The Decline of the Genitive in Dutch

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Abstract

This article discusses the decline of the genitive in Dutch and its relation to current genitive-like constructions in DP, such as the -s-*construction, the* z'n-*construction, and the* van-*construction. Phonological processes alone cannot be held responsible for the loss of case morphology. An independent theory of hierarchically ordered case explains why cases disappear in a particular order. As the accusative and dative were reduced, this eliminated the very roots of the case system, and language learners were subsequently unable to develop the genitive.*

The genitive was succeeded by two constructions that are essentially different, namely the van-*construction and the* -s-*construction. A syntactic analysis of each of these constructions is presented and compared to another possessive structure, the* z'n-*construction. The* van-*construction arises because a noun, as opposed to a verb, does not allow its functional complement to be unspecified. The birth of the prenominal* -s-*construction is related to the arrival of a determiner system.*

The last section discusses remnants of morphological genitives in noun phrases. These forms are acquired at a relatively later stage in life, much like a second language, and are therefore not part of core grammar.

1.   Introduction

In Modern Dutch, as in many other Germanic languages, the complement of a noun is always preceded by a preposition, as the contrast in (1a)–(1b) shows.[1] In earlier stages of Dutch, however, the situation was different in that there was no preposition. Instead, the complement of a noun bore genitive case; see (1c):

(1) a. *het huis   de buurvrouw
          the house the neighbor
     b.   het huis   van de buurvrouw
          the house of   the neighbor
          'the neighbor's house'
     c.   het huis   der   buurvrouw
          the house the-GEN neighbor-GEN
          'the neighbor's house'

The genitive as in (1c) gradually disappeared from the living language, and today speakers of Dutch use the construction in (1b), the *van*-construction. Around the time that the morphological genitive was disappearing, a different construction came into being, which could express similar thematic relations between a noun and a DP. This construction is — in our view incorrectly — also often referred to as the genitive or the prenominal genitive:

(2) buurvrouws huis
     neighbor-S   house
     'our neighbor's house'

This construction, which we will refer to as the -*s*-construction, still occurs in Dutch as it is spoken today, as well as in other languages such as German.

The history of the genitive in DP and the rise of other related constructions raises a number of interesting questions: why did the genitive disappear? And why was genitive case morphology, as it were, succeeded by constructions with *van* and -*s*? Should -*s* in Modern Dutch be analyzed as a genitive case form or as a different type of morpheme altogether? In this paper we will address each of these issues and show how the general process of deflexion — the loss of case morphology — induced the syntactic changes we are about to describe.

This paper is organized as follows. In section 2 we will explain why genitive case on complements to N was replaced by a different functional element, a preposition, and why other case suffixes such as accusative and dative on complements of verbs and prepositions simply disappeared.

Section 3 provides an analysis of the -*s*-construction as it occurs today. We will show that it cannot be a genitive case form, and that Modern Dutch does not have case morphology. Key to our analysis will be that -*s*-constructions are derived forms that occur in D.

In section 4 we will compare the -*s*-construction to another Dutch prenominal argument construction, the *z'n*-construction:

(3) Jan   z'n boek
     John his book
     'John's book'

We will show that the Dutch -*s*-construction crucially differs from the English prenominal "genitive" exemplified in (4).

(4) John's book

Instead, the prenominal "genitive" in (4) has properties very much like the *z'n*-construction in Dutch. We will discuss the properties of all these constructions and explain how this difference between Dutch -*s* and English -*'s* came about.

In section 5, we will present a theory on the loss of case. An independent theory of hierarchically ordered case explains why cases disappear in a particular order. As the accusative and dative were reduced, this eliminated the very roots of the case system, and language learners were subsequently unable to develop the genitive.

Section 6 will discuss the status of genitive phrases in Modern Dutch. If, as we will show, the genitive in the course of the Middle Dutch period could no longer be acquired as part of the case paradigm, how is it possible that we still find examples of what look like genitives in Dutch prose? We will present evidence that these genitive phrases are not part of the core system, but in fact are acquired relatively "late." In our discussion we will also touch upon the situation in Modern German, where a similar situation seems to arise. Section 7, finally, contains the conclusion of this paper.

2.   Nominal complement markers

Like many of the Germanic languages, Dutch underwent a process of deflexion in which case morphology gradually disappeared. Some of these case markers, such as genitive case markers, were replaced by a periphrasis with a preposition, while others such as accusative case markers disappeared and were not replaced by a periphrasis. Never in any stage of the language, not even in the transitory stage toward a periphrastic language, do we find complements to N that are neither case-marked nor preceded by a preposition:

(5)   *het huis   de buurvrouw
       the house the neighbor

It is therefore not enough to simply say that genitive case disappeared, alongside other case morphology, and that as a result the genitive form

of the article *der* in (1c) was replaced by a case-neutral form *de*. We need some additional theory as to why deflexion resulted in the rise of a prepositional paraphrase in DP.

