
 ‘Maria’s and his house’

Again, I take this as evidence that the possessive pronoun and the possessor form a constituent (see also Julien 2005a: 168ff).

To sum up these preliminary remarks, I have established that *hans* itself is not the preproprial article of *Per*, that the possessive *hans Per* cannot be separated, that this possessive can move as a constituent, and that it can be coordinated. In other words, this possessive is a PDC in post-nominal position.

In what follows, I will show that under traditional assumptions *hans* should be in an A-position as it can bind reflexives but not R-expressions. However, being in an A-position should lead to a Condition C violation with regard to *Per* inside the post-nominal PDC, contrary to the facts. This potential problem is solved if one assumes that *hans* is actually a possessive predicate that takes the possessor as its complement. First, consider the picture that emerges under traditional assumptions.

As can be seen in (59), *hans* can bind the reflexive *seg selv* ‘(him)self’ but not the R-expression *Per*. Assuming Binding to be A-binding (Chomsky 1981), I conclude that the Binder *hans* is in an A-position from where it can c-command the reflexive and the R-expressions (see also Taraldsen 1990).²⁹

- (59) *bildet* *hans_i* av {*seg selv_i* / **Per_{ij}*} (Norwegian)
 picture-DEF his of {REFL / Per}
 ‘his picture of himself/Per’

²⁸ There might be a potential caveat here. Sigurðsson (2006) argues for Icelandic that *hans* is not the possessive pronoun in these cases but rather a preproprial article. However, he shows that this element has a number of other special uses in Icelandic (page 227ff). It remains to be seen if these uses are also possible in the post-nominal PDC.

²⁹ I would like to thank Terje Lohndal, Kari Gade, and especially Marit Julien for help with these data. Ideally, I would have liked to test the Binding facts below with the post-nominal PDC in (54a-b) but I did not have access to the relevant speakers.

Next I add *Per* to (59), generating a post-nominal PDC. Interestingly, there are the exact same grammaticality contrasts. What is interesting here is that *hans* A-binds the reflexive *seg selv* across the R-expression *Per*. As already seen in (53b) above, *Per* itself must be coreferential with *hans*. In contrast to one's expectations, this does not result in a Condition C violation in (60) (for related facts in the German pre-nominal PDC, see Krause 1999).

- (60) *bildet hans_i Per_i av {seg selv_i / *Per_i}*
 picture-DEF his Per of {REFL / Per}
 'Per's picture of himself/Per'

Similar facts hold for a complement of the matrix head noun when that complement contains a possessive of its own. Again, *hans* can bind the reflexive *sin* but not the nominal *Per*:

- (61) *bildet hans_i av broren {sin_i / *til Per_i}*
 picture-DEF his of brother-DEF {REFL / of Per}
 'his picture of his/Per's brother'

Note also that with *Per* deeply embedded inside the *av*-phrase, it cannot c-command *hans*. As such, the ungrammaticality of (61) cannot follow from a Condition B violation.

Again, the addition of *Per* does not change the Binding possibilities:

- (62) *bildet hans_i Per_i av broren {sin_i / *til Per_i}*
 picture-DEF his Per of brother-DEF {REFL / of Per}
 'Per's picture of his/Per's brother'

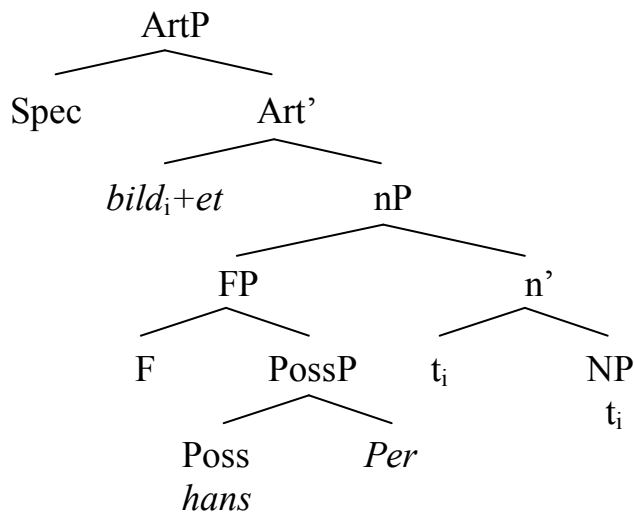
To summarize, I have shown that *hans* should be in an A-position in traditional terms c-commanding the complement of *av*. At the same time, however, this does not lead to a Condition C violation with regard to *Per* inside the post-nominal PDC.

In order to explain this paradoxical situation, recall that I base-generate the FP in the nP-shell, with the possessor complement to the right of the

possessive head (cf. (28b)). In other words, I propose that the post-nominal PDC is a possessive in situ, with the head noun *bild* ‘picture’ raised to an assumed Article Phrase (ArtP):³⁰

- (63) a. *bildet hans Per*
 picture-DEF his Per
 ‘Per’s picture’

b. *Post-nominal PDC*



Also, as seen above, the possessor *Per* is, in some sense, “optional”. Above, I argued for the null possessor *pro*, if the possessive pronoun appears to be by itself:

- (64) a. *bildet hans*
 picture-DEF his
 ‘his picture’

- b. [*bild_i-et* [_{nP} [_{FP} [_{PossP} *hans* [_{DP} *pro*]]] *t_i* [_{NP} *t_i*]]]

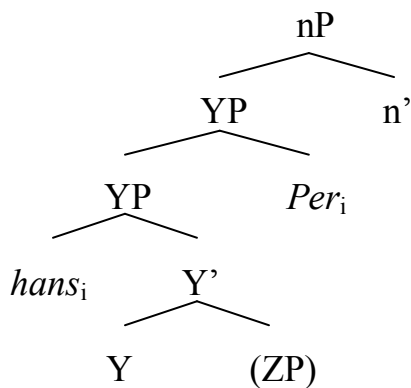
Now, considering these structures, one can observe again that the possessive pronoun is in the head position of Poss. In other words, I proposed above that it

³⁰ For a more detailed discussion of the derivation of the Scandinavian DP, see Julien (2005a) and Roehrs (2009a: Chapter 2).

is not a pronoun at all but a predicate head. This, then, explains the lack of a Condition C violation. I return to the discussion of DP-internal Binding in section 4.3. I suggest there that Binding is most likely semantic in nature where the possessive pronoun plays a mediating role.

