The syntax of relativization

de Vries, M.

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1. Introduction

Attributive possessive structures come in several syntactic forms, and so do possessive relatives. In this chapter I try to establish to what extent and how these structures are interrelated. I will show how the theory presented for attributive possessives translates into possessive relatives within the framework of the promotion theory of relatives clauses.

As an illustration, consider the following data from Dutch. Syntactically, there are at least three different ways to shape a possessive relative:

(1) a. de man wiens\(^2\) vader ik ken  
    [the man whose father I know]

b. de man wie zijn vader ik ken  
    [the man whom his father I know]

c. de man van wie ik de vader ken  
    [the man of whom I the father know]

These constructions correspond to the normal attributive possessives in (2) respectively. The examples in (1a) and (2a) contain a prenominal genitive; in (1b)/(2b) we have a possessive pronoun construction; and the variant in (1c)/(2c) contains a periphrastic genitive using the preposition van ‘of’ .

(2) a. ’s mans vader  
    [the man’s father]

b. de man zijn vader  
    [the man his father]

c. de vader van de man  
    [the father of the man]

Since the three variants mean exactly the same, one may wonder why all these options exist to begin with. Consequently, a range of questions arises:

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1. Here wiens ‘whose’ and wie ‘who’ are relative pronouns. Furthermore, zijn ‘his’ is a possessive pronoun, van ‘of’ a preposition and de ‘the’ a definite non-neuter article.

2. In Dutch, wiens is male singular, and wie feminine singular or plural (f/m). The latter has become very formal, if not archaic. It seems that wiens is shifting from a morphological genitive to a Saxon genitive (cf. the Appendix, section A1), which is inert to number or gender.

3. Notably, true morphological genitives are archaic in modern Dutch. Phrases like ’s mans are lexicalized. The topic plus pronoun construction in (1b) and (2b) has a colloquial flavour in the standard language, but is completely acceptable in many dialects and also in Frisian. Often the pronoun is lexically reduced to z’n ‘his’ or d’t ‘her’, but that is not necessary (contrary to what is often suggested in the literature).

4. The Saxon genitive is not relevant here; but see the Appendix.
Are attributive possessive constructions (syntactically) related to each other?
What licences the (abstract) Case of the attributive phrase?
In short, how are the various attributive possessives to be represented syntactically?
How can the syntax of attributive possessives be incorporated into relative constructions?
In particular, how can possessive relatives be treated within the promotion theory of relative clauses?

There are several proposals in the literature concerning possessive structures. Still, many questions are not adequately addressed or not satisfactorily solved, as far as I can judge. Therefore I will try to develop a new approach that covers the pertinent constructions – both attributive possessives and possessive relatives – in a coherent way. I argue that the three constructions are indeed related syntactically, and that the analysis of possessive structures can be incorporated within the promotion theory of relative clauses unproblematically.

Section 2 starts with some general remarks about the function of possession. The syntax of attributive possessives is treated in section 3; the interaction between possessive and relative constructions in section 4. Section 5 discusses pied piping and preposition stranding in relative clauses, in particular exceptionally heavy pied piping; and section 6 concludes the chapter. The Appendix to this chapter addresses some special constructions related to possession; these are the Saxon genitive, the double genitive, independent possessives and the qualitative construction.

2. Prefatory overview: thematic roles and cognitive schemata

What is possession? It has been stated over and over in the literature that it is extraordinarily hard to define, since virtually every relationship between two entities can be expressed by a possessive construction. For instance, his book expresses ownership, his father kinship and his defeat an event whereby the ‘possessor’ has a patient role. Still, in all cases the possessive pronoun his is used.

As a further illustration, thematic roles associated with German genitives as can be found in the literature, can be systematized as follows – adapted from Duden (1998:668/9,302) and De Wit (1997:112/3):

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5 Two important works are Delsing (1993:Ch5) and De Wit (1997).
This state of affairs is confirmed from a typological perspective. For instance, Heine (1997:33) states: "Looking at a wider range of languages it would seem that there is a catalogue of possessive notions that tend to be distinguished in some way or other and that might be relevant for a cross-cultural understanding of [predicative possession]." These seven notions are the following, illustrated with predicative possessive structures:

6 This is not a productive construction; it is restricted to biblical language.
The notions in (4) seem to be subdivisions of (3a), the ‘belong to’ relation. Clearly, the range of meanings associated with predicative possessive constructions is far more limited than the range of meanings associated with attributive possession.

It seems to me that people intuitively distinguish canonical possession, i.e. clear instances of the ‘belong to’ relation. This becomes grammaticalized in a language. Consequently, every relation expressed by means of this syntactic pattern is ‘generalized possessive’, no matter if the relation is far away from the canonical meaning. Thus, in the words of Postma (1997:276):

"We should take possession to be a specific syntactic configuration. This configuration can, by default, be interpreted as a semantic possession."

In accordance with standard conventions, I use the term (generalized) possession for all pertinent constructions. As stated, this includes more than just canonical semantic possession. However, it should be clear that the semantics of generalized possession is not empty. There is an asymmetry between possessor and possessum – see Postma (1997). In addition, Heine (1997:156) agrees with Nikiforidou (1991) on the following points:

"(a) The meanings (or functions) of genitives are motivated rather than arbitrary. (b) They are limited in number and are part of a network of conceptual relationships. (c) This network is similar across languages. (d) There are significant correlations between the synchronic structure and the diachronic development of genitives."

According to Heine, eight cognitive schemata account for the vast majority of possessive constructions in the languages of the world. This is based on a survey of more than 100 different languages. The schemata are summarized in table 1.
Table 1. Cognitive schemata underlying predicative possession, based on Heine (1997:47ff).

<table>
<thead>
<tr>
<th>formula</th>
<th>label of event schema</th>
<th>example</th>
<th>(language)</th>
</tr>
</thead>
<tbody>
<tr>
<td>X takes Y</td>
<td>Action</td>
<td>O menino tem fome. the child takes hunger</td>
<td>[Portuguese]</td>
</tr>
<tr>
<td>Y is (located) at X</td>
<td>Location</td>
<td>U menja kniga at me book</td>
<td>[Russian]</td>
</tr>
<tr>
<td>X is with Y</td>
<td>Companion</td>
<td>O menino esta com fome. the child is with hunger</td>
<td>[Portuguese]</td>
</tr>
<tr>
<td>X’s Y exists</td>
<td>Genitive</td>
<td>Kitab-im var book-my existent</td>
<td>[Turkish]</td>
</tr>
<tr>
<td>Y exists for/to X</td>
<td>Goal</td>
<td>Le livre est à moi. the book is to me</td>
<td>[French]</td>
</tr>
<tr>
<td>Y exists from X</td>
<td>Source</td>
<td>ts’et’u nets’e. cigarette you from</td>
<td>[Slave]</td>
</tr>
<tr>
<td>As for X, Y (of X) exists</td>
<td>Topic</td>
<td>noo=n no-paa?as ?awq l=clit my-brother is</td>
<td>[Luiseno]</td>
</tr>
<tr>
<td>Y is X’s (property)</td>
<td>Equation</td>
<td>Kniga moya book my ‘the book is mine’</td>
<td>[Russian]</td>
</tr>
</tbody>
</table>

As I understand it, Location, Companion, Genitive, Goal and Source are associated with grammaticalized prepositions, or with locative, comitative, genitive, dative and ablative Case, respectively. Many European languages (including English) use the Action schema. A verb like ‘have’ often arises out of the semantic bleaching of verbs such as ‘take’, ‘hold’ or ‘get’.

Next to predicative possession, every known language has a form of attributive possession (Heine 1997). According to Heine, it rarely happens that the same schema is used for predicative and attributive possession. Notably, it is possible that more than two schemata are in use, i.e. there can be secondary strategies. Although the semantic range of relations is larger for attributive than for predicative possessives, only five out of eight schemata are used – see table 2. This stands to reason, since propositional syntax is unavailable.

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7 Slave is an Athapaskan language of the Na-Dene phylum.
Table 2. Cognitive schemata underlying attributive possession, based on Heine (1997:144ff).

<table>
<thead>
<tr>
<th>formula</th>
<th>label of event schema</th>
<th>example</th>
<th>(language)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y at X</td>
<td>Location</td>
<td>Mamadu la bâara</td>
<td>[Maninka]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[Mamadu at] work</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘Mamadu’s work’</td>
<td></td>
</tr>
<tr>
<td>X with Y</td>
<td>Companion</td>
<td>è-ya' kenj kà à-pa' kanj’</td>
<td>[Turkana]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M-aunt his with F-father my ‘my father’s aunt’</td>
<td></td>
</tr>
<tr>
<td>Y for/to X</td>
<td>Goal</td>
<td>la belle mère à Jean</td>
<td>[French]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>the mother-in-law to Jean</td>
<td></td>
</tr>
<tr>
<td>Y from X</td>
<td>Source</td>
<td>het boek van Jan</td>
<td>[Dutch]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>the book of John</td>
<td></td>
</tr>
<tr>
<td>(As for) X, X’s Y</td>
<td>Topic</td>
<td>de boer z’n huis</td>
<td>[Dutch]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>the farmer his house</td>
<td></td>
</tr>
</tbody>
</table>

Thus, predicative and attributive possession are built on the same conceptual templates. That does not automatically mean they are syntactically derived from each other, or from one and the same underlying structure. Heine (1997) claims that attributive possession can be traced back to ‘specification’ in many cases. Sometimes attributive structures are historically derived from clausal possession, but there are also examples that show the opposite development. Adding to this that many attributive structures do not have a clausal parallel and vice versa – e.g. John’s resignation ≠ *John has a resignation; John’s mother ≠ John has a mother; cf. Hulk & Tellier (2000) for further discussion – I will not pursue a unified syntactic view on possession. Rather, I maintain a syntactic split in predicative versus attributive possession – although many constructions may be tightly related, of course. I tentatively assume that Heine’s cognitive templates account for the (semantic) similarities between the two, whilst the syntactic distinction explains the differences. Leaving these general considerations behind, I will focus on attributive possessives in West-Germanic languages in the next section.

3. Attributive possessives in Dutch, German and English

Section 3.1 shows that there are at least seven distinct possessive configurations. I argue that they are syntactically related, where I take the periphrastic construction as the ‘base’. One important reason for this approach is the Case problem to be discussed in 3.2. Section 3.3 argues for the existence of empty prepositions; 3.4 contains the complicated part of the syntactic proposal, where I focus on the derivation of prenominal attributive possession. Section 3.5 comments on some potential alternative ideas; 3.6 is a summary of the analysis. The theory on attributive possession laid down in this section then serves as the basis for the analysis of possessive relatives in section 4.

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8 This is in partial disagreement with Kayne (1994), Den Dikken (1995), and others.
3.1. Various possessive configurations

There are various syntactic ways to express an attributive possessive relation in Dutch and German. Apart from a possessive pronoun (5a), one can use a possessive preposition – i.e. a periphrastic genitive – as in (5b), a post- or prenominal genitive (5c/d), a topic plus possessive pronoun – the ‘adnominal possessive dative’ – (5e), or a Saxon genitive (5f). Not all options may be available at a certain stage of a language, so (5) is partly a diachronic sample.

(5)  a. zijn eer
     b. de eer van de man
     c. de eer des vaderlands
     d. ’s mans eer
     e. de man zijn eer
     f. Joops eer

seine Ehre               die Ehre von dem Mann   [the honour of the man]
                           die Ehre des Vaterlandes [the h. the_gen fatherland_gen]
                           des Mannes Ehre         [the_gen man_gen honour]
                           dem Mann seine Ehre     [the man his honour]
                           Joops Ehre              [Joop’s honour]

In present-day Dutch the real morphological genitive (5c/d) is archaic. In German, the prenominal genitive is also archaic, but the postnominal one is productive; it is preferred over the periphrastic genitive in formal language (if applicable), but it is past its prime in spoken German. The topic construction in (5e) is colloquial in German, and confined mainly to proper names. In Dutch it is fully productive in many dialects, among which colloquial (standard) Dutch. The Saxon genitive (5f) is reserved for proper names. I will return to it in the Appendix.

The following options are not available; see (6). Indeed, from an economic point of view it stands to reason that doublings are excluded.

(6)  a. * van de man, zijn, eer
     b. * seine, Ehre des Mannes
     c. * van ’s mans, (zijn,) eer
     etc.

[of the man his honour]          [his honour the_gen man_gen]
[of the_gen man_gen (his) honour]

The following sections develop a syntactic account for the constructions in (5) and (6).

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9 This construction is colloquial in German. Notice that von dem is usually contracted to vom. However, for clarity I will use the elaborate variant in the text below.

10 Why the article in prenominal genitives is preferably reduced in Dutch, is not clear to me.

11 Apart from these, there are other – related – possessive constructions in e.g. Norwegian, viz. the postnominal possessive pronoun construction (e.g. ‘hatten min’ [hat.the my]) and the proprial possessive construction (e.g. ‘huset hans Per’ [house-the his Per]). See Delsing (1993), and footnote 9 of section A3 in the Appendix to this chapter.

12 See sections 3.4 and 3.6 for further discussion.

13 Although the cognitive schemata of these constructions may differ, there must be some syntactic unity, as argued. The periphrastic genitive belongs to the Source schema, the topic pronoun construction and the Saxon genitive to the Topic construction. Unfortunately, the morphological genitive is etymologically opaque in German and Dutch (Heine, p.c.).
3.2. **Case in possessive constructions**

Generally, Case can be licenced by either a verb (structurally), or a preposition (oblique).

In (7) the nominal head is *eer/Ehre* 'honour' in each construction. The Case of *eer/Ehre* is unproblematically licenced by the syntactic context, e.g. a main verb. How about the dependent nominal phrase (the possessor)?