To get a proper perspective on the actual changes that took place, we analyzed a number of texts from the City of Brugge that date back to the thirteenth, fourteenth, and fifteenth century. We counted the number of genitive cases that occurred in these texts, as well as the number of prepositional phrases with *van*. The results of this study are given below.[2,3]

(6)   Texts from the City of Brugge from the thirteenth to the fifteenth century

	Genitive	*van*-construction
Thirteenth century	46%	54%
Fourteenth century	16%	84%
Fifteenth century	4%	96%

The table in (6) shows that, in the thirteenth century, complements of N either occur in the genitive or are preceded by *van* on an almost equal basis. Other thirteenth-century texts support this finding. An analysis of texts from the City of Gent and the *Luikse Diatesseron* (a manuscript from Luik; see De Bruin 1970 in Primary sources following the References), also from the thirteenth century, reveals that here, too, the number of genitive constructions and *van*-constructions is almost equal.[4]

(7)   Thirteenth-century texts from Gent and the *Luikse Diatesseron*

	Genitive	*van*-construction
Gent, thirteenth century	47%	53%
Luikse Diatesseron	53%	47%

The results in (6) and (7) concur with Van der Velde's findings in 1962. He also observed a relatively swift decline of the morphological genitive, accompanied by a similarly swift rise in *van*-constructions in Middle Dutch of the fourteenth century.

The history of the genitive in English is remarkably like the history of the genitive in Dutch. Mustanoja (1960) and Nunnaly (1985), who each studied the history of the genitive in English, show that in English there was also a time when genitive phrases coexisted with prepositional *of*-phrases. As significantly more manuscripts — more than in Dutch — are available from before the thirteenth century, it is possible to trace the entire history of the decline of the genitive, beginning with the birth of the *of*-phrase as a complement to N:

(8)   The loss of genitive case as observed by Mustanoja (1960)

	Genitives	*of*-construction
Ninth C (end)–tenth C	99.5%	0.5%
Tenth C (later)–eleventh C	99%	1%
Eleventh C	98.8%	1.2%
Twelfth C	93.7%	6.3%
Thirteenth C (first half)	68.6%	31.4%
Fourteenth C	15.6%	84.4%

As in Dutch, the thirteenth century is a transitory stage between a morphological and a periphrastic genitive, and a bare sequence of noun and complement (cf. [5]) does not occur. Similar observations can be made for German. Although the history of the German genitive deviates from the history of the genitive in English and Dutch (an issue to which we will return later), there are also no attested examples of bare sequences of a noun and a complement.[5,6]

Direct-partitive constructions seem to form an exception to the rule that there are no bare sequences of a noun and a complement. Direct partitives are measure constructions where the first noun is a modifier of the second noun. Here, the genitive on the second noun as it appeared in Middle Dutch was not replaced by a preposition *van*:

(9)   a.   een fles   melk
          a   bottle milk
          'a bottle of milk'
      b.   een ketel verf
          a   kettle paint
          'a kettle with paint'

It is obvious that *melk* 'milk' and *verf* 'paint' are not thematic complements to the nouns *fles* 'bottle' and *ketel* 'kettle'; instead, the nouns *fles* and *ketel* are more like modifiers of the head nouns *melk* and *verf* (cf. Vos 1993). The direct-partitive constructions in (9) already occurred in the thirteenth century; see for example (10).

(10)   (Brugs, thirteenth century)
        een ketel varwe
        a   kettle paint

We have not found enough examples of this construction in the texts studied to make a full assessment of the history of these constructions. We nevertheless conclude that all complements of the noun that bear a thematic relation to N — such as possessor or agent and theme — need to be marked with a visible lexical element (see also Plank 1980).

The obligatory presence of the preposition *van* may be explained from a semantic perspective by saying that it has a semantic function, namely that it expresses possession. This possessive semantic relation needs to be reflected syntactically, and hence either the morphological genitive or an equivalent preposition is used. However, it is not true that the preposition *van* has a unique lexical meaning denoting possession. The preposition *van* is a functional preposition (cf. Grimshaw 1991) that is not only used in possessive relations, but also occurs with agents, (11a), and patients, (11b).

(11) a.   het lachen   van Jan
           the laughing of   Jan
           'Jan's laughing'
      b.   het ontslag   van Kees
           the dismissal of   John
           'the dismissal of John'

Genitives can express similar relations, as the names of the several types of genitive — *genitivus subjectivus* (for the genitive equivalent to [11a]) and *genitivus objectivus* (for the genitive equivalent to [11b]) — already indicate. Visible marking is thus a prerequisite of all types of complements to N, not just of possessors.