Finally note that there is an alternative account of the post-nominal PDC, where *hans* does not c-command *Per*. If this analysis could be upheld, it would weaken the proposal that the possessive pronoun is a predicate. Specifically, assuming as above that the constituent *hans Per* is in Spec,nP, one could propose that *hans* is in Spec,YP, an A-position, and *Per* is right-adjoined to YP:

(65) *Alternative Analysis of the PDC (Incorrect)*



Taking the first branching segment (rather than node) to be the relevant characteristics of c-command, *hans* would not c-command *Per* and a Condition C violation would not be expected. Furthermore, with *Per* in an A'-position, one would not expect a Condition B violation with regard to *hans* either. Note, however, that if one defines c-command in such a way, then all the other Binding facts become mysterious as *hans* could never c-command out of YP and Spec,nP in general. Thus, an approach involving the lack of c-command of *hans* with regard to *Per* will not work to explain the lack of a Condition C violation in the post-nominal PDC.

To sum up so far, I have shown four arguments that the possessive contains a head. They were derived from different lexical categories of the possessive head, different morphological cases on the possessor, possessors as arguments, and the lack of Condition C violations with DP-internal Binding. I turn to another argument.

3.5. Reflexivity and Agreement in Phi-features

In section 2, I proposed that possessive pronouns like German *sein* ‘his’ consist of a possessive head *s-* and *ein*. Among others, this derived the fact that post-nominal PDC are not possible in German. As seen in the previous section, this type of possessive is possible in the Scandinavian languages. In this section, I will propose that the Scandinavian possessive pronoun *sin* ‘REFL’ is also decompositional but in a different way. Furthermore, I will argue that possessive heads move from Poss to F inside FP. In addition, this section addresses the following questions: (i) in what sense, if any, are possessive pronouns co-indexed with their possessors in the PDC, and (ii) how can one derive the different properties of *sin* and *hans* with regard to DP-external Binding, on the one hand, and with regard to agreement in phi-features with the head noun, on the other?

Recall that the possessor and the possessive pronoun have to be co-indexed in the PDC, independent of the language or the position of the PDC:

- (66) a. $Peter_i \text{ sein}_{i/*k} \text{ Buch}$ (German)
 Peter his book
 ‘Peter’s book’
 b. $Per_i \text{ sin}_{i/*k} \text{ bok}$ (Norwegian)
 Per REFL book
 c. $\text{boken} \text{ hans}_{i/*k} Per_i$
 book-DEF his Per

What makes this interesting is that co-indexations are different for “possessors” that are outside the DP; for instance, when the possessor is the subject in a clause containing the possessum DP. This is what I mean by DP-external Binding. At first glance, it seems to be a lexical property of the possessive pronoun that determines the Binding relations (but see momentarily). For instance, German *sein* ‘his’ can but does not have to be co-indexed with the subject of the clause, (67a). This is in sharp contrast to Norwegian (and some other languages, see Manzelli 1980: 79 table 12), where reflexive *sin* has to be

co-indexed with the subject and pronominal *hans* must not be (e.g., Hestvik 1992). Compare (67b) to (67c):³¹

- (67) a. *Peter_i liest sein_{i/k} Buch* (German)
 Peter reads his book
 ‘Peter reads his book.’
 b. *Per_i leser sin_{i/*k} bok* (Norwegian)
 Per reads REFL book
 c. *Per_i leser hans_{*i/k} bok*
 Per reads his book

To capture the difference between (66) and (67), recall that I proposed above that the possessive pronoun is a predicate functor that is mono-valent; that is, the possessive head obligatorily takes one complement – either an overt possessor or *pro*. For instance, in the discussion of DP-internal Binding in the last section, I proposed that certain post-nominal PDC have a *pro* possessor. To explain the DP-external Binding facts in (67), I suggest the same; namely, that *pro* is the actual possessor inside the DP. Now, with the possessive pronoun a functor (and not an argument), I assume that the possessive head does not bear an index. As such, there is no actual co-indexation between the possessor and the possessive head. In fact, I suggest in section 4.2 that both of these elements stand in an agreement constellation similar to that of subject and predicate. One arrives then at the following picture, where the possessor must be present and only that element bears an index:

³¹ Note that the existence of different possessive pronouns does not imply that these pronouns pattern in a complementary way in all languages. For instance, German has a second element, which behaves basically like Scandinavian *hans*:

(i) *Peter_i liest dessen_{*i/k} Buch.*
 Peter reads his book
 ‘Peter reads somebody else’s book.’

Unlike Scandinavian *sin*, though, *sein* can have both indexations in (67a).

- (68) a. * (pro_i / Per_i) *sin* *bok*
 Per REFL book
 ‘his/Per’s book’
 b. *boken* *hans* * (Per_i / pro_i)
 book-DEF his Per

As a null element, *pro* must be formally licensed and identified where the feature specification of the null element must be recovered from its overt environment (Rizzi 1986). It is licensed as *pro* receives case from the possessive head. Before I turn to its identification and thus the actual derivations of (67) and (68), I discuss the internal structure of possessive pronouns in Scandinavian. This discussion sets up the analysis of the PDC involving *sin* and *hans*, at the end of which I return to the Binding facts.