(7) a. de eer van de man die Ehre von dem Mann [the honour of the man]
b. 's mans eer des Mannes Ehre [the gen. man's honour]
c. zijn eer seine Ehre [his honour]
d. de man zijn eer dem Mann seine Ehre [the man his honour]

In (7a), *de man/dem Mann* has (oblique) objective/dative Case, licenced by the preposition *van/von*. 's *Mans/des Mannes* in (7b) is genitive. The Case of *zijn/seine* in (7c/d) is variable: it agrees with the head noun's Case. *De man/dem Mann* in (7d) is objective/dative.

The last fact is not well-known for Dutch. There are three points which indicate that it is true. First, the construction is analogous to the German one, where the topic possessor is visibly dative. Second, Verhaar (1997) claims that *Jan* is 'appositive' to *z'n boek* in the example *Jan z'n boek* – which is comparable to (7d) – i.e. *Jan z'n* is not a constituent. Third, the contrast between objective and nominative Case can be made explicit if pronouns are used: *h*em<sub>obj</sub> *z'n eer* [him his honour] versus *h*ij<sub>nom</sub> *z'n eer* [he his honour].

In (7a) the Case of the possessor is licenced by the preposition. However, in (7b/c/d) there seems to be no Case licencer. Therefore, these constructions call for an explanation.

If a parallel syntax is assumed for DP and CP (e.g. De Wit 1997) – an attractive idea in itself – the possessor in (7b/c/d) would be a kind of subject, hence carry nominative Case in each example – or genitive Case if that is the intranominal counterpart of nominative. Given the data, this prediction is blatantly wrong. Conversely, the possessors in (8) would seem to be objects hence *both* carry objective/accusative Case, which is also not true.

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14 In this chapter I argue that some prepositions can licence genitive Case (and in general: possessive phrases) on the basis of West-Germanic languages. However, Grosu (1988) and Ritter (1988) argue that D-like elements licence possessive phrases in Rumanian genitives and Hebrew Construct States, respectively. Thus the pertinent theory might be of limited scope. But perhaps these constructions are more complicated than they seem to be, in a way reminiscent of the English Saxon genitive to be discussed in the Appendix. Nevertheless, conclusions in this direction require much more study.

15 Dutch has lost the morphological difference between accusative and dative Case, hence the neutral term 'objective' Case. The difference between nominative and objective Case is only visible in the pronominal system, as in English.

16 This is in accordance with Koelmans (1975) and others, who assume that this construction has developed from a dative construction: *ik heb Jan z'n boek afgeno*men [I have (from) John<sub>nom</sub> his<sub>acc</sub> book<sub>acc</sub> taken]. The same claim has been made for German; cf. Heine (1997:183/4). However, I am not convinced that it is correct.
Moreover, the semantic parallel between (7b/c/d) and (8) is lost.

Instead we might approach this matter quite differently. I consider two points of major importance:\textsuperscript{17}

- The three main forms of attributive possession, the periphrastic (prepositional) genitive, the morphological genitive and the possessive pronoun construction, are used to express the same semantic relations (besides some idiosyncrasies).
- Only the periphrastic genitive provides a clear way to licence the Case of the attribute, viz. by means of a preposition.

Therefore I propose that the prepositional genitive is the syntactic basis for all attributive possessive constructions under discussion.\textsuperscript{18} This basis may be implemented like (9).

\begin{align*}
\text{(9) } & [\text{DP D } [\text{N } [\text{PP P } \text{DP}]]] \\
& \text{[e.g. the honour of the man]}
\end{align*}

Prepositions can licence all kinds of Cases. For instance, in German there are prepositions associated with accusative, dative and genitive. It is imaginable that a grammaticalized preposition changes into a genitive affix, or into an abstract preposition that licences genitive Case. The latter has probably been the case in Dutch and German. Since there is a genitive paradigm, it is implausible that the inflections relate to a single preposition.\textsuperscript{19} Leaving aside speculations about what might have happened in an undocumented past, we may represent the genitive as follows:

\begin{align*}
\text{(10) a. } & \text{de eer van de man } [\text{DP D } [\text{N } [\text{PP P } \text{DP}_{\text{obj}}]]] \quad \text{[the honour of the man]} \\
\text{b. } & \text{de eer des vaderlands } [\text{DP D } [\text{N } [\text{PP P}_{\text{gen}} \text{DP}_{\text{gen}}]]] \quad \text{[the h. the\textsubscript{gen} fatherland\textsubscript{gen}]} \\
\end{align*}

Here $P_{\text{gen}}$ is the abstract preposition that licences genitive Case. The dash indicates that it has no lexical content.

Thus the semantic unity between the two constructions is represented in syntax. Moreover, a solution to the Case problem is offered by means of an abstract preposition, which will be elaborated upon in the next section. I will return to prenominal possessives in section 3.4.

\textsuperscript{17} Moreover, Heine (p.c.) notes that “Prepositional genitives [diachronically] give rise to inflectional genitives, while the reverse is highly unlikely”.\textsuperscript{18}

\textsuperscript{18} In the Hungarian non-dative possessive construction, the possessor bears the same Case as the head noun (moreover the head is marked with a possessive morpheme); cf. Szabolcsi (1984). This suggests that the structure in (9) is inapt for these kind of structures.

\textsuperscript{19} For instance, apart from the regular male/neuter s-affix, male nouns can be ‘weak’: \textit{de weg des heren} ‘the lord’s way’. Feminine and plural DPs do not show the s either, e.g. \textit{de commissaris der koningin} ‘the queen’s commissionar’, \textit{de laatste der Mohikanen} ‘the last of the Mohicans’.
3.3. *Empty prepositions*

The presence of an abstract preposition in genitive constructions can be argued for on a diachronic basis (grammaticalization) and by theory-internal reasons (Case licencing). In addition, there is empirical evidence for the existence of empty prepositions.

Consider the *d-w* alternation in Dutch relative constructions. The relative pronoun *die* is the normal pronoun that agrees with a non-neuter noun. However, in the vicinity of a preposition, relative *die* changes to *wie* in present-day Dutch, as shown in (11).\(^{20}\) (Similarly, the conversion of neuter *dat* to *wat* exists.)

\[(11)\]
\[
\begin{align*}
\text{a. de jongen die/*wie ik zie/bewonder/sla} & \quad \text{[the boy whom I see/admire/hit]} \\
\text{b. de jongen aan wie/*die ik denk} & \quad \text{[the boy of whom I think]} \\
\text{c. de jongen met wie/*die ik spreek} & \quad \text{[the boy with whom I speak]}
\end{align*}
\]

Regardless of the explanation of this alternation, we predict it to take place in possessive relative constructions also, if there is a hidden preposition. This is correct, indeed; see (12).\(^{21}\)

\[(12)\]
\[
\begin{align*}
\text{a. de jongen wiens/*diens vader ik ken} & \quad \text{[the boy whose father I know]} \\
\text{b. de jongen wie zijn/*die zijn vader ik ken} & \quad \text{[the boy whom his father I know]}
\end{align*}
\]

Similarly, relative *die* changes to *wie* if it is an indirect object. One could argue for the presence of an abstract preposition if lexical *aan* 'to' is absent; see (13).

\[(13)\] de man (aan) wie/**die ik het gegeven heb \quad \text{[the man (to) whom I it given have]}

Finally, on the basis of intonation patterns - among other things - Klooster (1995) argues that prepositions of situating time adverbials can be left lexically unrealized, as illustrated in (14).

\[(14)\] die dag = op die dag \\
that day = on that day

Thus there is clear support for the existence of abstract prepositions.

3.4. *Prenominal possession*

Genitive DPs may appear before or after the possessum; recall (15).\(^{22}\)

\[^{20}\] Although this does not explain every *w* in Dutch, it does seem to be an important generalization.
\[^{21}\] Note that *diens* is the demonstrative counterpart of relative *wiens*.
\[^{22}\] Generally, the order is not free. In German, genitives are postnominal nowadays, e.g. *das Haus des Mannes* 'the man's house', but there are some archaic expressions (and well-known titles of old books, etc.) that are prenominal, like *des Knaben Wunderhorn* 'the boy's magic horn'. In Dutch, genitives are archaic, but generally feminine and plural genitives are postnominal, and male and to be continued...
(15) a. 's mans eer des Mannes Ehre [the._gen man._gen honour]
b. de eer des vaderlands die Ehre des Vaterlandes [the h. the._gen fatherland._gen]

Notably, prenominal genitives are definite. As opposed to the situation in postnominal genitives, the main article may not be expressed. This is shown in (16).

(16) * 's mans de eer * des Mannes die Ehre [the man the honour]

What is the analysis for prenominal genitives? Given an underlying structure like (9) – [DP D [N [pp P DP]]] – the PP must have moved to the higher SpecDP – cf. (17).

(17) 's mans eer [[pp P_gen DP_gen] D [N t_pp]] [the._gen man._gen honour]

Here P_gen and D must be empty; DP_gen is 's mans and N is honour.

We cannot simply base-generate PP_gen in SpecDP or an adjunct position for several reasons. First, it would be hard to exclude the spell-out of D, because then it would not have to have a special property in order to licence movement to SpecDP (since there would be no movement). Second, the parallel with postnominal genitives is weakened. Third, lexical PPs are not allowed in SpecDP either (e.g. * met de hoed de man [with the hat the man]; * van de man de eer [of the man the honour]). Fourth, a possessive attributive phrase is neither an adjunct, nor a subject to the head noun, but rather it is a modifying complement. For the periphrastic construction this is obvious. For some prenominal genitives it is obvious, too (e.g. 's mans ontslag 'the man's discharge'), but for some it is not ('s mans schrijven 'the man's writing'). However, given the syntactic and semantic parallels, it would be quite odd to assign a subject status (hence a base specifier position) to only some of the prenominal genitives. Hence the base position of attributive possessives is the complement position of the head noun. Prenominal genitives arise by movement of the genitive.

How can we implement these findings in syntax? It seems reasonable to assume that all projections that represent a generalized possessive relation bear a generalized possessive feature. Thus, a lexical possessive preposition P_pos (van 'of'), a genitive P_gen (possibly ∅), and a genitive DP_gen (e.g. 's mans [the._gen man._gen1]) contain possessive features by definition. This is just the technical reflex of the idea that all possessive constructions are instances of one underlying scheme. Note that a possible genitive Case feature must be separated from the general possessive feature, since the former is more specific. So we have the following feature combinations:

... continued
neuter genitives are prenominal or postnominal. In Middle Dutch genitives were prenominal or postnominal.
(18) + possessive - genitive: \( P_{\text{poss}} \) (van, von)  
- possessive + genitive: \( D_{\text{gen}} \) (’s mans, des Mannes)  
- possessive - genitive: <standard>  
- possessive + genitive: genitive objects of \( V_{\text{gen}} \) or \( P_{\text{gen,poss}} \)  

Suppose that a non-genitive determiner \( D \) optionally selects a possessive feature, or, alternatively, that there is a possessive \( D \) available in the lexicon. So \( D \) belongs to the first class in (18). This determiner \( D_{\text{poss}} \) cannot either be identified as ‘the’ – since ‘the’ is not possessive – nor as ‘the\(_{\text{gen}}\)’, since that has a genitive feature. Thus \( D_{\text{poss}} \) is purely functional in nature; it has no lexical content (but see VII below). Notice that we may assume that \( D_{\text{poss}} \) is [+definite] as well, since an indefinite article is not acceptable in a possessive construction with prenominal material (e.g. *’s mans een eer; * the man’s an honour).

Given the assumptions above, there are several possible derivations, which are systematically reviewed here.

I. \( P_{\text{gen}} \) selects \( D_{\text{gen}} \). This is the only legitimate way to create a genitive noun phrase. Chomsky (1995) does not discuss the mechanism of oblique Case licensing in the Minimalist Program (Chomsky 1995). One may consider it a matter of selection restrictions or covert checking. The choice between these or other alternatives is not important for the purposes here.

II. \( P_{\text{gen}} \) selects \( D_{[+/-\text{poss,}-\text{gen}]} \) or \( P_{[+/-\text{poss, gen}]} \) selects \( D_{\text{gen}} \). Obviously, this crashes. I will only consider the correct variant in I as the input for the larger derivations in III and further on.

III. Within a normal DP, \( N \) selects \( P_{\text{gen}} \). Nothing moves, a postnominal genitive remains, e.g. *de eer des vaderlands [the honour the\(_{\text{gen}}\) fatherland\(_{\text{gen}}\)]. Notice that the main \( D \) cannot be genitive itself, if it has no genitive Case licencer. \( P_{\text{gen}} \) can only licence one \( D_{\text{gen}} \); its complement. Hence *der eer ’s mans [the\(_{\text{gen}}\) way the\(_{\text{gen}}\) man\(_{\text{gen}}\)] is excluded.

IV. Within a normal DP, \( N \) selects \( P_{\text{pos}} \). Nothing moves, a postnominal prepositional genitive remains. That is, PP stays in situ and \( P_{\text{poss}} \) is spelled out as van, e.g. *de eer van de man [the honour of the man].

V. \( D \) is possessive, \( N \) does not have a possessive complement. This crashes. The possessive feature on \( D \) must be checked, but there is no available checker.

VI. \( D \) is possessive, \( N \) selects \( P_{\text{gen}} \). \( P_{\text{gen}} \) moves to SpecDP to check \( D \)’s possessive feature. Then the genitive becomes prenominal. Recall that \( D_{\text{poss}} \) is lexically empty. Example: ’s mans eer [the\(_{\text{gen}}\) man\(_{\text{gen}}\) honour].