A second clue that the obligatory presence of a preposition is purely syntactic in nature is that with verbs, case morphology such as dative and accusative case on complements to V can be absent, though the same thematic relations between V and its arguments remain after nominalization. When a verb is nominalized, it is only the formal licensers of the complements that change, not the argument structure itself. A verb such as *doden* 'to kill' as in (12a) has two thematic roles, agent and theme. When this verb is nominalized, both thematic relations can be expressed. In (12b) *Piet* can be interpreted as either the agent or the theme of 'to kill'.[7] With both interpretations, the preposition *van* is obligatory.[8]

(12) a.   Jan doodt   Piet.
           Jan kill-AGR Piet.
           'Jan kills Piet'
      b.   het doden van Piet
           the kill   of   Piet
           'the killing of Piet'
      c.   *het doden Piet
           the kill   Piet

The presence of *van* thus seems to be related to the syntactic nature of nouns versus verbs.

A similar difference can be observed when we compare the decline of the genitive to the decline of the accusative and dative. Here — in contrast with the genitive — accusative and dative makers on complements of verbs gradually disappeared and were not replaced by a different lexical item. The Middle Dutch noun phrase in (13a), *den stoel Dauids* 'the chair David-*s*' bears accusative case and the complement of the noun *stoel* 'chair' bears genitive case. In Modern Dutch, *den* 'the' is replaced by *de* and the genitive by a preposition:

(13) a. (*Luikse Diatesseron* 8, 13)
          onse Here Got sal   hem gheuen te besittene den   stoel
          our Lord God shall him give   to possess the-ACC chair
          Dauids   …
          David-GEN
          'Our Lord God shall give him the chair of David …'
      b. … de stoel van David (te bezitten)
          … the chair of David (to possess)

Another example that illustrates the opposition between accusative case with verbs and genitive case with nouns is given in (14). The words *den eenen* 'the one' in (14) introduce the accusative-marked object and *den ghenen … heft* is the dative-marked indirect object. In Modern Dutch there are no morphemes or lexical items that express this. What remain are the bare forms of the noun phrases, in a specific word order.

(14) hi gheue den   eenen   den   ghenen die
      he give   the-ACC one-ACC the-DAT one-DAT who
      enghenen en   heft (*Luikse Diatesseron* 26, 36)
      none-NEG.PART has
      'he may give one to him who has none'

Weerman (1996, 1997) and Neeleman and Weerman (i.p.) argue that any complement to a lexical category can only be interpreted as an argument when it contains functional information (see also Lamontagne and Travis 1987 and Bittner and Hale 1996). Here, we will formalize this requirement as follows. Every DP occurs in the complement of an FP as in (15):

(15)

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            X′
           /  \
          X    FP
              /  \
             F    DP
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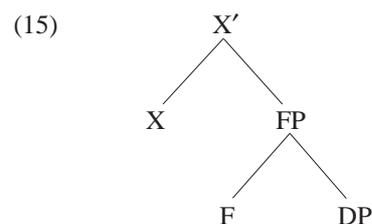
There are several ways to fill the F position to conform to the requirements of interpretation. Some languages have morphological case that can fill F. When a language has no morphological case, F remains empty. FP can never be omitted as it is a prerequisite for interpretation.

(16) a.　　　　　FP　　　　　　　　b.　　　　　FP

　　　　　F　　　　DP　　　　　　　　F　　　　DP

　　　　ACC or　　　　　　　　　　　Ø
　　　　DAT or
　　　　GEN or
　　　　…
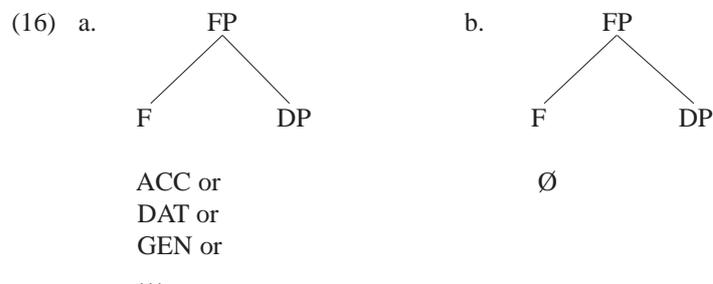
The contrast between (16a) and (16b) — languages with morphological case and languages without morphological case — is thus the lexical content of the projection F.

The study of empty elements in general — in various areas of syntax — has shown that there are syntactic conditions on the presence of an empty element. Rizzi (1990) formalizes these conditions as follows:[9]

(17) Empty-category principle (Rizzi 1999):
A nonpronominal empty category must be properly head-governed.

Whether or not a lexical category is a proper head governor has been shown to be related to its categorical status: $[-N]$ projections are generally considered to be head governors, whereas $[+N]$ categories are not. Such an approach could explain the observations above. As verbs are proper head governors, only their complements may be introduced by an empty F. The constructions in (1a) and (5) are ungrammatical because N is incapable of identifying or licensing an empty F. Therefore, if the genitive (as a complement to nouns) disappears it needs to be replaced by a different functional element, in this case the preposition *van*.