Above, I proposed that possessive pronouns are similar to demonstratives and adjectives in that all these elements involve extended projections. Making certain assumptions, one can explain a correlation in the Scandinavian languages where a possessive pronoun agreeing with its matrix head noun in phi-features (e.g., *sin*) must be reflexive with regard to its clausal subject; in contrast, a non-agreeing possessive pronoun (e.g., *hans*) cannot be reflexive with regard to its clausal subject.

To begin, I propose that possessive pronouns in Norwegian are also composite forms. Specifically, possessive pronouns consist of a stem and an inflection. The latter are basically the same as the inflections on the indefinite article (the data are from a reviewer but with my own parsing):

- (69) a. *mi-n*, *mi-Ø*, *mi-tt*, *mi-ne* (Norwegian)
 my-MASC, my-FEM, my-NEUT, my-PL
 b. *e-n*, *ei-Ø*, *e-t*, -
 a-MASC, a-FEM, a-NEUT, -

In other words, possessive pronouns are composite forms in both German and Norwegian. They differ in that possessive pronouns and indefinite articles in Norwegian only share the same inflection (cf. Norwegian *mi-n* to German *m-ein* ‘my’).

Turning to the PDC, the third-person possessive pronoun can be parsed as in (70a). Importantly, I assume that *hans* is different. In keeping with section 3.4, I propose that the – what looks like – genitive ending *-s* has been reanalyzed as part of the stem. Hence, I assume that *hans* has no inflection, (70b):

(70)		inflection	+	stem	
a.	<i>sin/si/sitt/sine:</i>	<i>-n/-Ø/-tt/-ne</i>		<i>si+</i>	(Norwegian)
b.	<i>hans:</i>	<i>-</i>		<i>hans</i>	

Suppose that these parts are separately base-generated in the extended projection of the possessive; the inflection is under F and the stem is under Poss. Now, unlike *hans*, the stem *si+* must undergo head movement to F to pick up its inflection.³² This means that *sin* winds up in F but that *hans* remains in situ. Moreover, I assume with Roehrs (2010) that the highest phrase in the extended projection is a phase in the sense of Chomsky (2001). With FP a phase, one can link the different agreement patterns of *sin* and *hans* to their different behavior with regard to reflexivity documented above.

Specifically, suppose that only elements in the edge of the relevant phase are reflexive. Note that both *sin* and *pro* are in the edge. I assume that the obligatory reflexivity follows from a long-distance Agree relation between the subject and *sin*, or rather *sin*'s complement *pro* “filling in” some underspecified N-features in the sense of Richards (1997).³³ In contrast, with *hans* remaining in

³² As proposed in section 2 for adjectival possessives, one may ultimately want to relabel this FP as InflP (at least in the Scandinavian languages). Returning briefly to the more elaborate structure of possessives from section 2.3, one could then also suggest that *si+* does not combine with its inflection by head movement. Rather, one could suggest that, once the possessor has moved to an intermediate specifier, the complement of Infl moves to Spec,InflP:

(i) [InflP [CDP *Per_k* CD [_{VP} *si+* *t_k*]]_i *-n* [_i *t_i*]]

This would derive the fact that *sin*, just like pre-nominal adjectives, always has its complement to the left; that is, it would explain why **si+n Per bok* is ungrammatical but *hans Per bok* is possible (section 4.4).

³³ Note that this long-distance agreement avoids the assumption that *sin* undergoes LF-raising out of DP often suggested in earlier accounts (cf. Chomsky 1986: 175, going back to Lebeaux

situ, the latter is below the edge of the phase and cannot involve reflexivity. These assumptions, then, allow us to capture the correlation between agreement and reflexivity. Consider the actual derivations.

As already fully illustrated with (63b) in section 3.4, the post-nominal PDC in (71a) has FP in situ (i.e., in Spec,nP). The head noun *bok* raises via n to Art as in Julien (2002, 2005a) and Roehrs (2009a). This is shown again in bracketed form in (71b) (I abstract away from the structure of the noun phrase above ArtP here):

- (71) a. *boken hans (Per)*
 book-DEF his Per
 ‘his/Per’s book’
 b. $[_{\text{ArtP}} \text{bok}_i + \text{en} [_{\text{nP}} [_{\text{FP}} [_{\text{PossP}} \text{hans} [_{\text{DP}} \text{pro/Per}]]] t_i [_{\text{NP}} t_i]]]]$

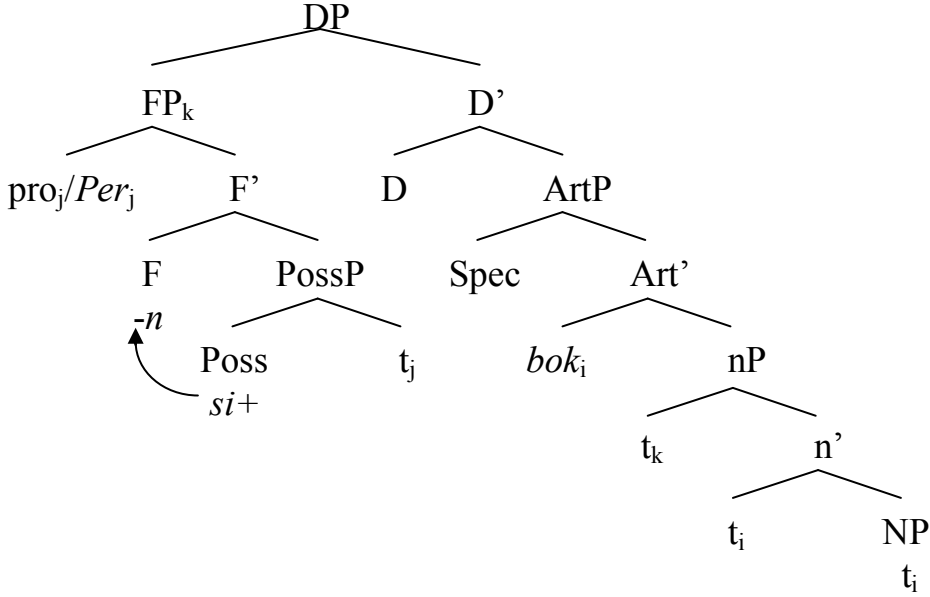
To repeat, according to my assumptions, *hans* stays in situ. This follows from its non-decompositional structure. Crucially, remaining below the edge of the phase FP, it cannot bring about reflexivity.