---

23 Examples in German are: *berauben seines Geldes ‘rob (of) his\(_{\text{gen}}\) money\(_{\text{gen}}\)’, wegen des Geldes ‘because of the\(_{\text{gen}}\) money\(_{\text{gen}}\)’. 
VII. D is possessive, N selects PP<sub>poss</sub>. Now an interesting situation occurs. From (19) I conclude that D<sub>poss</sub> does not attract PP<sub>poss</sub>: a prenominal PP cannot be lexically prepositional, as I indicated before.\(^{24}\)

(19) * van de man (de) eer 
    [PP<sub>poss</sub> DP<sub>poss</sub> [N t<sub>PP</sub>]]  [of the man (the) honour]
* von dem Mann (die) Ehre

The option in (19) is blocked, because there is a more economical derivation, which involves head movement of P. Instead of pied piping the whole PP, P<sub>poss</sub> incorporates into D<sub>poss</sub>.\(^{25}\) This produces a possessive pronoun; see (20).\(^{26}\)

(20) zijn eer .../ seine Ehre ... 
    [PP<sub>poss</sub>+D<sub>poss</sub> [N [PP t<sub>p</sub> ...]]]  [his honour...]

By assumption the complex head [P+D]<sub>poss</sub> lexically yields a possessive pronoun.\(^{27}\) Why is D<sub>poss</sub> not a possessive pronoun by itself? An important reason is that an argument (here: DP) cannot carry two theta roles; see also De Wit (1997).\(^{28}\) Since DP, an extended projection of N, is an argument within its syntactic context, D is already associated with a θ-role. Therefore the ‘possessor’ role cannot be assigned to D as well. This role should reside in PP then. This view concords with the fact that PP is selected by N. Notably, a preposition alone is not a possessive pronoun: possessive P is identified as of. Hence P and D must form an alliance: P provides the possessive character, D the pronominal part.

If P has a DP-complement – i.e. in the topic plus possessive pronoun construction – the derivation is still not finished. The obligatory semantic agreement

\(^{24}\) A prenominal lexical PP can only be interpreted adverbially (Klein & Van den Toorn 1980); see also Cattell (1976) and Corver (1990). PPs and other material cannot be raised out of DP in Dutch. If it appears so, nevertheless, the PP must be an adverbial PP, which is generated as an adjunct. This is shown by the minimal pair in (i/ii), where in (ii) an adverbial interpretation is highly unlikely (but not impossible given a special context). In (i) van wie can be generated as an adverbial PP; contrary, in (ii) it must have been raised from within DP (een boek): an illegal operation. Similarly, (iii), a real genitive – i.e. not an adverbial lexical PP – is ungrammatical.

(i)  Van wie heb je een boek gelezen?  [Of whom have you a book read?]
(ii) * Van wie heb je een boek afgestoft?  [Of whom have you a book dusted?]
(iii) * Wiens heb je boek afgestoft/gelezen?  [Whose have you book dusted/read?]

\(^{25}\) P does not cross a bounding node (which is DP, not NP). N is an intervening head, but is is irrelevant considering the nature of the attraction. Notice that P-to-D movement is independent of possible covert N-to-D movement (cf. Ch4).

\(^{26}\) I do not consider the Italian construction il mio libro [the my book] a counterexample to the pertinent approach. Rather, that language allows for a split D, or an extra layer within DP. See also Bianchi (1995).

\(^{27}\) I use X+Y as an abbreviation for the standard incorporation structure [Y [x X] [γ y]], which is in fact a representation of ‘head adjunction’.

\(^{28}\) Possessive pronouns are not adjectives, either. See De Wit (1997) and the references there. Unfortunately, she treats possessive pronouns and prenominal genitives as the specifier of ‘PosP’, a solution that is against the spirit of the pertinent approach.
between antecedent and pronoun, i.e. the bound reading, must be expressed by a spec-head configuration. Thus DP moves to SpecDP\text{poss}; cf. (21).\footnote{Although the pronoun is 'bound' by spec-head agreement, it can be argued to be locally free in a binding-theoretical sense (as required for pronouns), since the antecedent and the possessive pronoun are not co-arguments. In fact, the antecedent is an argument of the possessive head. For definitions, see De Vries (1998a).}

\begin{equation}
\text{(21) \quad de man zijn eer} \quad \text{[DP DP}_{\text{obj/dat}} \text{P}_{\text{poss}}+\text{D}_{\text{poss}} \quad [N \quad [\text{PP}_t \text{t}_{\text{DP}}]]]}
\end{equation}

\text{dem Mann seine Ehre} \quad \text{the man \ his honour}

Notably, if the antecedent DP does not move, a Binding Principle C violation would occur.

The structure in (21) assures that every phrase gets the right Case. The possessive pronoun is connected with the head noun as if it were a normal determiner, hence they agree in Case, which is determined by their function in the clause, hence licenced by the environment. The topic DP originates as the complement of P (originally \text{van}_+^{\text{obj}}/\text{von}_+^{\text{dat}}), hence gets objective Case in Dutch, and dative Case in German.

The above reasoning implies that a seemingly simple DP like \text{zijn eer} 'his honour' is in fact more complex. The possessive pronoun \text{zijn} is the result of incorporating a possessive preposition into the determiner of \text{eer}. Possibly the pronoun is bound by a fronted \text{pro} complement of P (see section 3.6).

As a final illustration, consider the German phrases in (22). The example in (22a) is archaic and the one in (22c) modern; (22b) is an example of a transitional stage, taken from Paul (1919:325).

\begin{enumerate}
\item a. \text{des Knaben Wunderhorn} \quad \text{[the\_gen boy\_gen wonderhorn]}
\item b. \text{des Teufels sein Gepäck} \quad \text{[the\_gen devil\_gen his baggage]}
\item c. \text{dem Peter sein Haus} \quad \text{[the\_dat Peter\_dat his house]}
\end{enumerate}

In (22a) there is aprenominal genitive PP, which is arrived at by fronting PP\text{gen}. In (22b) there are both a genitive PP and a possessive pronoun, as the result of P\text{gen} incorporation into D\text{poss} and DP\text{gen} topicalization, which is strange because the possessive relation is expressed twice; it seems as if the genitive and the periphrastic construction are mixed up. Notice that this is predicted to be impossible by the feature system introduced, because [poss] is not equal to [gen]. In (22c) the prenominal genitive has disappeared. Still, dative Case on dem Peter can be licenced by P\text{poss}, just like von 'of' licences dative. Again P\text{poss} is spelled out in combination with D\text{poss} as sein 'his'.

\footnote{Technically, it might be that the antecedent DP, which has a topic function within the larger DP\text{poss}, and D\text{poss}, which attracts it, need topic features or something equivalent.}
3.5. A brief evaluation of potential alternatives

At this point let us exclude some potential alternatives to the approach laid down in the sections above.

Take a genitive phrase like *wiens vader* ‘whose father’. The pronoun *wiens* could be analysed on a par with a demonstrative pronoun or an article, as in *die/de vader* ‘that/the father’. If so, it must be a D-head. But then it must bear the same Case as the noun, which is false, obviously. Hence a genitive interrogative pronoun cannot be D.

Suppose, then, that *wiens* is a genitive phrase. If so, it is an XP (say, a DP itself) which could be generated in SpecDP. Somehow, genitive Case is assigned to SpecDP. But what about postnominal genitives, e.g. *de commissaris der koningin* [the commissioner the gen queen gen]? In this construction it is the complement of N that receives genitive Case. (We cannot invoke a right specifier in DP, since the genitive phrase precedes other complements of N: *de commissaris der koningin met die rare hoed* ‘the queen’s commissioner with that silly hat’; *de commissaris met die rare hoed der koningin*.) However, other complements of N (mainly PPs) never receive genitive Case. So there is a Case licensing problem anyway. Moreover, it is not clear how to prevent the head of DP to be filled (*wiens de vader; *whose the father*).

Things become even worse if we add possessive pronouns to this story. A possessive pronoun cannot be in SpecDP, since it agrees in Case with the head noun (it is not genitive, unless accidentally). Hence suppose a possessive pronoun is in D, like an article. If so, it is not excluded that a possessive pronoun would coocur with a prenominal genitive, which is impossible. Still, SpecDP can be filled with a topic, as in *Jan zijn vader* [John his father], or *wie zijn vader* [who his father]. Contrary to prediction, this topic is neither genitive, nor does it agree in Case with the head noun (unless coincidentally), but it is objective (or, more precisely: dative, in German).

The above reasoning shows that naïve assumptions about possessives inevitably lead to major problems. Thus a far more elaborate theory is needed, as I argue throughout this chapter.

3.6. Summary and conclusion

Summarizing what we have so far, there are several ways to spell out a generalized possessive construction: e.g. using a morphological genitive, a possessive pronoun or a preposition. The unity between these constructions is reflected by ascribing them the same syntactic base structure. Technically, \(P_{gen}, P_{poss}\), and \(D_{poss}\) bear a generalized possessive feature. The structures of the relevant constructions are the following:
(23) a. de eer van de man
die Ehre von dem Mann

b. de eer des vaderlands
die Ehre des Vaterlandes

c. 's mans eer
des Mannes Ehre
di e e er

d. diens eer
dessen Ehre
di e e er

e. de man zijn eer
dem Mann seine Ehre
di e e er

f. zijn eer
sein e Ehre
di e e er

g. die (man) zijn eer
jenem (Mann) seine Ehre

The (normal) main D in (23a/b) does not have a possessive feature; in (23c-g) it does, hence the raising of P or PP in order to check it. P_{poss} is van/von in Dutch and German, respectively. It licences objective or dative Case. Genitive Case is licenced by an abstract P_{gen}. Possibly P_{gen} can be identified as a genitive affix in other languages, but not so in Dutch and German.31 By assumption, D_{poss} also lacks a phonetic counterpart. This is indicated by bars in (23). However, if lexical P_{poss} incorporates into D_{poss}, this produces a possessive pronoun. Overt head movement of abstract P_{gen} to D_{poss} is blocked, since that does not produce a word (but see the transitional stage in (22b)). Therefore the whole PP raises to SpecDP, cf. (23c/d). In (23e/g), and probably (23f), there is additional topicalization of the antecedent DP.32 Thus a spec-head relation is established between the bound pronoun and the antecedent, and a violation of Binding Principle C is avoided. However, since it is not clear whether this is the cause or result of the movement, it might be that an additional topic feature is involved.

Finally, notice that it is correctly predicted that the periphrastic genitive, the morphological genitive and possessive pronouns do not cooccur, since all these options use the P and D head differently; see (24). The explanation is given directly below.

(24) a. * zijn, eer van de man,
his honour of the man

b. * 's mans; eer van de man,
the_{gen} man_{gen} honour of the man

* seine, Ehre von dem Mann,

31 Klooster (1997) supposes that a genitive projection is headed by a genitive determiner which is spelled out as s. I rather stick to the idea of a prepositional phrase, because of several reasons. First we can maintain the generalization that only verbs and prepositions licence Case, second the parallelism between the constructions in (23) would be lost otherwise, and third the s is not part of all paradigms.

32 It could be that PP raises, not only DP. Since P is empty, one cannot be sure. However, I will not assume unnecessary pied piping, which – moreover – would possibly block a direct spec-head relation between antecedent DP and possessive pronoun.
In (24a) the derivation of *zijn implies incorporation of P into D – cf. (23f) – hence P cannot be spelled out in situ as the periphrastic van. In (24b) the derivation of the prenominal genitive *'s mans implies movement of the PP complement of N to SpecDP – cf. (23c) – hence PP cannot be spelled out in situ as a periphrastic genitive. (See however the Appendix to this chapter on double object constructions and double genitives.) Finally, (24c) is impossible because if a possessive P incorporates into D in order to create a possessive pronoun, it cannot licence the genitive Case of the prenominal constituent any longer.

The next section continues with possessive relatives. Special constructions such as the Saxon genitive and the double genitive are treated of in the Appendix.

4. Possessive relatives

Given this framework for attributive possession, we can move on to possessive relatives at this point. Section 4.1 is an outline of the relevant data; section 4.2 contains the analysis.

4.1. Outline of the data

There are various ways to shape a possessive relative, as shown in (25) through (27) for Dutch, German and English. The construction in (a) resembles the morphological genitive – cf. (5c/d) above; the one in (b) the topic plus pronoun construction – cf. (5e); and the one in (c) the periphrastic (prepositional) genitive – cf. (5b). Since Dutch has more possibilities than the other two languages, I will mainly refer to Dutch, henceforth.

(25) a. de man wiens vader ik ken [the man whose father I know]
b. de man wie zijn vader ik ken [the man whom his father I know]
c. de man van wie ik de vader ken [the man of whom I the father know]
c.' de winkel waarvan ik de eigenaar ken [the shop where.of I the owner know]
c." de winkel waar ik de eigenaar van ken [the shop where I the owner of know]

(26) a. der Mann dessen Vater ich kenne
b. * der Mann dem seinen Vater ich kenne
c. der Mann von dem ich den Vater kenne
c.' das Geschäft wovon ich den Inhaber kenne
c." * das Geschäft wo ich den Inhaber von kenne

33 However, an example similar to (24b) that was acceptable in a transitional stage of German, has been discussed in (22b) above.
From the data some patterns emerge. First note that all Dutch possessive relative constructions contain a relative pronoun in w-format; compare (25) to (28).

This is striking, since the normal relatives are die and dat with a d, e.g. de jongen die ik ken ‘the boy whom I know’. In fact, in Middle Dutch (28a/b/c) was correct; and it is still this way in present-day German; cf. (26a/c).

Second, if the possessum forms one constituent with the relative pronoun (D_rel), e.g. wiens vader/wie zijn vader in (25a/b), an article may not be expressed and the whole DP gets a definite interpretation automatically; see the contrast with (29).

(29) a. * de jongen wiens de/een vader ik ken [the boy whose/the/a father I know] b. * de jongen wie zijn de/een vader ik ken [the boy whom his/the/a father I know]

However, if D_rel and NP are separated – as in (25c/c'/c'') – the article is expressed, e.g. van wie ... de vader. Therefore the phrase can also be indefinite:

(30) a. de jongen van wie ik een vriend ken [the boy of whom I a friend know] b. de winkel waar van ik een klant ken [the shop where.of I a customer know] c. de winkel waar ik een klant van ken [the shop where I a customer of know]

Moreover, if D_rel and NP are separated, a preposition (van) is obligatory; see (25) versus (31).