As said, a similar replacement of one functional type of item by another does not occur with the complements — either dative or accusative — of verbs, as verbs can identify empty functional material.[10] This does not mean that the loss of morphological case in the verbal domain had no effects at all. As can be seen from the examples in (13a) and (14), the position of verbal complements in Middle Dutch differs from the position of verbal complements in Modern Dutch. The relative mobility of argu-

ments in Middle Dutch, that is, the fact that they could occur on either side of the verb, as well as their relative order, has been argued by Weerman (1997) and Neeleman and Weerman (i.p.) to be the result of the fact that F is filled with lexical material. When case disappears, empty F can only occur in a fixed order in the governing domain of V.

Still, we have not answered the question why it was *van* that took the place of genitive case morphology and why some other preposition was not given this task. Historically, it is difficult to trace the exact origin of *van*; *van* is already present in the earliest manuscripts of Dutch, so we can only speculate on this issue. In general, functional elements derive out of lexical elements. In Modern Dutch, *van* is used both as a lexical preposition and as a functional preposition.

(18) a. Dat is van Jan.
          that is of   Jan
          'that is John's.'
      b. Dat is Jan.
          that is John
          'That's John.'
      c. Hij sprong van de muur.
          he jumped of   the wall
          'He jumped off the wall.'

The preposition *van* in (18a) in predicative position indicates that the subject *dat* 'that' belongs to John, not that it is John, the meaning of sentence (18b).[11] The preposition *van* in (18c) indicates a direction.

We propose that functional prepositions can occupy the head position of FP and take as their complement the DP in (16b). Only functional prepositions can directly fill such a gap. In the history of Dutch, we claim, the preposition *van* developed from a lexical preposition into a functional preposition; from (19a) into (19b).

(19) a. $[_{PP}$ P $[_{FP}$ ∅ DP] →
      b. $[_{FP}$ P DP]

Lexical *van* 'of', which could — and still can in Modern Dutch — also indicate a direction (similar to English *off*) might have become a functional preposition through a reanalysis as in (19) and become a competitor of the genitive.

There is evidence that the preposition *van* already had a functional use in the oldest recorded stages of Dutch. The texts from Brugge — as well as other texts — analyzed by us revealed that in constructions such as (20) it is obligatory to use the preposition *van* and impossible to use a genitive instead.

(20) a.   der stede van Brucghe
           the city of Brugge
           'the city of Brugge'
      b.   de rivier van de Wale
           the river of   the Waal
           'the River Waal'
      c.   den lande   van Vlaenderen
           the country of Vlaanderen
           'the country Vlaanderen'

One may speculate that the existence of a functional use of *van* as in (20) facilitated its use in constructions such as (1b), the possessive. It is interesting to note that *van* is no longer used in constructions such as (20). Instead, appositional phrases of the type in (20) are used with a bare sequence of nouns, making them structurally like direct-partitive constructions:

(21) a.   de stad Brugge
           the city Brugge
           'the city of Brugge'
      b.   *de stad van Brugge
           the city of   Brugge

We will end the discussion here, again stressing that the loss of genitive case automatically led to the arrival of a different functional-gap filler, the functional preposition *van*. The constructions in (20) illustrate that this preposition was already available at the time that this major change took place. Further analysis of the history of *van* is needed to document the exact changes and origins.

3.   The *-s*-construction

Our claim that there is no such thing as a morphological genitive in Modern Dutch raises the question of how Dutch prenominal elements with *-s* as in (22) should be analyzed.

(22)   buurvrouws huis
       neighbor-s   house
       'our neighbor's house'

If *-s* is not a case morpheme, what is it? In itself, the association of prenominal elements as in (22) with a genitive is not altogether strange. To illustrate this, let us consider the list in (23) with the relevant genitive forms in Middle Dutch.

(23)   Middle Dutch genitives   (nominative)
a.	singular, masculine, strong	dies wormes	(die worm)	'the worm'
b.	singular, masculine, weak	dies cnapen	(die cnape)	'the boy'
c.	singular, feminine, strong	dier gifte	(die gift)	'the gift'
d.	singular, feminine, weak	dier sielen	(die siele)	'the soul'
e.	singular, neuter, strong	dies brodes	(dat broot)	'the bread'
f.	singular, neuter, weak	dies beelden	(dat beelde)	'the statue'
g.	plural, strong	dier worme	(die worme)	'the worms'
h.	plural, weak	dier cnapen	(die cnapen)	'the boys'