Turning to the pre-nominal PDC in (72a), the head noun also moves to Art as above. In addition, the possessor and the possessive stem *si+* have moved inside FP and FP itself moves to Spec,DP (for an explanation of the absence of the suffixal determiner in this case, see Julien 2005b):³⁴

- (72) a. *(Per) sin bok*
 Per REFL book
 ‘his/Per’s book’

1983, and Hestvik 1992). More generally, I assume that both agreement relations, Spec-head and Agree, exist in the grammar (see also Franck *et al* 2006).

³⁴ For German possessive pronouns such as *sein* ‘his’, one may assume that the head *s-* moves to F optionally: if *s-* moves, this will bring about a reflexive reading; if it stays in situ, this will result in a non-reflexive reading. Recall also that *s-* combines with *ein*, which is in the matrix DP. With the possessor moved to Spec,FP, adjacency with regard to *ein* will hold with either positional option of *s-* and independently of the mediating function of the possessive head with regard to Binding.

b. *Pre-nominal PDC*

To be clear, *sin* and its argument are in the FP-level, which forms the edge of the phase. As such, this possessive pronoun brings about reflexivity. Note that under my phase and decomposition account, it is no coincidence that agreeing pronouns are reflexive and non-agreeing pronouns are non-reflexive. Finally, I return to the two Binding scenarios from above, where one involves an overt possessor as the DP-internal Bindee and the other is *pro*.

If the DP-internal possessor is overt (as in the “traditional” PDC), there is no *pro*. If there is a DP-external possessor, then the relevant co-indexation results in a Condition C violation. In contrast, if the DP-internal possessor is *pro* (in this paper also analyzed as a PDC), the latter has to be identified. Specifically, Norwegian *sin* will identify the reference of *pro* linguistically and *hans* with the help of discourse-salient factors. This is in keeping with the different decompositional structures of *sin* and *hans* proposed above.

To summarize then, while the overt possessor does not have to be identified, the possessive head takes *pro* as an argument and mediates the identification of the semantic reference of *pro*. This then derives the different Binding relations in (66) and (67) that were illustrated there with different co-indexations. I now turn to a more detailed discussion of some other issues. The following section also provides evidence for the head status of certain possessive elements (albeit in a more tentative way).

4. More Arguments for a Head Inside Possessives

In the next four subsections, I discuss issues, each of which will, in its own right, contribute to the main point of this paper. I will be concerned with the possessive relation and possessives as subjects, I return to DP-internal Binding, and I show that the extended projection of the possessive basically conforms to the Principle of Head Proximity.

4.1. Possessive Relation

So far, I have stayed agnostic about the semantic relation between the possessive and the possessum noun. In the introduction, I labeled this relation ‘possessive relation’. I will claim that this relation actually holds between the complement of the possessive head (i.e., the possessor) and the possessum nominal. I will show that the possessive head, in a certain sense, plays a mediating role (cf. Weiß 2008). I will take this role to indicate the head status of this possessive element. The distinction between non-theta and theta nouns will turn out to be of crucial importance in this discussion.

It is well known that possessives in combination with non-theta possessum nouns can have an (almost) unlimited range of interpretations (Jackendoff 1977: 13, Williams 1982a: 283, for some restrictions, see Barker 1995: chap. 2). As Stockwell *et al.* (1973: 678ff) and Anderson (1983-84: 3) point out, it seems clear that a simple HAVE-relation is not enough to account for the variety of readings. In contrast, possessives with deverbal nouns only allow a limited set of interpretations, namely those typically assigned by their corresponding verbs (Safir 1987, cf. also Haider 1988: 54; Dimitrova-Vulchanova & Giusti 1998: 353).

To illustrate, while *Peter* in *Peter’s car* may be the owner of the car, he could also be the person who mentioned a certain car, drove or washed it, etc. Interlocutors can refer to this car as *Peter’s* in conversation and, given the right context, there is no contradiction in uttering (73a). Such readings are impossible for (73b). For instance, (73b) cannot mean that Caesar told us a different version of the story of the conquest of Gaul than perhaps Peter did. However, it could mean that there were two different campaigns, one led by Caesar and the other

by Peter. As pointed out in section 2.2, the only interpretation possible is that of an agent with regard to *Cäsars* and that of a theme with *Gallien* ‘Gall’:

- (73) a. *Peters Auto gehört seiner Mutter.* (German)
 Peter’s car belongs to his mother
 ‘Peter’s car belongs to his mother.’
 b. *Cäsars Eroberung Galliens*
 Caesar’s conquest Gaul’s
 ‘Caesar’s conquest of Gaul’

Besides this interpretative difference, there is also a distributional one. As already illustrated above, the possessive can also be expressed by a *von*-phrase, which can follow and precede the non-theta possessum noun. Compare (74a) to (74b):