(31) a. * de jongen wiens ik (de) vader ken [the boy whose I (the) father know] b. * de jongen wie zijn ik (de) vader ken [the boy whom his I (the) father know] c. * de jongen wie ik (de) vader ken [the boy whom I (the) father know] d. * de winkel waar ik (de) eigenaar ken [the shop where I (the) owner know]

On the contrary, if D_rel and NP are one constituent, this preposition is impossible; see (32).
For now, this concludes a list of five relevant properties to be explained.

My goal is twofold. I try to derive these possessive structures and their properties in a way that matches the claims concerning attributive possessives laid down in the previous sections; moreover, the analysis must be compatible with the promotion theory of relative clauses.

4.2. Analysis

The promotion theory of relative clauses has been discussed in Chapters 3, 4 and 5. The technical aspects for postnominal D N RC languages such as Dutch, German and English can be summarized as follows. The subordinate clause is the complement of the matrix determiner. The head noun originates in the relative clause. Within that clause, it must be promoted to be licenced (and become recognizable) as the head noun. Two steps in the derivation are crucial here. First, movement of DP_rel to SpecCP. (Recall that D_rel bears a wh-feature). Second, movement of the head NP to SpecDP_rel. Thus agreement between NP and D_rel can be established in a spec-head configuration. Moreover, NP reaches the highest specifier position, where a connection with the outer determiner can be made. This is shown in (33).

(33) a. de jongen die ik ken

b. [DP de [CP ik ken [DP_rel die [NP jongen]]]]

c. [DP de [CP [DP_rel [NP jongen] die t_np ]] ik ken t_DP-rel ]

There are sentences involving heavy pied piping that seem hard to explain; these are discussed in section 5. See also Bianchi (1995:ChVI).

I have argued in Chapter 4 that there is formal feature movement of N to D; this (as well as intermediate movements of DP_rel to AgrOP, etc.) is left out of the representation here in order to prevent unnecessary complexity.
Consider what happens in a possessive PP that contains a relative DP. Let us start with the periphrastic possessive relative. The underlying structure is given in (34a). Recall that Dutch relative pronouns receive a lexical *w* in the vicinity of a preposition from section 3.3 above. Suppose that this relation between *P* and *D*\textsubscript{rel} is reflected in syntax. If so, it can be implemented in the following way. The relation is covert — that is, there is no overt movement, although there is a lexical change — thus it could involve incorporation of the formal features (FF) of *D*\textsubscript{rel} into *P*, whilst the phonological features (PF) are left behind; see (34b). This is just a technical solution for a process called ‘feature percolation’, also discussed in Chapter 4.

\[
\begin{align*}
(34) \ a. \ & [P \ D_{rel} \ NP] \quad \text{"van die jongen"} \\
& \quad \text{[of that\textsubscript{rel} boy]} \\
& b. \ & [P \ D_{rel, FF+P} \ [D_{rel, PF} \ NP]] \quad \text{"van wie jongen"} \quad \text{[of that\textsubscript{rel, w} boy]}
\end{align*}
\]

Although not lexically marked, the same relation must be there in English and German.

In simple promotion structures, e.g. in (33), the agreement between *D*\textsubscript{rel} and NP is checked in spec-head configuration, i.e. NP (the complement of *D*\textsubscript{rel}) raises to SpecDP\textsubscript{rel}. In the possessive construction (34), however, there is a formal chain between *D*\textsubscript{rel} and *P*, so NP is attracted to SpecPP instead:

\[
(35) \ [P \ NP \ D_{rel, FF+P} \ [D_{rel, PF} \ \text{t\textsubscript{np}}]] \quad \text{jongen van wie} \quad \text{‘boy of whom’}
\]

In Minimalist terms: SpecDP\textsubscript{rel} and SpecPP are equidistant. In fact, SpecDP\textsubscript{rel} need not be projected at all.

If *P* is possessive *van*. (35) becomes *jongen van wie* ‘boy of whom’. Thus, lexically, NP must be in SpecPP. Reasoning backwards, this can only be the case if the heads *D*\textsubscript{rel} and *P* are in a tight relationship, so that their formal features are shared.\footnote{Notice that LF-raising of *D*\textsubscript{rel} is not a feasible alternative to overt formal-feature movement, because NP raises to SpecPP overtly. This confirms the model of grammar presented in Chapter 1, where derivations are strictly cyclic.}

Ultimately, the whole PP is promoted to SpecCP of the subordinate clause, since every *D*\textsubscript{rel} — consequently PP in (35) — bears a *wh*-feature. For example, the derivation of (36a) is given in (36b/c).

\[
\begin{align*}
(36) \ a. \ & \text{de jongen van wie ik de vader ken} \quad \text{[the boy of whom I the father know]} \\
& b. \ & \text{[VP \ [PP \ van \ [DP \textsubscript{rel} die jongen]] [VP ik de vader ken]]} \quad \rightarrow \\
& c. \ & \text{[CP \ [PP, jongen van wie] [IP ik de vader t\textsubscript{pp} ken]]}
\end{align*}
\]

Following Klein & Van den Toorn's (1980) conclusion that preposed prepositional phrases must be interpreted as adjunct PPs, I suppose that the relative PP in (36) is generated as an adjunct to VP. Due to an internal *wh*-feature, PP moves to SpecCP. CP itself is the complement of a determiner in the main clause. The internal structure of PP equals (35). Movements within IP are not specified, because they are not directly relevant, here.
If a relative pronoun is turned into an R-pronoun, the linear order between preposition and relative pronoun is reversed (van wie versus waarvan). Following Van Riemsdijk (1978a), I suppose the complement of P – here: DP\textsubscript{rel} – moves to SpecPP. This leads to the pair in (37).\textsuperscript{37}

(37) a. \[ [PP [DP\textsubscript{rel} NP D\textsubscript{rel} t\textsubscript{np}] P t\textsubscript{DP-rel}] \quad \text{winkel waarvan} \quad [\text{shop where.of}] \]

\[ \uparrow \quad \kappa \quad \]  

b. \[ [PP NP D\textsubscript{rel,PP+P} [DP\textsubscript{rel} D\textsubscript{rel,PP} t\textsubscript{np}]] \quad \text{jongen van wie} \quad [\text{boy of whom}] \]

Given this analysis, both pied piping and preposition stranding can be represented conveniently. Either the whole PP in (37a) moves, or its specifier, DP\textsubscript{rel}, as shown in (38):

(38) a. \[ \text{de winkel waarvan ik de eigenaar ken} \quad [\text{the shop where.of I the owner know}] \]

b. \[ \text{de winkel waar ik de eigenaar van ken} \quad [\text{the shop where I the owner of know}] \]

This also makes clear why stranding is only possible with R-pronouns and not in (37b), e.g. *\text{de jongen wie ik de vader van ken} [the boy whom I the father of know], since \text{jongen wie} is not a constituent in (37b). Preposition stranding and pied piping are discussed further in section 5.1.

Next, consider the possessive relatives without an overt preposition, repeated in (39).

(39) a. \[ \text{de jongen wiens vader ik ken} \quad [\text{the boy whose father I know}] \]

b. \[ \text{de jongen wie zijn vader ik ken} \quad [\text{the boy whom his father I know}] \]

The underlying structure of the raised DP \text{jongen} \ldots vader is given in (40), which can be paraphrased as ‘the father of which boy’.

(40) \[ [DP D\textsubscript{poss} [NP\textsubscript{1} vader [PP P\textsubscript{gen/poss} [DP\textsubscript{rel} D\textsubscript{rel} [NP\textsubscript{2} jongen]]]]]] \]

\textsuperscript{37} Alternatively, it could be that D\textsubscript{rel} overtly incorporates into P (as I assumed in De Vries (1996)), since waarvan ‘where.of’ is one phonological word. If so, NP moves to SpecPP and the pair in (37) becomes really minimal. However, this leads to difficulties in preposition stranding cases. In fact, we need [NP D\textsubscript{rel}] to remain a constituent. Excorporation does not solve the problem, because \textit{wh}-movement is XP movement, so where could D\textsubscript{rel} be positioned after excorporation? Notice, moreover, that the R-transformation does not always lead to a phonological word, e.g. \textit{over iets} \rightarrow \textit{ergens over} ‘about something’.
There are two possibilities. If $P$ is genitive, it is phonetically empty, but provides genitive Case for its complement, $D_P$. Similar to the analysis for prenominal genitives, $PP$ raises to Spec$D_P$ in order to check the possessive feature. As stated, $D_{rel}$ and $P$ are connected by formal feature movement, which yields the $w$-format of $D_{rel}$. Hence $D_{rel}$ becomes $wiens$, the male genitive of $wie$. As before, $NP_2$ (jongen) raises to Spec$PP$ to check agreement with $D_{rel}$; cf. (35). Thus (40) is spelled out as *jongen wiens vader* 'boy whose father' – compare the derivation in (23c):

(41) $\left[ D_P \left[ PP \left[ NP_2 \text{jongen} \right] D_{rel, FF} + P \right] \right] D_{pos} \left[ NP_1 \text{vader} t_{PP} \right]$

Alternatively, if $P$ is only possessive, not genitive, the possessive $P$ will incorporate into $D_{pos}$. This is similar to the derivation of normal possessives like *Joop zijn boek* [Joop his book]. Again, the complex $[D+P]_{pos}$ is spelled out as a possessive pronoun, and $D_{rel}$ moves to the main specifier. Within $D_{rel}$, $NP_2$ moves to the specifier position, as before. This yields (42) – compare the derivation in (23c):

(42) $\left[ D_P [D_{rel, FF} wie \left[ t_{NP_2} \right] D_{pos} \left[ D_{rel} wie \left[ NP_2 \text{zijn} \right] \right] \right] \left[ NP_1 \text{vader} t_{PP}+D_{rel, FF} t_{DP_{rel}} \right]$}

Embedding these DP-structures in a relative clause results in raising the whole DP to Spec$CP$, according to the promotion theory; cf. (43).

(43) a. *de [CP jongen wiens vader] ik $t_{QP}$ ken*
   b. *de [CP jongen wie zijn vader] ik $t_{QP}$ ken*

Thus the right word order is derived. Now the whole structure can be inserted into the main clause. The head noun is (covertly) combined with the main determiner. They agree in $\Phi$-features and bear the same Case, which is checked in the matrix clause (e.g. with $I$ or Agr$O$).

Once the analyses for the various possessive relative clauses in (25) – repeated as (44) – are known, it is easy to exclude the ungrammatical options in (28), (29), (31) and (32) above. (The relevant examples will be repeated below.)

(44) a. *de man wiens vader ik ken* [the man whose father I know]
   b. *de man wie zijn vader ik ken* [the man whom his father I know]
   c. *de man van wie ik de vader ken* [the man of whom I the father know]
   c.' *de winkel waarvan ik de eigenaar ken* [the shop where of I the owner know]
   c.*** *de winkel waar ik de eigenaar van ken* [the shop where I the owner of know]

First, it stands to reason that the main DP in (41) and (42) moves, and not $D_{rel}$ or $PP$ alone (stranding $NP_1$), since movement out of a DP is illegal (see also footnote 24). This explains the ungrammaticality of sentences like (45) = (31).
POSSESSION

(45) a. * de jongen wiens ik (de) vader ken [the boy whose I (the) father know]
    b. * de jongen wie zijn ik (de) vader ken [the boy whom his I (the) father know]
    c. * de jongen wie ik (de) vader ken [the boy whom I (the) father know]
    d. * de winkel waar ik (de) eigenaar ken [the shop where I (the) owner know]

Second, the relation between D_rel and P causes a $d \rightarrow w$ alternation in Dutch, thus $d$-relatives are overruled; see (46) = (28).

(46) a. * de jongen diens vader ik ken [the boy whose/a father I know]
    b. * de jongen die zijn vader ik ken [the boy whom his/a father I know]
    c. * de jongen van die ik de vader ken [the boy of whom/a the father know]
    c. ′ * de winkel daarvan ik de eigenaar ken [the shop there/a of I the owner know]
    c. ′′ * de winkel daar ik de eigenaar van ken [the shop there I the owner of know]

Third, the relation between D_pos and P_pos assures that D cannot be spelled out as a normal determiner; see (47) = (29).

(47) a. * de jongen wiens de/een vader ik ken [the boy whose/the/a father I know]
    b. * de jongen wie zijn de/een vader ik ken [the boy whom his/the/a father I know]

Recall that a prenominal possessive phrase excludes an indefinite article, as well. 38

Fourth, once lexical fronted PPs are recognized as adjuncts (cf. footnote 24), it follows that the possessum cannot be pied piped to SpecCP in a relative clause, since PP and DP do not form a constituent. Thus sentences like (48) are automatically excluded; see also (32) above.

(48) * de jongen van wie(ns) vader ik ken [the boy of who(se) father I know]

Fifth, if lexical PPs are fronted, the possessum DP is independent and D can be spelled out, contrary to the situation in genitive and possessive pronoun constructions, see e.g. the contrast in (49), or compare (25c/c′/c″) / (30) versus (29) above.

(49) a. de jongen van wie ik de vader ken [the boy of whom I the father know]
    b. * de jongen wie zijn de vader ik ken [the boy whom his the father I know]

Sixth, phrases like (50) are simply impossible because a preposition cannot be genitive and lexically prepositional at the same time.

38 Of course in (47) an indefinite article is semantically odd, but e.g. (i) gives the same pattern:

(i) * de jongen wiens een vriend ik ken [the boy whose a friend I know].

I have assumed that the abstract $D_{pos}$ is [+definite]. This would explain why an indefinite article is impossible. Moreover, if an indefinite article takes the same position as a definite article, there is another reason why it is excluded, since there are no inherently [+possessive] indefinite articles (apart from those in a position where genitive case is licenced, of course). Notice that a quantifier is acceptable: e.g. the boy whose three friends... All this suggests that an indefinite article must be treated on a par with a definite article, and differently from quantifiers.
A similar reasoning accounts for other doublings; see also (32) above.