The paradigm in (23) shows that [s], [r], and [n] play an important part in the genitive paradigm. The sound [s] became more characteristic of the genitive as a result of two independent phonological processes. First, the difference between the weak and the strong paradigm was diminished by the phonological process of schwa deletion at the end of a word. When the schwa on the nominative form *cnape* 'boy' or *beelde* 'statue' disappeared, the utterance *cnap* or *beeld* could be interpreted or reinterpreted as a strong form. These, according to the diagram in (23a) and (23e), require an [s] as a genitive ending instead of an [n], which they would have received had the schwa not been deleted (cf. [23b] and [23f]). We believe that a reinterpretation of this kind, triggered by the process of schwa deletion, occurred quite frequently. Second, there was also a productive phonological process that deleted [n] at the end of nouns as in (23), comparable to n-deletion in Modern Dutch. Bearing in mind that the [r] also occurred with dative case forms (cf. [54]), we can draw the conclusion that [s] was the most characteristic sound for a genitive.

It is therefore an obvious choice to historically try to link the -*s* in Modern Dutch to the [s] in the genitive in Middle Dutch. Synchronically, however, modern -*s* in Dutch is nothing like genitive [s]. There are some substantial differences between the two, which we will discuss below.

First, -*s*-constructions are strictly prenominal and cannot follow N:

(24)   a.   Willems boek
              Willem-*s* book
              'Willem's book'
        b.   *het boek Willems
              the book Willem-S

The true genitive in Middle Dutch could occur on both sides of the noun, with different functions, and on complements of verbs and adjectives, as well as on different types of adverbials.

This difference in position between a genitive case form and the -*s*-

construction can also be demonstrated for Modern German (cf. Bhatt 1990; Lindauer 1995).[12]

(25) a.   Mutters Buch
           mother-*s* Buch
           'mother's book'
      b.   *das Buch Mutters
           the book mother-S
      c.   das Buch der   Mutter
           the book the-GEN mother-GEN

Prenominal *Mutters* 'mother's' in (25a) differs in position and morphology from the genitive phrase *der Mutter* 'the mother', as shown in (25b) and (25c). Later on we will demonstrate for Dutch that there is a difference in internal complexity as well. The feminine noun *Mutter* 'mother' receives a masculine-type ending -*s*, which, if we were to analyze -*s* as a case morpheme, would be incorrect.

   Furthermore, if one were to analyze the prenominal arguments in German as involving (some equivalent to or form of) genitive case, one would expect them to be able to occur in other genitive environments, such as in the complement position of prepositions and verbs governing genitive case. This, however, is not possible:

(26) a.   wegen   der   Mutter
           because of the-GEN mother-GEN
           'because of mother'
      b.   Wir bedürfen der   Mutter.
           we need   the-GEN mother-GEN
           'We need mother.'
(27) a.   *wegen   Mutters
           because of mother-S
      b.   *Wir bedürfen Mutters
           we need   mother-S

This supports our claim that -*s*-constructions differ substantially from the genitive and cannot be genitives themselves.

   In addition, it is characteristic of case, thus also of the genitive, that it is assigned to a maximal projection DP and that this is reflected through means of morphology, which occurs not only on the head of the phrase — the noun — but also on its specifiers and modifiers (cf. [28]). The -*s* in the -*s*-construction, however, only occurs once (cf. [29]–[30]).

(28) dies   goets   wormes
      this-GEN good-GEN worm-GEN
      'the good worm'

(29) a. mijn moeders boek
         my   mother-S book
         'my mother's book'
     b. *mijns moeders boek
         my-S mother-S book
(30) Jan en Piets huis
     Jan and Piet-S house
     'Jan and Piet's house'

Again, this is a substantial difference between the genitive and the -*s*-construction.

Dutch -*s*-constructions are also more restricted internally than genitive phrases. A phrase marked with genitive case can, as we saw, be complex and consist of a combination of determiner, adjective, and noun. This type of complexity does not occur with -*s*-constructions, witness the examples in (31).

(31) a. *de jongens boek
         the boy-S   book
     b. *iedere jongens boek
         every boy-S   book
     c. *de man met die   gekke brils   caravan
         the man with those funny glasses-S caravan

The prenominal position is accessible only to possessive pronouns, proper names with -*s* (*Willems, Maria's boek*), or nouns that are strictly speaking not names (e.g. *buurvrouws* 'neighbor's') but can be used in address and receive a type of proper-name interpretation. The same restriction does not apply to the genitive.

It is also important to mention that, in addition, -*s*-constructions in Dutch are in complementary distribution with the definite article, which unequivocally resides in D^0:

(32) a. het boek
         the book
         'the book'
     b. Jans boek
         Jan-S book
         'Jan's book'
     c. *het Jans boek
         the Jan-S boek

The -*s* in (32b) — as well as DPs with the possessive pronoun as in *mijn boek* 'my book' — derives definite DPs, which are excluded in those

contexts that are subject to the so-called definiteness effect, such as the postnominal subject position and certain types of measure constructions (cf. Safir 1982; Reuland 1985; De Jong 1991).