- (74) a. *Das Auto von Peter gehört seiner Mutter.*
 the car of Peter belongs to his mother
 ‘Peter’s car belongs to his mother.’
 b. *Von Peter das Auto gehört seiner Mutter.*
 of Peter the car belongs to his mother

This is different for theta nouns. Here, the preposition *von* ‘of’ can typically not be used with an agentive argument. Rather, German employs *durch* ‘by’ in these instances. Importantly, in contrast to the possessives above, the *durch*-phrase cannot precede the head noun (for similar data in Bulgarian, see Giusti 1996: 124):

- (75) a. *die langwierige Eroberung Galliens {durch/*von} Cäsar*
 the lengthy conquest Gaul’s by / of Caesar
 ‘the lengthy conquest of Gaul by Caesar’
 b. *{?*durch/*von} Cäsar die langwierige Eroberung Galliens*
 by / of Caesar the lengthy conquest Gaul’s

In an intuitive sense, possessives have to be “closer” to theta nouns than to non-theta nouns. To be more precise, it seems clear that possessives in the former case must be inside the DP but possessives in the latter can be base-generated outside the DP proper. I propose that the differences in interpretation and distribution follow from the different head nouns involved and how they combine with the possessives.

Focusing on the typical cases, it seems intuitively clear that the entire possessive is a referring expression (type $\langle e \rangle$). In fact, it often contains a proper name, which is also of type $\langle e \rangle$. Above, I argued that possessives involve possessive heads and possessors where the possessive head is a predicate taking the possessor as an argument. Now, with the possessor of type $\langle e \rangle$, the question arises how the entire possessive comes to be of type $\langle e \rangle$. Two options seem to be plausible: either the possessive head is semantically vacuous or it is a function from entities to entities (type $\langle e, e \rangle$).³⁵ Below, I will show that the latter option is more promising.

Continuing with theta nouns, I assume for current purposes that they are similar to their verbal counterparts in the way they combine with their arguments (i.e., by Functional Application). Given the multi-component structure of possessives, one can represent the possessive relation for theta nouns as follows where the possessor is the semantic argument of the possessive head and the resultant combination, the possessive, is the argument of the theta noun:

(76) $\text{noun}_{\text{theta}}(\text{possessive head}(\text{possessor}))$

It follows from these assumptions that the possessive cannot be base-generated outside of the DP and that the argument theta roles of deverbal head nouns are agent and theme.

Turning to the non-theta nouns, I pointed out above that these readings do not involve the traditional (verbal) theta roles such as agent and theme. With the possessive head a mono-valent functor, I basically follow Szabolcsi (1994: 193) and Zimmermann (1991: 41) in suggesting that the possessive head assigns an

³⁵ Recalling the (in-)definiteness spread discussed in section 3.3, it is clear that $\langle e, e \rangle$ cannot be the type of all possessive functions (as indefinite noun phrases are not of type $\langle e \rangle$). As such, the function needs to be generalized to $\langle \alpha, \alpha \rangle$.

unspecified theta-role to its complement, the possessor, as a formal way to satisfy the theta criterion. As such, possessive heads are not semantically vacuous. With theta nouns, the unspecified theta-role assigned by the possessive head is specified for content by the deverbal head noun as just discussed. In contrast, with non-theta possessum nouns, it is contextually determined allowing a wide range of interpretations.³⁶ This specification of the theta-role of the possessor is what I mean by establishing a possessive relation.

Objects stand in a certain relation to the world containing them, in particular, to the human beings acting upon them. In order to capture the fairly free interpretation of the relation between the possessive and the possessum, I point out that non-theta nouns themselves do not assign theta roles (hence the name); that is, one needs to find an analysis different from (76). There are now two ways to proceed: either the possessive head takes the possessum nominal as a semantic argument, (77a), or the relation between the two elements is less tight as indicated by the dash sign in (77b):

- (77) a. possessive head(possessor, noun_{non-theta})
- b. possessive head(possessor) – noun_{non-theta}

With the internal structure of possessives in mind, the former option essentially makes the possessive head a bivalent functor but the latter does not. As such, the former option would make the semantic role that the possessive head plays even

³⁶ A reviewer wonders what the nature of an unspecified theta-role is. The current proposal could be understood in the context of Dowty (1991), who argues for thematic proto-roles. Simplified, thematic proto-roles are fuzzy, cluster concepts, defined by sets of verbal entailments, which themselves are independent of one another. Setting up an opposition between a Proto-Agent and a Proto-Patient, he suggests that arguments can differ in the degree to which they bear their respective role (which depends on the number of entailments and their relative ranking).

Building on this notion of non-discreteness, one could suggest that an unspecified theta-role is characterized by no entailment or a low-ranking one. (Barker & Dowty 1993 extend this proposal to relational nouns but, with the exception of their footnote 5, do not discuss non-relational nouns such as *book*.)

more direct.³⁷ There are at least two considerations that point in the direction of (77b).

First, recall that these possessive can be base-generated quite far from the possessum. A tight semantic relation as in (77a) would have to be “flexible” enough to accommodate that. This seems undesirable and unlikely. Second, if one were to assume a two-place possessive predicate more generally, then this might cause problems with theta-nouns. Specifically, the possessive predicate would take the non-theta nominal as one of its arguments (cf. (77a)) but the theta head noun itself would take FP as one of its arguments (cf. (76)). At the very least, one would be committed to assume that the possessive head can be both a mono- and a bivalent functor (essentially, depending on a possessive-external element - the type of possessum noun). I believe this makes the option in (77a), at best, not very elegant.