I conclude that the analysis for normal attributive possession and the promotion theory of relative clauses cooperate in a feasible way to derive the data presented in section 4.1. Other instances of (heavy) pied piping in relative clauses are treated of in the next section.

5. (Heavy) pied piping in relative clauses

This section discusses some residual issues concerning (restrictive) possessive relatives: pied piping and preposition stranding in section 5.1, and heavy pied piping in 5.2.

5.1. Pied piping and preposition stranding

First, consider the regular patterns of pied piping and preposition stranding in (51). For more data see also Smits (1988).

(51) a. de bron waaruit hij putte ‘the well from which he drew’
     b. de bron waar hij uit putte ‘the well which he drew from’

In Dutch, this is only possible with R-pronouns (er ‘there’, daar ‘there’, waar ‘where’, hier ‘here’, ergens ‘somewhere’, nergens ‘nowhere’, overal ‘everywhere’). These are pronouns that are spelled out in a locative form. For some reason, pronouns that are selected by a preposition are often transformed into an R-pronoun. This process goes along with a reversed order of the preposition and the pronoun. According to Van Riemsdijk (1978a) this indicates movement to SpecPP. Hence we have e.g. van dat → ervan ‘of that → there.of’, om wat → waarom ‘around what → where.around / why’, uit welke → waaruit ‘from what → where.from’. In some cases the preposition changes too, e.g. met iets → ergens mee ‘with something → somewhere with’.

This transformation is reserved for non-human pronouns, so van wie → *wievan ‘of whom → *whom.of’ is impossible, because a +human pronoun cannot be replaced by a non-human locative pronoun. In colloquial Dutch the human/non-human distinction can be neglected; this gives van wie → waarvan ‘of whom → where.of’. The examples in (52) show that preposition stranding is dependent on the R-transformation. Consequently, preposition stranding in a relative clause with a human antecedent is not possible, unless a colloquial variant like (52c) is chosen.\(^{39}\)

\(^{39}\) A left-peripheral definite and/or relative R-pronoun may refer to a person in Dutch. However, in other positions or in questions this is not possible in the standard language. Hence we have the following pattern for [+human] reference, where in each case reference to a [-human] is acceptable:

(i) * Hij heeft daarmee/ermee gespeeld. [he has there with played]  \hspace{1cm} \textit{demonstrative to be continued}...
Notice that in English the equivalent of (52b) is acceptable.

I have argued in section 4 that the structure of a phrase like bron waaruit is (53a), and one like jongen met wie is (53b). The relation between Drel and P which triggers the w in Dutch, is checked in spec-head configuration if an R-transformation is possible – hence DPrel moves to SpecPP in (53a) – or else by formal feature movement – hence FF(Drel) moves to P in (53b). The ϕ-features of NP and Drel are checked in a spec-head configuration, so NP moves to SpecDPrel or SpecPP depending on whether Drel and P are linked. (53a) will be elaborated further below.

(53) a. [PP [DPrel NP Drel t] P t] bron waaruit [well where.from]
     \________/ \__ \_____/ [top]
     \_____ \_ \_ \_ \_ \_

b. [PP NP Drel,FF+P [DPrel Drel,PF t]] jongen met wie [boy with whom]
     \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_.

The link between Drel and P in (53b) leads to pied piping automatically, since the wh-feature resides in the complex head D+P, so this gives (52a). On the other hand, the derivation in (53a) is compatible with preposition stranding, as in (51b) or (52c): DPrel is moved further to a higher position, viz. SpecCP. Clearly, preposition stranding is impossible to derive from (53b), because NP and Drel do not form a constituent, cf. (52b).

This is all straightforward, but two questions remain. First, how is pied piping derived from (53a), as exemplified in (51a)? Second, why is preposition stranding as in (52b) possible in English, and how can it be derived? To start with the second question: the answer is that it is not derived from (53b); an English phrase like the boy whom he spoke with must be derived from (53a), just as the thing which he thought of. This can be so since in English lexical R-transformations are not obligatory, but they do exist: thereof, etc. In other words, English allows for movement of a DP to SpecPP (and subsequently to SpecCP) without visibly marking this process as an R-transformation.

... continued

(ii) * Waar heeft hij mee gespeeld? [where has he with played?] interrogative
(iii) Daar heb ik mee gespeeld.[there have I with played] topicaled
(iv) Het meisje, daar heb ik mee gespeeld.[the girl, there have I with played] left-dislocated
(v) Het meisje waar ik mee heb gespeeld.[the girl where I with have played] relative

40 Perhaps there can be simply R-less movement via SpecPP. The question remains why unmarked movement to SpecPP is excluded if there is no further movement: e.g. of which → *which of → which ... of. It seems to me that the fossilized form whereof could cause a blocking effect: it takes precedence over a syntactically formed representation with an equivalent meaning. However, it is not clear if this reasoning is valid for non-possessive contexts.
The first question is more interesting. I have claimed in Chapter 4 that pied piping is the result of feature movement:

**Theorem VI**, from Chapter 4

*pied piping can be the result of feature percolation to a higher head (or projection) which itself does not bear these kind of features.*

In (53b) it is clear that the formal features of D<sub>rel</sub> – including the wh-feature – have moved to P. In (53a) an additional movement is necessary in order to cause pied piping. Therefore assume that D<sub>rel</sub>’s wh-feature optionally percolates up to P (before DP<sub>rel</sub> moves to SpecPP). If it does, this yields (54).

\[(54) \quad [PP_{DP-rel} \ NP\ D_{rel} \ (-wh) \ t_{np}] \ wh+P \ t_{DP-rel}\]  

*bron waaruit*  \[\text{[well where.from]}\]

Notice that “wh+P” is only the formalization of the empirical fact that a larger constituent (e.g. PP) can take over a characteristic (+wh) of an embedded constituent (e.g. DP), which causes pied piping.

To conclude, the regular patterns of pied piping and preposition stranding are found in relative clauses, too. Technically, pied piping can be seen as the result of formal feature movement. If so, the promotion theory of relative clauses has no particular difficulties in deriving the pied piping and preposition facts. The difference between English and Dutch is that English allows for movement of a DP to SpecPP (and subsequently to SpecCP) without lexically marking this process as an R-transformation, contrary to Dutch. This results in a little more liberal behaviour concerning preposition stranding.

### 5.2. Heavy pied piping

At this point consider some data concerning heavy pied piping in possessive relative clauses. I will not repeat the analysis for instances of simpler possessive relatives as discussed in section 4 above. Most examples in this section are in Dutch. André Meinunger (p.c.) has informed me that German shows the same patterns.\(^{41}\)

At first sight it seems that heavy pied piping is excluded in relative clauses, contrary to the situation in questions; see (55) through (58).\(^{42}\) I must state right away

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\(^{41}\) (Heavy) pied piping is also discussed in Bianchi (1995:Ch6), on the basis of Italian. Although her overall approach and technique are somewhat different, she reaches at least some conclusions that conform to the ones in this chapter, namely i) that heavy pied piping can be accounted for within a promotion analysis of relative clauses; ii) that D<sub>a</sub> and P can enter into a relationship which has the (side-)effect that the movement domain for NP is widened. Notably, all examples presented here are restrictive relatives, contrary to the data in Bianchi (1995) that concerns appositive relatives mostly. This difference might be very relevant, but I will not discuss it here.

\(^{42}\) Safir (1986) claims that examples that parallel (55b) are grammatical in English: *that picture, the owner of which Mary knows, is on sale.* Crucially, however, these contain appositive relatives, contrary to (55)ff. At present I am not sure how to treat this kind of heavy pied piping in English appositives. Notably, in Dutch and German, heavy pied piping of this type is (almost) as bad in appositives as in restrictives: *die man, de vader van wie jij hebt uitgenodigd...* 'that man, the father of whom you have invited...''
that this contrast is only apparent: the examples in (a) involve echo questions, really. Therefore, these do not show pied piping at all, but simply topicalization of a large constituent, within which a smaller constituent is questioned in situ. The phrase that must be stressed is underlined in these examples. Thus the (a) and (b) sentences do not involve parallel cases of \( wh \)-movement.

\( (55) \) a. \textit{De vader van wie} heb je uitgenodigd?
   the father of whom have you invited
   
   b. * Ik ken de \textit{man de vader van wie} je uitgenodigd hebt, niet.
       I know the man the father of whom you invited have, not

\( (56) \) a. \textit{De vader van wiens vrouw} heb je uitgenodigd?
   the father of whose wife have you invited
   
   b. * Ik ken de \textit{man de vader van wiens vrouw} je hebt uitgenodigd, niet.
       I know the man the father of whose wife you have invited, not

\( (57) \) a. \textit{De vader van wie zijn vrouw} heb je uitgenodigd?
   the father of who his wife have you invited
   
   b. * Ik ken de \textit{man de vader van wie zijn vrouw} je hebt uitgenodigd, niet.
       I know the man the father of who his wife you have invited, not

\( (58) \) a. \textit{De eigenaar waarvan (/van wat)} heb je uitgenodigd?
   the owner where.of (/ of what) have you invited
   
   b. * Ik ken de \textit{winkel de eigenaar waarvan} je hebt uitgenodigd, niet.
       I know the shop the owner where.of you have invited, not

Obviously, relative clauses cannot invoke an echo reading. Thus it must be explained why heavy pied piping is ungrammatical in these cases.

Now consider the following examples of even heavier pied piping (there is an additional PP). It turns out that these are acceptable. This is a mystery that calls for an explanation.

\( (59) \) a. \textit{Met wiens vader} heb je gisteren gesproken?
   with whose father have you yesterday spoken
   
   a.’ \textit{Aan wiens vader} heb je gisteren gedacht?
   of whose father have you yesterday thought
   
   b. Ik ken de \textit{man met wiens vader} jij gisteren hebt gesproken.
       I know the man with whose father you yesterday have spoken
   
   b.’ Ik ken de \textit{man aan wiens vader} jij gisteren hebt gedacht.
       I know the man of whose father you yesterday have thought

\( (60) \) a. \textit{Met de vader van wie} heb je gisteren gesproken?
   with the father of whom have you yesterday spoken
   
   a.’ \textit{Aan de vader van wie} heb je gisteren gedacht?
   of the father of whom have you yesterday thought
b. Ik ken de man met de vader van wie je gisteren gesproken hebt, niet.  
I know the man with the father of who you yesterday spoken have, not.

b.' Ik ken de man aan de vader van wie je gisteren gedacht hebt, niet.  
I know the man of the father of whom you yesterday thought have, not.

b.'' Ik ken de man in de tuin van wie je gisteren hebt gezeten, niet.  
I know the man in the garden of whom you yesterday have sat, not.

(61) a. Met de vader van wiens vrouw heb je gisteren gesproken?  
with the father of whose wife have you yesterday spoken?

a.' Aan de vader van wiens vrouw heb je gisteren gedacht?  
of the father of whose wife have you yesterday thought.

b. Ik ken de man met de vader van wiens vrouw je gisteren hebt gesproken.  
I know the man with the father of whose wife you yesterday have spoken.

b.' Ik ken de man aan de vader van wiens vrouw je gisteren hebt gedacht, niet.  
I know the man of the father of whom you yesterday have thought, not.

b.'' Ik haat de man onder het wiel van wiens wagen ik gisteren ben gekomen.  
I hate the man under the wheel of whose car I yesterday have come.

(62) a. Met de vader van wie zijn vrouw heb je gisteren gesproken?  
with the father of who his wife have you yesterday spoken.

a.' Aan de vader van wie zijn vrouw heb je gisteren gedacht?  
of the father of who his wife have you yesterday thought.

b. Ik ken de man met de vader van wie zijn vrouw je gisteren hebt gesproken.  
I know the man with the father of who his wife you yesterday have spoken.

b.' Ik ken de man aan de vader van wie zijn vrouw je gisteren hebt gedacht.  
I know the man of the father of who his wife you yesterday have thought.

b.'' Ik ken de man in de tuin van wie zijn vrouw je gisteren hebt gezeten.  
I know the man in the garden of who his wife you yesterday have sat.

Not only are the relative clauses acceptable (although hard to comprehend, of course; but that is only a performance problem), it is also the case that the need for an echo reading is much weaker in the question sentences, compared to the examples in (55a) through (58a).

So the question is why the addition of a prepositional phrase makes heavy pied piping possible. The answer is actually in Theorem VI above: “Pied piping is the result of feature percolation to a higher head (or projection) which itself does not bear these kind of features.” Since wh resides in D originally, it cannot move to another D. On the other hand, D-features can move to P, which is not specified for this kind of features, so there is ‘room’ to host these additions.

Consider first (63), an unacceptable example that shows why (55b) through (58b) are impossible. The selection structure of the relevant phrase to be raised is given in (63a). The movements within the PP must be the usual ones: P and D_{nl} are linked, henceforth NP moves to SpecPP for φ-feature checking; cf. (53b) above. D_{1} and N_{i} are a normal determiner-noun pair, hence they are covertly linked. This gives (63b).
D<sub>rel</sub>'s wh-feature resides in the complex D<sub>rel</sub>+P and has no other place to go. There is no way to derive the desired word order in (63c). Moreover, an example that contains (63) crashes for two reasons: NP does not reach the determiner that selects the relative clause, hence its Case feature and D<sub>matrix</sub>'s φ-features remain unchecked; and the PP is stuck within a DP, hence the wh-feature cannot be checked within the complementizer domain.

Next, consider what happens if (63) is part of a PP. Example (64) shows why (59) through (62) is acceptable. The selection structure of the relevant phrase is (64a). At first, nothing happens within the internal PP. (If something does, the derivation crashes later on, as before.)