   We propose to analyze the -*s*-construction as a complex determiner occurring in D, as proposed by Demske (1995) and De Wit (1997). In a sense, -*s*-constructions are to genitive phrases what verbal clitics are to accusative and dative phrases. As they have a referential base and can express arguments of N⁰, -*s*-constructions are argued to be base-generated as maximal projections inside NP. The "fill-D" requirement, a requirement to which we will return later, requires D to be lexically filled and attracts the closest possible candidate to fill this position. As elements with -*s*, because they are derived forms (cf. [33b]), qualify to fill this position, they incorporate into D (see De Wit 1997 for further details). The same analysis can be applied to possessive pronouns. For the time being we will remain agnostic about the precise status of X. The ultimate position of the -*s*-construction is as in (33a).

(33)   a.   DP   b.   D

              D   NP   X   D

           Jans   boek   Jan   -s
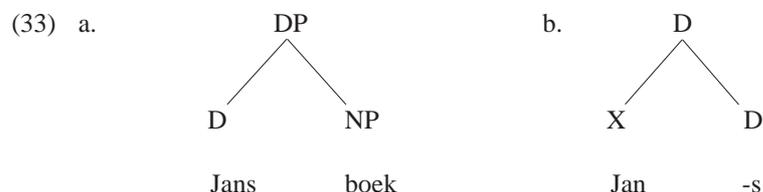
This analysis immediately explains why the -*s*-construction only occurs prenominally, is in complementary distribution with other determiners, and derives definite DPs. The -*s* in (33) crucially differs from genitive -*s* in Middle Dutch, exemplified in (23). Modern -*s* is like a determiner that fills D and binds the R-role of the predicate NP (see section 4 for a more detailed analysis). Modern -*s* is thus not analyzed as a case ending, and therefore we can safely conclude that the genitive, like other case endings, has truly disappeared.

   We have argued that there is no synchronic relation between the -*s*-construction and the genitive. There could be a diachronic relation. As we have shown above, the [s] in Middle Dutch is the most characteristic sound of all the genitive endings, and it stands to reason that this [s] was at some stage reanalyzed from an inflectional [s] into the determiner -*s*. A prerequisite for reanalysis is that at a certain stage in the language a considerable number of phrases can be analyzed in different ways. This was true of the genitive forms of male proper nouns in Middle Dutch, which consisted of a bare proper name and -*s*. An example is given below (see also [13]).

(34)   den stoel Dauids
        the chair David-S
        'David's chair'

Dauids is a proper name and could occur as a left branch in (33b), but since it occurs to the right of the noun it cannot be in D. Genitive phrases, however, could also occur to the left of the noun, as shown in (35).

(35)   a.   (*Luikse Diatesseron* 6, 14)
            sire moeder lichame
            his mother body
            'his mother's body'
       b.   (*Luikse Diatesseron* 50, 22)
            des   anders   besegheit
            the-GEN other-GEN activity
            'the other's activity'
       c.   (*Luikse Diatesseron* 14, 15)
            Josephs   sone
            Joseph-GEN/S son
            'Joseph's son'

The genitive in (35a) cannot be interpreted as an -*s*-construction, as it contains no [s]. The example in (35b) is also not structurally ambiguous as the genitive is too complex. The example in (35c), finally, can be interpreted both as an -*s*-construction and as a genitive and can in principle thus be subject to reinterpretation. It therefore seems likely that the -*s*-construction historically developed from these genitive forms.

  Our analysis of the -*s*-construction in (33b) also provides us with a clue as to why the -*s*-construction came into being. Genitive [s] was reanalyzed into a determiner -*s* at a time when an important change was already taking place in many of the Germanic languages — the rise of the determiner system. In the older stages of Germanic, D could remain empty. Gothic, Old English, and old High German, as shown by Philippi (1997), clearly show the absence of a need to fill D. Since the remaining texts from Middle Dutch are less old, it is difficult to find similar evidence. But the fact that, even in Middle Dutch, the article *die* could not be clearly distinguished from the demonstrative shows that the determiner system had not yet fully developed. As in other languages, the demonstrative article *die* developed into a definite article when the conditions on D changed and it needed to be lexicalized. Demonstrative *die* in its new role developed into the Modern Dutch article *de*. A similar thing

happened to genitive [s], which was reanalyzed as a determiner -*s*, ready to fill the D-position.

But why could D no longer remain empty? There are several analyses of this phenomenon. Giusti (1995) observes that languages that develop articles do so at a time when they lose their case morphology or when case morphology becomes less discernable. One possible explanation is given by Philippi (1997) (see also Abraham 1997 for relevant discussion). Philippi argues that in the older stages of Germanic, case morphology on a noun phrase indicated whether this noun phrase should be interpreted as a specific or a nonspecific DP; that is, it determined its referential value. This is still true of languages without a lexical determiner system, such as Finnish or Russian. When case was no longer available to syntactically encode this semantic distinction, a new system of functional information was developed, the determiner system. This allowed the case morpheme [s] to be reanalyzed into Modern Dutch -*s*.