To sum up this subsection, I proposed that the possessive head assigns an unspecified theta-role to its complement, the possessor. This theta-role is then specified contextually (in case of a non-theta head noun) or linguistically (by a deverbal head noun). To avoid confusion, note that the assignment of the unspecified theta-role by the possessive head is different from the identification of *pro* mediated by the possessive head. In the former case, the unspecified theta-role is assigned to its complement, be it overt or *pro*; in the latter case, identifying the reference is only required for *pro*. To refocus the discussion, I argued that possessives involve predicative heads.

4.2. Possessives as Subjects of Noun Phrases

It is often suggested that possessives in noun phrases behave like subjects in clauses (e.g., Chomsky 1970, Haegeman 2004). Above, I already pointed out that unlike sentential subjects, possessives are syntactically optional. However, this apparent optionality of the possessive subject should be restated in terms of its components. As argued above, the individual parts are not optional. This follows from the one-to-one relation between the possessive head and the possessor. If the possessive head is present, so is the possessor and *vice versa*.

³⁷ Among others, this option has been formalized by Higginbotham (1983), who proposes that cases such as *John's cat* are interpreted as [*the x: cat (x) & R (John, x)*], where R is a “relational demonstrative” in Higginbotham’s terms.

From this perspective, possessors (not possessives) behave much in line with sentential subjects. Besides this first issue, there seems to be another potential point of contrast between the nominal and sentential domain.

One of the hallmarks of subjecthood is that subjects agree in person, number, and gender with the finite verb:³⁸

- (78) a. Peter {goes/*go} to school.
b. Peter and Tom {go/*goes} to school.

If one makes parallel assumptions for the noun phrase, one seems to find something else. Specifically, possessors do not agree with their head nouns.³⁹ Thus, while some patterns may be more common than others, a singular possessor can combine with both a singular and plural head noun and a plural possessor can too:

- (79) a. Peter's car(s)
b. Peter and Tom's car(s)

Again, this is surprising if possessives are taken to be similar to subjects in the clause. However, if one interprets the possessive pronoun as the relevant head and the possessor as its subject, then one does find the relevant restriction. To be precise, the possessor has to agree in person, number, and gender with the possessive head (Krause 1999):

- (80) a. *Peter {sein / *ihr} Auto*
Peter his / their car
'Peter's car'
b. *Peter {seine / *ihre} Autos*
Peter his / their cars
'Peter's cars'

³⁸ While agreement in gender is admittedly rarer, it reveals itself in the Russian past tense.

³⁹ This still allows the option of the entire possessive (i.e., the possessor and possessive head as a unit) agreeing with the head noun. This has been reported for Hungarian, among others.

- c. *Peter und Tom {ihr / *sein} Auto*
 Peter and Tom their / his car
 ‘Peter and Tom’s car’
- d. *Peter und Tom {ihre / *seine} Autos*
 Peter and Tom their / his cars
 ‘Peter and Tom’s cars’

To sum up, making the assumption that possessives involve extended projections, possessors do behave like subjects under these assumptions. As such, the agreement inside the possessive assimilates to the cases of subject-verb agreement in the clause supplying an argument for the head status of the possessive predicate. Consequently, the nominal domain, specifically possessives, are becoming more parallel to the sentential one.⁴⁰ I return to the discussion of DP-internal Binding from section 3.4.

4.3. DP-internal Binding

Returning to Binding relations, I argued above that the possessive head, the pronoun, is neither the Binder nor Bindee. Rather, its complement, the overt or covert possessor, is involved in the Binding relations. The question that arises now is how the possessor can bind another element outside the FP if one takes c-command as a necessary requirement for Binding. This can easily be illustrated with PDC:

- (81) a. *bildet* [_{FP} *hans Per_i*] *av seg selv_i*
 picture-DEF his Per of REFL
 ‘Per’s picture of himself’

⁴⁰ It should not be surprising to find other parallelisms between the two domains. For instance, Stockwell *et al.* (1973: 714) state that (ia) and (ib) may be related:

- (i) a. yesterday’s paper
 b. Yesterday saw the beginning of a new quarter at school.

It is also worth mentioning that Sigurðsson (2002: 720) proposes that non-nominative, that is, quirky subjects in Icelandic agree with the finite verb although not fully. With this in mind, possessive subjects are semi-quirky: they have quirky case but do agree with their head fully. Also, a reviewer points out that it might be interesting to investigate if possessors as internal arguments have unaccusative properties. The detailed investigation of these interesting points goes beyond the scope of this paper.

- b. $[_{FP} Per_i sitt] bild \quad av seg selv_i$
 Per REFL picture of REFL
 ‘Per’s picture of himself’

Recalling the structures in (63b) and (72b), it is clear that the possessor cannot c-command out of FP. Continuing with the post-nominal PDC, (81a), there are two options now: first, one could assume that the entire FP is the Binder (for current purposes, the bearer of the index) and c-command would hold, (82a). However, it is not clear how to technically instantiate this (note, e.g., that the possessor is not in a Spec-head relation with the possessive head and it is thus not clear how the index on the possessor could wind up on FP). As such, a syntactic account of Binding based on c-command is not straightforward for these cases. As a second option, one could suggest that the possessor is the Binder after all and the possessive head has some mediating function – perhaps it forms a complex predicate with the head noun. This is illustrated in (82b):

- (82) a. $bildet [_{FP} hans Per]_i av seg selv_i$
 b. $bildet+hans [Per]_i av seg selv_i$

In contrast to the first option, this type of account would be more semantic in nature (see, e.g., Reinhart & Reuland 1993). In view of the above-mentioned issue with (82a), I suspect that the analysis in (82b) is on the right track (cf. Julien 2005a: 156). Note that in the latter case, it is crucial to assume that the possessive head is some type of predicate.