As the derivation proceeds, N<sub>1</sub> and subsequently D<sub>1</sub> are merged to the phrase existing at that moment. As usual, N<sub>1</sub> and D<sub>1</sub> are linked. Then DP<sub>1</sub> is selected as the complement of P<sub>1</sub>. At this point the formal features of D<sub>rel</sub> take their chance and move to P<sub>1</sub>. This is the factor that causes pied piping. The link between D<sub>rel</sub> and this preposition licences a w-morphology (as before, but now there is another, higher, P involved). D<sub>rel</sub>'s features attract an NP, as usual. Since N<sub>1</sub> is already allied to D<sub>1</sub>, and excorporation is impossible (cf. Chapter 4, Theorem V.i), the next closest NP is raised: this is NP<sub>2</sub>, as required. All this is shown in (64b). The wh-feature, which is part of the formal features of D<sub>rel</sub>, resides at the highest level now, and this causes pied piping of the whole phrase in (64b) to SpecCP. In fact, the derivation in (64b) is similar to (53b); the only difference is that there is an intermediate DP that does not interfere with the relevant steps in the derivation.

Obviously, (64) is not a very economical derivation. Probably this explains why sentences like this are a bit marginal. However, it is the only grammatical derivation. I will not explain every possible option that leads to a crash, because it is quite clear that if D<sub>rel</sub> does not reach P<sub>1</sub>, NP<sub>2</sub> cannot be raised to SpecPP<sub>1</sub>, which is necessary for promotion, i.e. to check D<sub>matrix</sub>'s φ-features, etc. One issue is interesting, however: what about the possible intermediate landing site in SpecPP<sub>2</sub>? NP<sub>2</sub> cannot move to SpecPP<sub>2</sub> just like that, because there is no trigger for it. If the formal features of D<sub>rel</sub> are moved to P<sub>2</sub>, there is a trigger for NP-movement to the spec of D<sub>rel.</sub> However, since excorporation is impossible, D<sub>rel</sub>, including wh, is stuck in P<sub>2</sub>, consequently NP<sub>2</sub> is stuck in SpecPP<sub>2</sub>. So the derivation will crash. A final option is movement of DP<sub>rel</sub> to SpecPP<sub>2</sub>, so that DP<sub>rel</sub> and P<sub>2</sub> enter a spec-head
relation. This would cause an R-transformation. Now $D_{rel}$ has no reason to move to another (higher) $P$, hence $NP_2$ cannot be moved to the highest specifier position either, and the derivation crashes, because the $\phi$-features of $D_{\text{matrix}}$ cannot be checked. Hence it is predicted that examples like (65b/b') are unacceptable, because they cannot be derived.\footnote{For some people they are marginally acceptable, however. Anyway, there is a contrast between (65b/b') and (59)-(62). It becomes clearer if the antecedent is human. Example (i) is degraded for everybody, I believe. If $waarv\acute{a}n$ 'where.of' is replaced by $van$ 'of who', it is fine. (i) ?* $Ik$ $ken$ de $man$ met de $vader$ waarv\acute{a}n je gisteren gesproken hebt.
I know the man with the father where of you yesterday spoken have
Perhaps (65b/b') is somewhat more acceptable because it fills a gap in the paradigm.}
This prediction is borne out. The examples in (65a/a') are saved by an obligatory echo reading.

(65) a. $Met$ $de$ $eigenaar$ $waarv\acute{a}n$ heb je gisteren gesproken?
with the owner where.of have you yesterday spoken
a.' $Aan$ $de$ $eigenaar$ $waarv\acute{a}n$ heb je gisteren gedacht?
of the owner where.of have you yesterday thought
b. ?* $Ik$ $ken$ de $winkel$ $met$ $de$ $eigenaar$ $waarv\acute{a}n$ je gisteren heb t gesproken.
I know the shop with the owner where.of you yesterday have spoken
b.' ?* $Ik$ $ken$ de $winkel$ $aan$ $de$ $eigenaar$ $waarv\acute{a}n$ je gisteren hebt gedacht, niet.
I know the shop of the owner where.of you yesterday have thought, not

Notice that (65b) differs only minimally from (60b), e.g. (ik ken de) man met de vader van wie... ' (I know the) man with the father of whom...'. The difference is that $D_{rel}$ and $NP_2$ (the antecedent) can move to the highest $P$ and SpecPP, respectively, at once in (60b), whereas the R-transformation in (65b) indicates that an intermediate position must be visited, which leads to inertness, hence to a crash later on.

In short, I have introduced some new data concerning heavy pied piping in restrictive possessive relatives. From these data some apparently mysterious patterns emerge. First, pied piping in relatives is limited, which differs from apparent pied piping in questions. Actually this involves topicalization of constituent containing an echo question. Furthermore, an additional prepositional shell facilitates pied piping in general. On second thoughts this second pattern follows from the nature of feature percolation. A natural restriction on the transmission of properties to a higher projection is that this projection has a nature different from the source projection, so that the properties to be transferred do not collide with properties of a similar kind that already belong to the target projection. I have shown how this idea can be implemented within the promotion theory of relative clauses. Again, the technical analysis is rather complicated (and probably subject to future amendments), but the ideas behind it are actually simple, and most probably on the right track.
6. Conclusion

The facts concerning possessive phrases and possessive relatives are rather complicated. In this chapter I have focused on Dutch, German and English. I have argued that there are three basic possessive constructions: the periphrastic (i.e. lexical prepositional) one, the morphological genitive, and the possessive pronoun construction. These three can express similar semantic relations. The analysis generalizes over these constructions by assigning them a similar underlying structure in syntax. The periphrastic possessive is taken to be the basis, for many reasons: etymological, empirical and theoretical. In my specific implementation, a hidden or lexical preposition that bears a generalized possessive feature, is present in all cases. Thus, the generalization that only verbs and prepositions (i.e. [-N] categories) – or their extended projections – licence Case can be maintained. I have stressed the facts concerning Case throughout this chapter, since they pose difficulties or counter-evidence for several potential alternative approaches to possession. In addition, I have shown that no additional functional layers within DP are needed in order to explain the behaviour of possessives.

Furthermore, the analysis for possessive relatives is an interesting interplay between the theory established for normal possessive structures and the promotion theory of relative clauses argued for in the previous chapters. I have shown that the grammaticality patterns extracted from the data presented follow from the theory unproblematically, even the complicated facts concerning heavy pied piping.

Finally, next to the above discussion of the periphrastic genitive, the morphological genitive and possessive pronouns, I will elaborate upon the Saxon genitive and some other special constructions, viz. the double genitive, multiple objects within nominal phrases, independent possessives and the binominal qualitative construction in the Appendix. Although they have some additional properties, they fit well into the system laid down for ‘normal’ possessives. Future research will have to show if and how the approach to possession and possessive relatives can be extended to possessive constructions in languages other than Dutch, German and English.
Appendix: special constructions

Constructions that I have ignored so far are the Saxon genitive, the double genitive, independent possessives and the qualitative construction:

(1) a. Jo’s friend [Saxon genitive]
b. a friend of Jo’s [double genitive]
c. (it is) hers [independent possessive]
d. a beast of a guy [qualitative]

These are discussed here in separate sections.

A1. The Saxon genitive

Weerman & De Wit (1998) clearly show that the Saxon genitive, the “s-construction” in their terms, – see (2) – is not a real morphological genitive for various reasons.

(2) a. John’s book
b. Jans boek

c. Johanns Buch

d. Mutter’s Buch

[English] [Dutch] [German]

For instance, the form is rigidly –s, irrespective of gender and number. It may differ from suffixes of morphological genitives. This can be shown in German and Dutch:

(3) a. Mutters Buch [mothers book] Saxon genitive
b. das Buch der Mutter [the book the gen mother gen] morphological genitive
c. de moed der wanhoop [the courage the gen despair] morphological genitive
d. een wanhoopsdaad [an act of despair] compound with S. genitive-like s connection

Furthermore, it is rigidly prenominal; compare (4) to (2).

(4) a. * (the) book John’s
b. * (het) boek Jans

c. * (das) Buch Mutters¹

¹ Since the morphological genitive paradigm prescribes -s or -o for proper names in modern German, the distinction between a Saxon genitive and a morphological one may seem unclear in some cases. For instance, die Werke Goethes [the works Goethe’s] looks like a postnominal Saxon genitive, given that die Werke des Goethe [the works the gen G.] also exists. However, it is not, probably, because if appositive material is added, it must be inflected, e.g. das Leben Katharinas der Großen to be continued...
Contrary to morphological genitives, it cannot be selected by genitive-assigning verbs and prepositions, see (5) in German.

(5) a. * wegen\textsubscript{gen} Mutters [because of mother]
   a'. wegen\textsubscript{gen} der Mutter
   b. * wir bedürfen\textsubscript{gen} Mutters [we need mother]
   b'. wir bedürfen\textsubscript{gen} der Mutter

Moreover, the s-marker is solitary: it cannot be doubled on determiners, etc.

(6) a. aunt(*'s) Mary's house; the(*'s)/my(*'s) baker's shop
   b. tante(*'s) Joke's huis; def(*'s)/mijn(*'s) bakkers winkel
   c. Tante(*'s) Illses Haus; der(*'s)/mein(*'s) Bäckers Laden

Unlike the English one, the Dutch and German Saxon genitive is confined to (semi-)proper names, as in (6). An inanimate DP cannot be a Saxon possessor:

(7) a. the car's tyre
   b. *(de) auto's band
   c. *(der) Auto's Reifen

Finally, like prenominal morphological genitives, but unlike postnominal ones, the Saxon genitive renders the main DP definite. For that reason it is in complementary distribution with determiners; compare (8) to (9).

(8) a. * het/een Jans boek
   b. * das/ein Jans Buch
   c. * the/a John's book

(9) a. * de/een 's konings scepter
   the/a the\textsubscript{gen} king\textsubscript{gen} sceptre de/een scepter des konings
   b. * das/ein des Knaben Wunderhorn
   the/a the\textsubscript{gen} boy\textsubscript{gen} magic.horn das/ein Horn des Knaben

De Wit (1997) and Weerman & De Wit (1998) argue that the Dutch Saxon genitive is a complex D-head as in (10a). The English Saxon genitive is like (10b), since it can be more complex.

... continued
[the life K. the\textsubscript{gen} great\textsubscript{gen}]. (Duden 1998:248). Reversely, I have not found inflected material in prenominal genitives. Thus we can maintain that the Saxon genitive is exclusively prenominal.
Thus, they derive that it is prenominal, in complementary distribution with determiners, and requires a definite reading for the full DP.

However, I think the Dutch Saxon genitive cannot be analysed as a head instead of a maximal projection, since ‘complex proper names’ and recursion are possible, viz. (11).

(11) a. de bakkers winkel [the baker’s shop]
    b. mijn moeders grootvaders huis [my mother’s grandfather’s house]

So (10a) cannot be correct. The Saxon genitive possessor must be a full DP, although it is semantically restricted; see below. Moreover, it should fit into the general system concerning possessives presented in section 3 of this Chapter.

Weerman & De Wit (1998) show that historically, the Dutch and German Saxon genitive is derived from the morphological genitive. On the other hand, it is generally assumed that the English one is derived from the topic plus pronoun construction (John his book > John’s book). Thus, although appearances are similar, the origin and hence possibly the syntactic structure is different.

First consider the Dutch and German construction. From a historical perspective, the Saxon genitive is a ‘degenerate’ genitive Case. Degenerate, because i) there is no distinction in gender or number, ii) the s is not copied onto an article or pronoun that precedes the noun, and iii) the construction is confined to (semi-)proper names. The Saxon genitive consists of just adding an s to a DP – an s, because this is or was the most prominent sound of the morphological genitive.

(This does not mean that the Saxon genitive is not productive. Moreover, an individual speaker does not need to have historical knowledge of the genitive.) Presumably the structure mimics the one for the morphological genitive; cf. (23c) in section 3 above. It may be represented as follows:

\[ \text{(10) a. } \ldots \text{ DP } \quad \text{b. } \text{DP} \quad \text{[Weerman and De Wit]} \]

\[
\begin{array}{c}
\text{D} \\
/ \ \\
/ \ \\
\text{X} \quad \text{DP} \\
\text{D'} \\
\text{Jan} \quad \text{John} \\
\text{s} \quad \text{D} \\
\text{'}s
\end{array}
\]

\[ \text{So (10a) cannot be correct. The Saxon genitive possessor must be a full DP, although it is semantically restricted; see below. Moreover, it should fit into the general system concerning possessives presented in section 3 of this Chapter.} \]

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\[ \text{2 However, Hans den Besten (p.c.) notes that this may be incorrect, since Old Saxon and Old English are related. Therefore the English construction may have the same origin as the Dutch and German one (i.e. it is derived from a morphological genitive), but it has evolved into the next stage in which the s is a free morpheme. If this is true, it is still justified to associate a different syntax with the English construction, as I will do.} \]

\[ \text{3 Do we need to insure syntactically that this s is on the right edge, as in (10a)? Perhaps, but morphological genitive inflection is also on the right, so this is taken care of within the genitive DP. There is even some counterevidence to an external s, viz. (i), from Duden (1998:246), where the s is attached to the head. It precedes a geographical complement.} \]

\[ \text{(i) a. Wolframs von Eschenbach Gedichte [W. ’s of E. poems]} \]

\[ \text{b. Roswithas von Gandersheim Dichtung [R. ’s of G. poetry]} \]

\[ \text{Notably, the s-final variant is also correct, which supports the view that the possessor is a DP.} \]
Here *degen*, or ‘degenitive’, indicates a degenerate genitive Case. The abstract preposition licences a degenitive/Saxon Case.

The degenerate morphology goes together with a limited meaning: it is confined to (semi-)proper names. The theory correctly predicts that if it is prenominal, as in (12), there can be no main article and the main DP is definite. The theory does not exclude the syntactic possibility of a degenerate postnominal PP. However, this would be odd, since we already have the (non-degenerate) periphrastic postnominal genitive. In other words, there is no need for a degenerate possessive that could express less than the existing periphrastic one. Moreover, the postnominal morphological genitive is still productive in German.