To conclude this section, we have seen that, though it seems plausible that the -*s*-construction developed out of the genitive, it is by no means similar to it in Modern Dutch (or German). The characteristics of the -*s*-construction differ from the morphological genitive, and -*s*-constructions are to be analyzed as determiner elements. The rise of the -*s*-construction does not conflict with our claim that the genitive disappeared. Rather, it can be seen as a result of the necessity to fill the determiner position with a lexical element. This change can in turn perhaps be related to the process of deflexion. We will leave the exact correlation between these two phenomena for further research. Whatever the causes of the rise of a determiner system may be, the *s*-determiner was one of the items that were used to lexicalize D.
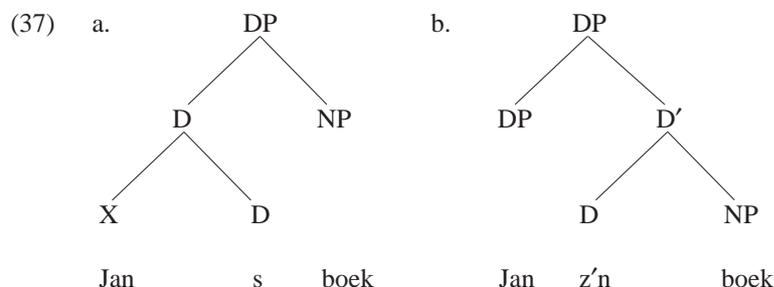
4.   The *z'n*-construction

In addition to the -*s*-construction, Dutch has a different construction where the argument of the noun appears in spec,DP. In the introduction to this article we called this construction the *z'n*-construction, repeated here in (36).

(36)   Jan z'n boek
       Jan his book
       'John's book'

There seem no a priori reasons to assume that this construction is either historically or synchronically related to the morphological genitive. We will nevertheless discuss it, as it provides further clarification as to why

the genitive disappeared and the -*s*-construction came into being. It can also help us explain the differences between Dutch prenominal -*s* and English prenominal '*s*.

We analyze the *z'n*-construction as in (37b). For expository purposes, we repeat the relevant structure for the -*s*-construction in (37a).

(37) a.   DP   b.   DP

              D   NP   DP   D′

          X   D   D   NP

          Jan   s   boek   Jan   z'n   boek

We apply the "traditional" analysis of English prenominal genitives to the *z'n*-construction and argue it to be an instantiation of left-dislocation, where the argument is base-generated in spec,DP and thematically linked to N via agreement with the possessive pronoun in D^0. The difference with the -*s*-construction is that, there, *Jans* is a lexical form that occurs in D; in (37b) — the representation for the *z'n*-construction — the pronoun is in D and *Jan* is in spec,DP. The most important reason for this structural difference is that the argument in the *z'n*-construction is not internally restricted as in the -*s*-construction (cf. [31]). All the examples in (31), repeated here in (38), are grammatical with *z'n*; see (39):

(38) a. *de jongens boek
              the boy-S   book
       b. *iedere jongens boek
              every boy-S   book
       c. *de man met die   gekke brils   caravan
              the man with those funny glasses-S caravan
(39) a. de jongen z'n boek
              the boy   his boek
              'the boy's book'
       b. iedere jongen z'n boek
              every boy   his book
              'every boy's book'
       c. de man met die   gekke bril   z'n caravan
              the man with those funny glasses his caravan
              'the man with the funny glasses's caravan'

This contrast follows immediately from our analysis. In case of the *z'n*-construction, the prenominal argument occurs in spec,DP and hence is a maximal projection. We have adopted the idea that *Jans* is a morphological complex that occurs in D and *-s* is a bound definite suffix that binds the nominal predicate in syntax. A morphological derivation of elements as in (33b), where *-s* is an affix, does not in itself exclude the possibility that the complement of *-s* is a maximal projection. Maximal projections can be input to both suffixation and compounding. Hoeksema (1988) discusses the possibilities of combining phrases with nouns in compounds and shows that phrases as well as nouns can combine with other nouns to form a new word (cf. [40a], [40b]). However, not every phrasal projection can occur in such morphological products. DPs with a definite or indefinite article cannot occur in compounds, (40c):

(40) a.   het [mannen huis]
           the [men   house]
      b.   het [oude mannen huis]
           the [old   men   house]
      c.   *het [de oude mannen huis]
           the [the old   men   house]

Similar restrictions hold for derivation with the suffix *-achtig* '-like'. It can be suffixed onto phrases with similar restrictions as in (40). These restrictions can be summarized as follows: in compounds and derivations, the host must be headed by an open-class item. Open-class items are predicative phrases, such as verbs, nouns, and adjectives. Closed-class items such as determiners and complementizes are precluded from being part of a morphological compound or derivation. The construction in (40c) is ungrammatical because complex constituents with a determiner cannot be input to compounding or suffixation. Similarly, we can now explain the ungrammaticality of the examples in (38). As with compounding, phrases headed by a determiner cannot be input to *-s*-formation. Hence, in example (38a) the prenominal possessor *de jongen* 'the boy' cannot be suffixed with *-s* and form a complex D as in (37a), and the resulting structure is ungrammatical. The same holds of the other examples in (38).