4.4. Principle of Head Proximity

Above I left open a detailed discussion of the cross-linguistic distribution of possessives. While I cannot deal with this topic comprehensively here, I will make a few remarks that are relevant for my main point. In particular, if possessives involve heads and extended projections, it is possible to explain a number of distributions. If so, this discussion leads to another argument for the head status of possessive pronouns.

I have shown that possessives as a whole can precede and follow the head noun. Consider the pre-nominal and post-nominal PDC in (83):

- (83) a. *æ mand {sin / hans} hat* (Western Jutlandic)
 the man REFL / his hat
 ‘the man’s hat’
 (Delsing 1993: 153, Julien 2005a: 222)
- b. *boken hans Per* (Norwegian)
 book-DEF his Per
 ‘Per’s book’

However, there are also some interesting distributional restrictions inside the extended projection of possessives. Specifically, I am not aware that any of the following possibilities exist where the possessor intervenes between the possessive pronoun and the head noun. Hence, I will mark these patterns as ungrammatical:

- (84) a. *huset (*Per) hans*
 house-DEF Per his
 ‘his house’
- b. *huset (*Per) sitt*
 house-DEF Per REFL
- c. *sitt (*Per) hus*
 REFL Per house

With the above discussion in mind, (84a-b) involve FP in situ and the possessor in Spec,FP; (84c) involves FP in Spec,DP and the possessor in situ, that is, in the complement position of Poss. While I have no “deep” account for this, note that these distributions conform to the Principle of Head Proximity discussed in the typological literature (Rijkhoff 1986: 100, 2002: Chapter 9).⁴¹

⁴¹ Observing the syntactic behavior of English *’s*, a number of authors have suggested that the latter is similar to post-positions (see, e.g., Anderson 1983-84, Giorgi & Longobardi 1991: 99; Lyons 1999: 23, 124; Sadler & Arnold 1994: 203). This could be instantiated as in Larson & Cho (1998), who propose that *’s* is the spell-out of THE+*to*, where the (incorporated) locative preposition *to* establishes the possessive relation. Some of these authors also draw a

- (85) The Head of a domain prefers to be contiguous to the Head of its superordinate domain.

As proposed above, the noun phrase embeds the possessive, that is, its extended projection. I assume then that the head of the superordinate domain is the noun and that the head of the subordinate domain is the possessive pronoun.

According to this principle, both heads prefer to be close to one another. This is clearly the case in (83) but not in (84). As such, these data conform to the principle. Note now that this preference principle does not extend to the grammaticality of (86a) and is silent about the ungrammatical case in (86b):⁴²

- (86) a. *hans Per hus* (Northern Swedish)
his Peter house
'Per's house'
(Delsing 1993: 153 fn. 10, 1998: 103)
- b. *huset sitt (*Per)*
house-DEF REFL Per
'his house'

I hasten to point out, though, that the distribution of (86a) is fairly rare. To speculate, then, one might suggest that the workings of this principle have, with a few exceptions, been grammaticalized.

More generally, if the Principle of Head Proximity is applicable here, then one can derive another argument for the proposal that possessive pronouns are heads of an embedded phrase. Finally, I return to the question of constituency of multi-component possessives.

parallelism to adjectives in pre-nominal position, which are subject to the Head-Final Filter (e.g., Williams 1982b); that is, the complement must precede the head. Given my discussion of the possessive pronouns, I believe that the restrictions on the syntactic distribution of possessives are different and should include the post-nominal possessive elements.

⁴² It seems clear that the distributions involving *sin* are more restricted than those of *hans*. While in the former the (overt) possessor must precede the possessive head, this is not the case with the latter (for a possible account of (86b), see footnote 32). Note also that the strings in (86a-b) are not possible in German. Again, this follows from the different composite analysis of the German possessive pronouns.

5. Two Potential Counterarguments

As already documented in section 2.1, the possessive pronoun can be sandwiched between a determiner and a head noun in earlier varieties of German, (87a). With some restrictions, this is still possible in poetic or elevated German, (87b):⁴³

- (87) a. *der sîner snelheite er mohte sagen danc* (Middle High Germ.)
 to.the his speed he could say thanks
 ‘He could thank his speed.’
 (from *Nibelungenlied*, adventure 34, stanza 23, line 2)
- b. *Du bist die meine.*
 you are the my
 ‘You are mine.’

Interestingly, although not entirely perfect, the possessor can also be expressed overtly by inserting it in front of the definite article, (88a).⁴⁴ On the face of it, one could interpret this datum such that the possessor and the possessive pronoun do not form a constituent (see Grohmann & Haegeman 2003: 54 for this conclusion on the basis of similar data in West Flemish, cf. also Corver & van Koppen 2010). If so, this would present a serious challenge to the current analysis. Recall now from section 2.4 that I showed that PDC cannot be split up. At first glance, then, one seems to face a paradox: some data indicate constituency and others militate against it.

⁴³ Unlike in Middle High German, an adjective and/or noun cannot follow in Modern German, (ia). Furthermore, the definite article cannot be replaced by a demonstrative, (ib):

- (i) a. * *Du bist die meine {Hübsche / hübsche Freundin / Freundin}.*
 you are the my beautiful / beautiful girlfriend / girlfriend
 b. * *Du bist diese meine.*
 you are this my

Considering these stylistic and syntactic restrictions, I assume that the distributional possibility in (87b) is part of an older grammar. This also means that the possessive pronoun is not a composite element in that grammar (for the discussion of some diachronic issues, see Demske 2001, Alexiadou 2004, Wood 2007).

⁴⁴ There are German dialects where this type of example seems to be perfect (Weiß 2008: 392 fn. 17). Also, distributions involving *-s* or *von* ‘of’, be they before or after the possessive pronoun, are much more degraded. To save space, this is not shown here.