In English, the Saxon genitive may be syntactically represented as in (13) – compare (23e) in section 3 above.4

(13) \[ [\text{DP}] [\text{obj} [P_{\text{pos}, \text{Saxon}}^+P_{\text{pos}}] [N [\text{PP} t_p t_p]]]] \]

Here, \( D_{\text{post}}^+P_{\text{pos}, \text{Saxon}} \) yields a reduced possessive pronoun: just ‘s. The topic DP may be any DP of the right type, just like the topic DP in a normal pronoun construction. Now, the s is external to the ‘genitive’ (topic) DP, which is strongly suggested by examples like (14).5

(14) a. the man from Alabama’s hat  
     b. the woman in white’s dress  
     c. the man that I saw’s friend

It also follows from the structure that the English Saxon genitive is prenominal, that it excludes main determiners, and that it requires a definite reading.

To conclude, in fact there are two types of Saxon genitives – the English one, which has a structure similar to the topic plus possessive pronoun construction, and the Dutch/German one, which is more like a prenominal genitive.

### A2. Multiple objects and the English double genitive

When the semantics of the noun phrase allows it, there may be more than one complement to the noun. We can account for this in a binary branching grammar by assuming multiple NP layers, analogous to double object shells in VP. Below this is

---

4 In fact the structure argued for here looks like (10b) – which is assumed by several authors. An important difference is that the ‘s is not just a determiner, but P+D. All arguments used for this analysis in the discussion on the possessive pronoun construction (cf. section 3) carry over to the Saxon genitive, e.g. the problem concerning the extra θ-role and the Case of the possessor.

5 Similar examples can be found in Afrikaans; cf. Donaldson (1993:98-100).
illustrated with a worst-case scenario in Dutch, i.e. an example where N has three complements.\(^6\)

(15) Jans boeken van Darwin over de evolutie

\[
\begin{array}{c}
\text{Jan's books by Darwin on the evolution} \\
[DP [PP P_{degen} DP] D_{poss} [NP N [NP t_{pp} t_n [NP [PP P DP] t_n [PP P DP]]]]]
\end{array}
\]

In (15) the Saxon genitive raises to SpecDP\(_{poss}\) as usual. This process is not hampered by the extra complements deep down in NP. Nothing hinges on the exact multiple argument structure. Notice that two different possessives in one DP are quite possible, provided that their functions and positions differ. Some additional examples (a/b/c in Dutch; and a' in German) are given in (16).

(16) a. onze commissaris der koningin [our commissioner the\(_{gen}\) queen\(_{gen}\)]
b. 'unsere Beschreibung dieser alten Stadt [our description the\(_{gen}\) old\(_{gen}\) city\(_{gen}\)]
c. Columbus' ontdekking van Amerika [Columbus's discovery of America]
c. jouw kennis van vroeger [your acquaintance of formerly (/ the past)]

At this point it seems appropriate to take a look at the English double genitive, or *post-genitive*, as exemplified in (17).

(17) a car of John's

An important characteristic is that the first nominal phrase, which is the head of the construction, must be indefinite. Moreover, the postmodifier must be definite and human; see (18), based on Quirk et al. (1985:1283/4).

(18) a. a/*the car of John's
b. a car of *a/my friend's
c. *a car of the firm's

Notably, demonstrative pronouns are allowed, in spite of the indefiniteness restriction; compare (19) to (18a):

(19) a. that Ferrari of John's
b. this hand of mine

---

\(^6\) Notice that within the shell theory a specifier of a lower shell has the status of a complement with respect to the highest instance of the head noun; hence in (15) all PPs count as complements of the head noun. I am aware that this blurs the specifier-complement distinction more or less, but I do not know of any obvious alternative. This potential problem is not crucial to the discussion here; moreover, a detailed discussion of multiple object constructions is far beyond the scope of this section.
APPENDIX TO CHAPTER 8

De Wit (1997) stresses the differences between the prenominal genitive and the double genitive. First, the meaning of the double genitive is confined to strict possession, whereas the Saxon genitive can express the whole range of generalized possessive meanings, see (20).

(20) a. Van Gogh’s painting ‘a painting by VG, belonging to VG, or
depicting VG’
b. a painting of Van Gogh’s ‘a painting belonging to (or by) VG’

I think the possible agent reading in (20b) is somehow implied by knowledge of the world and by the fact that if one paints a painting, one is in an abstract way the owner of the painting. A real agent reading is not compatible with the double genitive, viz. (21).

(21) * that fighting of John’s

So the double genitive can only invoke the canonical belong to relation.

Second, as noted, the double genitive must be definite and human, i.e. a (semi-)proper name, whereas this restriction does not count for the English Saxon genitive; see (22). (However it does for the Dutch and German Saxon genitive – cf. section A1.)

(22) a. the book’s cover
b. * a page of the book’s

Finally, notice the morphological difference between the prenominal and the double genitive if a possessive pronoun is used:

(23) a. her friend John’s friend
b. a friend of hers a friend of John’s

Hence the two instances of John’s in (23a/b) must also be structurally different. Therefore consider how hers differs from her. The examples in (24) show that English has two ways of lexicalizing an ‘elided’ NP: one or s. One can be independent but refers to countable NPs only; s is a suffix hence dependent.

(24) a. It is this one.
b. It is hers.

Thus the suffix s indicates that there is an ‘empty’ noun. It is the predominant morpheme of a paradigm: my-n [\textgreater mine], your-s, his-\textasciiacute, her-s, our-s, their-s. A zero suffix is only possible after an s. This is confirmed by the Saxon genitive; in (25b) we have Mary’s-\textasciiacute.

(25) a. It is Mary’s one.
b. It is Mary’s.
The latter example can be compared to the 'locative genitive' as in (26).

(26) We will meet at Bill's.

Here Bill's is short for something like Bill's place, so the locative genitive is simply a prenominal (Saxon) genitive to an elliptical noun phrase.

The syntactic structure of phrases like it is hers and it is Mary's are the following – in accordance with the previous sections; cf. (23e/f) in section 3 above, and (13) in section A1 in particular:

(27) \[ \text{it is } [\text{DP DP P+Dposs }[\text{NP N }[\text{PP }t_p t_q]]]] \] 'it is hers'

a. \[ \text{pro her s} \] 'it is her's'

b. \[ \text{Mary 's o} \] 'it is Mary's'

Similarly, John's in the double genitive a friend of John's – cf. (23b) on the previous page – must be John's-ø, actually. Obviously, the whole phrase a friend of John's does not fit into the above structure. In (27) there are only two NP positions, whereas three of them are needed: one for friend, John and ø.

In Klooster (1997), it is assumed (based on Kayne 1994), that the main determiner in the double genitive is spelled out as of as the consequence of raising the main NP (or QP). Hence we have \[ [\text{DP [a friend]} [\text{D of}] [\text{QP [DPgen John's]} t_t]]] \]. However, the English Saxon genitive has been analysed quite differently in the previous section. The 's is a reduced possessive pronoun, which is the result of incorporation of a Pposs into D; see also (27). So D is not available anymore and cannot be spelled out as of. Moreover, the idea that a determiner may take the shape of a preposition seems odd to me. What is important, though, is the acknowledgement that of in the double genitive is not the normal periphrastic genitive of. Rather, it indicates partitivity. In English, the partitive construction makes use of the preposition of: a number of examples, a glass of beer. Obviously, the first NP in the double genitive is not 'part' of the genitive NP: it is part of the elided NP of which the genitive is a modifier. This is in accordance with the analysis of hers above. Thus the structure of the double genitive is the following:

(28) \[ [\text{DP1 D1 D N1 PP Ppart [DP2 DP3 Pposs+D2 [NP2 N2 [PP t_p poss t_q3]]]]]} \]

a. \[ \text{a friend of John 's o} \]

b. \[ \text{a friend of pro her s} \]

The head noun N1 takes a partitive complement PP. The DP2 with the elliptical head N2 indicates the class of objects or persons of which N1 is a member. This class of, say, 'friendly people' is possessed by someone, so N2 has a possessive complement PP. The possession has the shape of a Saxon genitive. Therefore movement of DP3 and Pposs creates a topic plus pronoun construction within DP2.

The semantics of partitivity immediately explains why the main NP must normally be indefinite, e.g. *the glass of beer, etc. Contrary to Klooster's structure,
(28) has a main determiner position available, which is necessary to accommodate for demonstrative pronouns in phrases like (19): *this hand of mine.*

De Wit (1997:157) objects that a partitive source for double genitives is problematic, because, for example, *a problem of John's* does not necessarily imply a set of problems. John does not need to have more than one problem. However, this objection is only valid if the main NP, *a problem*, is supposed to be raised from the complement of the partitive preposition, e.g. [DP a [NP problem, [PP of t]]] – equivalent to De Wit (1997:157, ex.51a) citing Barker's work. In (28) this is not the case; the 'part'-NP and the 'set'-NP are different NPs. The 'set'-NP is elliptic. It does not need to be a set consisting of just friends or problems, it may represent a more abstract set of things belonging to the topic John, of whom a friend or problem is part, next to other things not particularly of interest, possibly more friends or problems, possibly not. The fact that the elliptical NP is inherently vague is confirmed by the locative genitive in (26), which shows ellipsis of an equivalent nature.

Finally, notice that the Dutch and German partitive does not use the preposition *van/von (een glas (*van) bier, ein Glas (*von) Bier 'a glass of beer').* Hence it is correctly predicted that the double genitive does not exist in those languages. A Romance language like French does have a partitive preposition (*un verre de bière*), but it lacks a (Saxon) prenominal genitive, hence it has no double genitive, either (assuming that a structure like *un ami de ø de Jean* [a friend of part [ø of poss Jean]] is incomprehensible).

A3. Independent possessives in Dutch

Dutch independent possessives are different from English ones. First, a definite article is required. Second, a topic is impossible, see (29) and (30).

(29) a. het hare * the hers
   b. * een hare * a hers
   c. * hare hers

   b. * Joke het hare * Joke the hers
   c. * Joke hare Joke hers → Joke's

Hence *it is hers* must be translated with 'het is het hare' (or 'het is van haar'); *it is Joke's* cannot be phrased with an independent possessive in Dutch (but 'het is van Joke' with a periphrastic genitive is all right).

---

7 Addition of a relative clause is also possible, because it licences a set interpretation of the partitive: *the glass of beer you gave me.* This is similar for double genitives: *the friend of yours I saw yesterday.*

8 Strangely, it seems that a partitive *van* does show up in questions like the following: *Waar heb je een glas van op?* 'Where did you drink a glass of?'
Since a possessive pronoun is associated with D, the determiner in (29a) poses a problem. A possible solution is that in Dutch, unlike in English, independent possessive pronouns have become lexical nouns, i.e. the structure of (29a) is simply $[\text{DP}_D \text{het}] [\text{NP} \text{hare}]$. The meaning of the noun forces the presence of a definite determiner and precludes a possessive topic, then.

However, I do not find this completely satisfactory. The assumption that the above structure is derived allows us to keep more unity in the system. Suppose the underlying structure is $[\text{DP}_1 \text{D}_1 [\text{NP} \text{N} [\text{PP} \text{P}_{\text{poss}} \text{DP}_2 ]]]$, as in all possessive DPs. If the lower D$_2$ selects a possessive feature instead of D$_1$, then P will not raise to D$_1$, but D$_2$ will incorporate into P in order to check the possessive feature. Thus a possessive pronoun arises (that is, if X+Y equals Y+X).$^9$ Since the pronoun must be independent, it incorporates into N, thereby forming a full noun; see (31).

$^{(31)} a. \quad [\text{DP}_1 \text{D}_1 [\text{NP} \text{N} [\text{PP} \text{P}_{\text{poss}} [\text{DP}_2 \text{D}_{\text{poss}} \text{Ø} ]]]] \rightarrow$

$\quad \text{het} \quad -e \quad \text{"van"} \quad \text{hem}$$

$^{b.} \quad [\text{DP}_1 \text{D}_1 [\text{NP} \text{N} [\text{PP} \text{P}_{\text{poss}} [\text{DP}_2 \text{t}_d \text{Ø} ]]]] \rightarrow$

$\quad \text{het} \quad -e \quad \text{zijn}$$

$^{c.} \quad [\text{DP}_1 \text{D}_1 [\text{NP} [\text{D}_{\text{poss}} + \text{N}] [\text{PP} \text{t}_p \text{DP} \text{t}_d \text{Ø} ]]]$}

The lower DP$_2$ must be empty – this is indicated by Ø – because D$_2$ (the licencer of a possible NP$_2$) is already ‘used up’.$^{10}$ Therefore it follows almost trivially from the structure that i) a topic possessor is impossible and ii) this construction is only possible with possessive pronouns. For example, *het Joop zijn [the Joop his] or *het Joopse [the Joop’s-e] is unacceptable.

A4. Qualitatives

The next construction that deserves some extra attention is the binominal qualitative, exemplified in (32).$^{11}$

$^{(32)} a. \quad \text{een beer van een vent} \quad [\text{a bear of a guy}] \quad \text{‘a big guy’}$

$^{b.} \quad \text{ce bijou d’eglise} \quad [\text{that jewel of a church}]$
c. a hell of a problem

It is compared to the periphrastic genitive (e.g. *the tail of a dog*) – which looks exactly the same – in (33). The numbers in \( N_1 \) and \( N_2 \) refer to the linear order of nouns. Examples and comment follow directly below.

(33)  
<table>
<thead>
<tr>
<th></th>
<th>Qualitative</th>
<th>Possessive</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>semantic head</td>
<td>( N_2 )</td>
</tr>
<tr>
<td>b.</td>
<td>syntactic head</td>
<td>( N_1 )</td>
</tr>
<tr>
<td>c.</td>
<td>external (verbal) number agreement with</td>
<td>( N_1 )</td>
</tr>
<tr>
<td>d.</td>
<td>external (nominal) gender agreement with</td>
<td>mostly ( N_2 )</td>
</tr>
<tr>
<td>e.</td>
<td>internal N-N number agreement</td>
<td>yes</td>
</tr>
<tr>
<td>f.</td>
<td>internal N-N gender agreement</td>
<td>only if possible</td>
</tr>
<tr>
<td>g.</td>
<td>main determiner agrees with</td>
<td>( N_1 ), if possible</td>
</tr>
<tr>
<td>h.</td>
<td>main determiner semantically belongs to</td>
<td>( N_2 )</td>
</tr>
<tr>
<td>i.</td>
<td>( N_2 ) is a full DP</td>
<td>no</td>
</tr>
<tr>
<td>j.</td>
<td>( N_1 ) is affective</td>
<td>yes</td>
</tr>
</tbody>
</table>

By definition, the semantic head of the qualitative is \( N_2 \) (contrary to the situation in the possessive construction), so the first noun is a kind of affective modifier. Therefore, the outer determiner semantically selects \( N_2 \) (or the whole binominal group). For instance, *that in that monster of a daughter of your’s* refers to a particular girl, not a particular monster.

Still, \( N_1 \) can be argued to be the syntactic head, since i) the outer determiner agrees with \( N_1 \), and ii) possible verb agreement is triggered by \( N_1 \) (or rather: \( D_1 \)). Since there is obligatory internal number agreement between the two nouns, the latter seems to prove nothing; however, there are some affective collective nouns, which can be used to show the point: *tuig, schorem, schorriemorrie, gepeupel, janhagel, uitschot* ‘scum, ragtag’; see (34).

(34) a. *Dat\(_w\)\,(euter),\,(singular) uitschoten\(_{n,3}\) van een voetbalvandalen\(_{n,pl}\) heeft/*hebben\(_{p}\) that scum of a football.vandals has/*have alles vernield. everything destroyed

b. *Dat\(_n,3\) tuig\(_{n,3}\) van een directeuren\(_{n,pl}\) verrijkt/*verrijken\(_{p}\) zich ten that ragtag of a managers enriches/*enrich SE at the koste van de arbeiders. cost of the working men

---

12 In French, the outer determiner always agrees with the first head noun (except if \( N_1 \) is genderless); see Hulk & Tellier (2000). In Dutch, the situation is more complicated (see also Everaert (1992)). Mismatches are rarer to begin with. If \( N_1 \)'s gender differs from \( N_2 \)'s gender, there are two possibilities: if \( N_1 \) is neuter and \( N_2 \) non-neuter, Det agrees with \( N_1 \) preferably; if \( N_1 \) is non-neuter and \( N_2 \) neuter, Det is preferably gender-neutral in order to prevent a mismatch (e.g. *een 'a'or zo'n 'such a'); if not, for some people the construction is unacceptable (including Paardekooper and myself), for some people Det agrees with \( N_1 \), for some with \( N_2 \), and some accept both options. I conclude that, on average, Det agrees with \( N_1 \) in French always and in Dutch preferably. In (34) nobody accepts agreement with \( N_2 \).
As stated, normally (i.e. without a collective noun) there is internal internominal number agreement:

(35) a. a hell, of (a) problem,  
   a’. * a hell, of (a) problems  
   b. een schat, van een kind,  
   b’. * een schat, van (een) kinderen,  
   (a) darling(s) of (a) child(ren)

Internal gender agreement is impossible (unless accidentally) if both nouns have a fixed gender. However, if $N_1$ is flexible, it must agree with $N_2$, as shown for French in (36).

(36) a. ce $m$ coquin$^m$/*coquiner$^r$ d’homme$^m$  [that rascal of man]  
   b. cette$^r$ coquiner$^r$/*coquin$^m$ de femme$^r$  [that rascal of woman]

External gender agreement in French – i.e. semantic gender agreement between the binominal phrase and a past participle, or an adjective or flexible noun phrase connected to it by a copula – displays a more complicated pattern, as shown by Hulk & Tellier (2000). If there is (accidental) internal agreement, external agreement is likewise, of course. If there is an internal gender conflict, and $N_2$ is animate, the external noun agrees with $N_2$ – the semantic head. If $N_2$ is non-animate, the external noun is male by default. This is shown in (37). Examples are Hulk and Tellier’s.

(37) a. $N_m$ $N_m$ $A_m$  ce coquin$^r$ d’homme$^m$ est craint(*e) …  
   that rascal of man is feared  
   a’. $N_f$ $N_f$ $A_f$  cette coquiner$^r$ de femme$^r$ est craint(*e) …  
   that rascal of woman is feared  
   b. $n_f$ $N_m$ $A_m$ … ta tornade de fils … être étourdissant(*e)  
   … your tornado of son … be dizzying  
   b’. $n_m$ $N_f$ $A_f$ … ton phénomène de fille est … distrait(*e)  
   … your phenomenon of daughter is absent-minded  
   c. $n_f$ $n_m$ $A_m$  ta saléte de toit a été repeint(*e) …  
   your dirt of roof has been repainted …  
   c’. $n_m$ $n_f$ $A_m$  ce bijou d’église … a été reconstruit(*e)  
   that jewel of church … has been rebuilt …

If $N_1$ has no gender at all, then both the determiner and the external noun agree with $N_2$, also if $N_2$ is inanimate; see (38).

(38) cette$^r$ nom$^r$ de dieu$^r$ de voiture$^r$ est cassée$^r$  
   this name of god (‘damned’) of car is broken
Finally, notice that $N_2$ is not a full DP. Sometimes $N_2$ can have a complement (*a hell of a state of affairs, dat monster van een dochter van jou ‘that monster of a daughter of yours’), but not a determiner or prenominal adjective of its own.\(^{13,14}\)

\[(39)\]
\[
\begin{align*}
\text{a.} & \quad *\text{een beer van een blonde vent} & \text{[a bear of a blond guy]} & \text{‘a big blond guy’} \\
\text{b.} & \quad *\text{le bijou de cette église} & \text{[the jewel of that church]} \\
\text{c.} & \quad *\text{a hell of your problem}
\end{align*}
\]

In English and Dutch it seems that (the second) *$\text{a/een}$ is a determiner of $N_2$ (e.g. in *a hell of a problem; een schat van een kind). However, at closer inspection this cannot be the case, since *$\text{a/een}$ can be used to introduce a plural in a qualitative, which is normally impossible; see (40).

\[(40)\]
\[
\begin{align*}
\text{a.} & \quad \text{deze schatten van een kinderen} & *\text{een kinderen} \\
\text{b.} & \quad \text{these darlings of a children} & *\text{a children}
\end{align*}
\]

Therefore *$\text{a/een}$ preceding $N_2$ in the qualitative has a special status. It is identified by Hulk & Tellier (2000) – based on work by Hans Bennis – as an affective operator without $\phi$-features. The same operator is used in exclamatives, etc.

\[(41)\]
\[
\begin{align*}
\text{a.} & \quad \text{Wat een kinderen heb jij!} & \text{[what a children have you]} \\
\text{b.} & \quad \text{Wat voor een kinderen?} & \text{[what for a children?]}
\end{align*}
\]

Hulk and Tellier take *$\text{een/a}$ as a Q-head. Their syntactic account of the qualitative, compared to the normal possessive, is the following:

\[(42)\]
\[
\begin{align*}
\text{a.} & \quad [\text{DP } D [\text{Nump NP}_1 \text{ Num}+\text{F}+\text{Q} [\text{FP NP}_2 \text{ t}_\text{F}+\text{Q} [\text{QP t}_\text{Q} t_1 ]]]] & \text{[qualitative]} \\
& \quad \text{that idiot of a doctor} \\
\text{b.} & \quad [\text{DP } D [\text{Nump NP}_1 \text{ Num} [\text{FP } t_1 \text{ F}+\text{P} [\text{FP } t_\text{P} [\text{DP D..NP}_2 ]]]]] & \text{[possessive]} \\
& \quad \text{the car of the doctor}
\end{align*}
\]

In accordance with Den Dikken (1995), there is a small clause substructure in both cases. The semantic head of the phrase originates in SpecFP. Predicate inversion leads to the qualitative construction. Hulk and Tellier assume that both (empty) $P$ and $Q$ needs to be licenced in $F$, which is spelled out as *$\text{of/van/de}$, etc. Given the “Affective Operator Criterion”, the affective Q-head must be in spec-head configuration with an affective XP, that is, NP$_1$. This cannot take place within FP, since SpecFP is already filled with NP$_2$, hence $F+Q$ moves to Num and NP$_1$ moves to SpecNumP.

\[^{13}\text{Some lexicalized phrases are exceptional: e.g. *een kwal van een jongste bediende ‘a jellyfish (jerk) of a junior clerk’, where *jongste bediende is a fixed expression.}\]

\(^{14}\text{The contrast between *that monster of [a daughter of your’s] and * that monster of [your daughter] is another indication that the double genitive must not be analysed as a structure in which *of is a D whose specifier hosts the (raised) main noun.}\)
Many properties mentioned above follow from the proposed structures. In principle the above account is compatible with the theory on possessives in the previous sections—that is, if we are prepared to acknowledge some extra layers in the structure. However, (42) raises many questions. What is F? Why is SpecFP the semantic head of the structure? Why does F look like a preposition? How is the Case of the subconstituents licenced? How do we get the right word order of a instead of a of if right-adjunction is impossible (Kayne 1994)? Moreover, Hulk and Tellier need three functional layers—NumP, FP, QP—to explain the differences between the possessive and qualitative. This might be correct, but I prefer to develop a more modest alternative, which is based on an extremely simple, but unusual idea: D-promotion.

Suppose the qualitative has the same underlying structure as the periphrastic genitive: [Dmain D1 [NP N1 [PP P [DP D2 NP2]]]]. This immediately explains the presence of the preposition of, and the Case licencing mechanism. N1 (that belongs to D1) is the syntactic head (not the semantic head: see below), which has a complement PP that includes N2. D2 is the determiner of N2. D2 is semantically affective, hence lexically zero, or a/een in English/Dutch. (We don’t need a QP layer to express that, a feature [+affective] will do.) Furthermore, there must be a formal link between D and N (see Chapter 4), i.e. there is a (covert) link D1-N1 and a link D2-N2. The inner determiner D2, which inherently lacks φ-features (see (40) and (41) above), takes over the φ-features of N2. The outer determinant D1 agrees with N1 (cf. (33g), (34) and footnote 12). Since N1 is affective, cf. (33j), D1 (which is linked to it) must be compatible with an affective meaning, hence it is demonstrative (that/die.dat) or a/een, but never the/de; see also Paardekooper (1956).

Right now, most of the properties of the qualitative are accounted for, but the crucial part is still to come. The outer DP-layer contains an affective N, whereas the inner DP has an affective D. Suppose the affectedness feature—which is the syntactic reflex of a semantic characteristic—must be checked between D and N, like all formal features. Then, inevitably, the features of D2 must be raised. What does this mean? The syntactic head of the inner DP, i.e. D2, is promoted to the outer DP. This may be viewed as a theoretic variant of predicate inversion: since the syntactic head of the second DP is promoted, it is plausible to assume that the

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15 Hulk & Tellier state that it simply the complex Q+F that is spelled out as of a, but since it concerns two words and since one of these, a, can also be associated with Q alone, the problem remains.

16 Aafke Hulk (p.c.) objects that this is contradicted by the differences in extraction possibilities between the two constructions. Compare for instance (i) and (ii), where latter shows potential extraction from a qualitative.

(i) de man van wie ik een vriend ontmoet heb... [the man of whom I a friend met have]
(ii) * een vent van wie ik een idioot ontmoet heb... [a guy of whom I an idiot met have]

However, there cannot be extraction at all in either (i) or (ii), recall section 4.2 and footnote 24 above. Klein & Van den Toorn (1980)'s robust conclusion is that prenominal PPs are adverbial; they are not fronted from within a DP. This immediately explains the difference between (i) and (ii) above. (i) can be paraphrased as as for this man, I met a friend of him, whereas this is impossible for (ii): # as for this guy, I met an idiot of him.

17 Notice that of is the default preposition within nominal constituents. In the qualitative, of is not the standard possessive of, hence there is probably no feature [+poss] associated with it.
semantics associated with DP is also promoted, i.e. N₂ becomes the semantic head of the whole construction, as required.¹⁸

Moreover, (covert) raising of D₂ predicts the internal agreement patterns. If D₂-N₂ does not agree in number with D₁-N₁, the derivation crashes, hence there is automatic number agreement; cf. (35). If N₁’s gender is optional or unclear, as in (36) and (38), it will conform to N₂’s. Of course inherently fixed gender of N₁ cannot be altered, as in many cases; cf. (37b/b’). Finally, since NP₂ is the semantic head of the construction due to the promotion of D₂, external gender agreement is expected to conform to NP₂. This is indeed the case – cf. (37a/a’/b/b’). However, there is one exception, namely if there is a gender conflict within the qualitative construction, and DP₂ is inanimate (hence less prominent). Following Hulk & Tellier (2000), I will simply assume that it is possible that in this impasse the external participle or adjective is assigned the default gender (which is male); cf. the French data in (37c/c’). Notice that Hulk and Tellier warn that strategies to cope with difficulties probably differ from language to language.

I tentatively conclude that there is an alternative to Hulk & Tellier’s (2000) proposal depicted in (42), which is maximally simple. The basic structure equals that of the periphrastic genitive; the difference is that N₁ and D₂ contain an [+affective] feature, which causes movement of D₂ hence ‘promotion’ or ‘predicate inversion’, and consequently internal agreement, etc. The syntactic structure is given in (43). For the sake of completeness the D-N links are also indicated.

(43) a hell of a problem

No additional functional layers are needed. Moreover, the usual lexical association of a with D and of with P does not need to be broken. Finally, we maintain unity in the Case licencing system and enlarge the empirical reach of the system for attributive possession and related constructions put forward in this chapter.

¹⁸ This may be compared to a wide scope reading after covert raising of an operator of category D (e.g. quantifier raising).