Note, however, that the above data also involve some other interesting restrictions. For instance, similar to the PDC, there is also a person restriction here, (88b):

- (88) a. *?(?)Das ist dem Peter die Seine.*
 this is the-DAT Peter the his
 ‘This is Peter’s wife.’
 b. *Das ist (*mir) die Meine.*
 this is me the mine
 ‘This is my wife.’

With the above discussion in mind, I will offer an analysis that is compatible with my current assumptions.

First, recall from section 3.1 that *von*-possessives can be base-generated just above the DP and from section 2.3 that possessive elements of the first and second person are in the complement position of the possessive head. As such, they are in complementary distribution with a(nother) overt possessor or *pro* inside FP. With the possessor preceding the determiner in (88a), one can suppose then that the overt possessor is base-generated just above DP and that FP contains *pro* as a possessor when the possessive head is in the third person:

- (89) $[_{XP} \text{dem } Peter_i [_{DP} \text{die} [_{FP} \text{pro}_i \text{Seine}] e_N]]$

Let me briefly comment on this analysis. To assign a possessive interpretation to the “free” overt nominal, I assume that *dem Peter* is “reconstructed” into *pro* indicated here by subscripts (cf. the discussion of semantic reconstruction of predicates in Roehrs 2011a; see also Haegeman’s 2003 discussion of *pro* as a resumptive pronoun in West Flemish). With *pro* missing in first and second-person possessives, an external possessor cannot reconstruct explaining (88b). Furthermore, I suggest that the dative case is due to a default mechanism, which seems to be required independently for certain nominals (for the discussion of “loose” appositions in this respect, see Roehrs 2009b: 314). Moreover, considering the position and inflection of *Seine* ‘his’, I assume that this possessive element is adjectival. Finally, an analysis similar to (89) might also

offer an account for some other phenomena. Before I close this section, let me consider one such case.

Another potential argument against the current proposal might be constructed from extraction facts. To introduce the relevant data, if the entire possessive is extracted, this leads to ungrammaticality, (90a-b). Above, I proposed that PDC and SGC basically have the same structure. As such, it is not surprising that both constructions pattern in the same way. However, a clear difference in grammaticality results if just the possessor is extracted, (90c-d):

- (90) a. * *Wem seine ist das (die) Katze?*
 whom his is that the cat
 ‘Whose cat is that?’
 b. * *Wessen ist das (die) Katze?*
 whose is that the cat
 c. ? *Wem ist das [_{FP} pro seine] Katze?*
 whom is that his cat
 d. * {*Wer* / *Wem* / *Wen*} *ist das [_{FP} pro’s] Katze?*
 who-NOM / whom-DAT / whom-ACC is that’s cat

For (90a-b), I will basically follow Gavrusseva (2000) and Alexiadou, Haegeman & Stavrou (2007: 608ff), who propose that only very high specifiers can be extracted from the DP. Above, I proposed that the possessives underlying (90a-b) are in Spec,DP. One can suggest then that Spec,DP is not such a high position and movement of FP from there is not possible. As to the difference in (90c-d), the fairly good status of (90c) might call into question the current proposal as the possessor appears to have extracted out of FP (the latter being in Spec,DP). With section 2.4 in mind, extraction out of such a specifier position should lead to general ungrammaticality, contrary to fact.

However, recalling the discussion in (89), I assume that there is actually no extraction here at all. Rather, the possessors in (90c-d) are *pro* and the relevant question nominals are base-generated outside the DP. In order for these “free” nominals to receive a possessive interpretation, I would like to suggest that they undergo reconstruction in the sense above. The reason why (90d) is

bad is that, as already pointed out in section 3.3, *-s* cannot encliticize onto null *pro*.

To round off the picture, I pointed out above that *von*-possessives are not in Spec,DP when they occur in the left periphery; they are in a higher specifier. In a way, these types of possessives seem to be the least constrained and, indeed, dislocation to the left here is perfect (the datum is adapted from Fortmann 1996: 126):

- (91) *Von wem hat [der Bruder] angerufen?*
 of whom has the brother called
 ‘Whose brother has called?’

Assuming that possessives can be base-generated outside of the DP proper, one can assimilate (88a), (90c), and (91). More generally, one can state that both counterarguments against the constituency of the PDC are not conclusive. In fact, both may receive a similar account on current assumptions. Returning to the ungrammatical cases from the introduction, one must assume that separate base-generation of the possessor from the possessive pronoun and/or semantic reconstruction are not possible inside the DP proper. In a way to be made more precise in the future, the conditions on the licensing of elements inside the DP proper are stricter than on those outside of it.

6. Conclusion

In this paper, I have argued that a possessive consists of a possessive head and a possessor phrase. Together these elements make up a PossP. In fact, I have argued that a possessive involves an extended projection. Among others, arguments for this claim were derived from movement of the possessive head and the possessor inside the extended projection. It was further proposed that this complex possessive structure as a whole may move inside the matrix DP as a constituent.

Providing an alternative view to the standard account, I believe I have reached a number of interesting results. For instance, I provided numerous

arguments that possessive pronouns have head-like properties. In fact, these pronouns seem to exhibit hybrid characteristics. Without striving to be exhaustive here, they are similar to prepositions (movement of the PDC in Icelandic), to adjectives (decomposition, case and theta-role assignment), and to demonstratives (syntactic distribution). Crucially, all these elements have been independently argued to involve extended projections. I take these commonalities as strong confirmation of the main hypothesis.

Attempting to provide a homogenous account of possession, I had to gloss over a number of details. For instance, this paper did not attempt to account in detail for the differences between the individual constructions, languages, or language families. On the one hand, this was done to keep the topic manageable and to enhance readability. On the other, this had to do with certain empirical gaps and uncertainties about theoretical choices. I hope to return to some of these fascinating issues in the future.

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