This still does not explain why *-s* can only attach to proper names or those common nouns that can be used as forms of address, and not to bare nouns as in (41a) or (41b), since these obey the restrictions on compounding and derivation.

(41) a.   *[mannen]s boek
            men-S   book
      b.   *[oude mannen]s boek
            old   men-S   book

The bare nouns in (41) are open-class items and should therefore be potential input to compounding and derivation. Nevertheless, -*s*-derivation only applies successfully to proper names. This property of -*s*-derivation can be derived from the fact that -*s*-derived forms as in (41) are arguments to N. This means they must be referential. We argued that the affix -*s* cannot be attached to a noun phrase with a determiner, as this is generally not possible in morphology. Furthermore, the prenominal complex in D, through its head -*s*, has to bind the R-role of the NP-predicate. These combined morphological and syntactic requirements on -*s*-constructions ensure that only inherently referential elements can be input to -*s*-derivation. Proper names, as [+max, −proj] lexical items that are maximal and do not branch, are the only elements that are inherently referential (i.e. without an R-role), and this explains why only they can occur in -*s*-constructions. Possessive pronouns also meet these requirements (cf. De Wit 1997 for further discussion).[13]

In our study we have not looked into the history of the *z'n*-construction in a systematic way. Verwijs and Verdam (1912) and Koelmans (1975), for example, observe that this construction already existed in a relatively early stage in the language. We found a number of instances in the texts we studied:

(42)   a.   (fourteenth century)
           mervrauwe zine gheselneide
           madam   his companion
           'madam's companion'
       b.   (fifteenth century)
           myn vrauwe van   Oorlyens zyn zuster
           my wife   from Oorlyens his sister
           'my wife from O's sister'

It is interesting to note that in (42) a masculine possessive pronoun is used instead of the grammatically correct feminine possessive pronoun. This is also prototypical of this type of construction in earlier stages of English. Within this context it is interesting to see that children also tend to use *z'n* 'his' as a default (Jacqueline van Kampen and Wim Zonneveld, personal communication) and use it with both male (*papa se boek* 'daddy his book') and female (*mama se boek* 'mama his book') possessor. We will return to this later.

The English prenominal genitive, which has recently inspired many analyses of the prenominal -*s*-construction in Dutch and German, is different from the Dutch -*s*-construction and in fact more resembles the Dutch *z'n* construction. As with the *z'n* construction, the prenominal argument can be internally complex (cf. also Halpern 1992).

(43) a.   John's book
      b.   the man that I saw's friend
      c.   a friend of mine's house

Only (43a) can be analyzed as in (37a). Examples (43b) and (43c) show that the English *'s*-construction should receive an analysis similar to the Dutch *z'n*-construction, as complex arguments can occur with the head nouns *friend* and *house*.[14] There seems to be no evidence for an English equivalent of the -*s*-construction.

How did this difference come about? Is the English *'s*-construction related to the genitive? And if so, should we not consider *z'n* to be related to the genitive as well? We feel that the difference between English and Dutch is not a principled difference, but rather the result of phonological coincidence.

First, it is important to realize that [s] was also the most characteristic sound of the genitive in Old English, comparable to the situation in Middle Dutch. When genitive case disappeared in English, as in Dutch, a prepositional replacement came into being. Mustanoja (1960) and Allen (1997) indicate that in English, too, we see the rise of a construction comparable to the -*s*-construction, which is historically based on genitive [s]. The construction is internally restricted to proper names and, when determiners do occur, they do not bear any case. In addition, a pronoun-possessive construction (the English version of the *z'n* construction) was already present in the language at a time when the inflectional genitive could still be used. The possessor in a pronoun-possessive occurred either in the dative or in a nominative case and was followed by a possessive pronoun:

(44) a.   Edward the Second of England his queen
      b.   in all the prince of Orange his time

Interestingly — and similar to Dutch — instances with the feminine possessive pronoun *her* are much rarer than those with *his*, while the plural did not seem to occur in Middle English. Masculine *his* could in fact be used invariantly with feminine, masculine, and neuter nouns (cf. Janda 1980).

The difference between English and Dutch came about as a result of the fact that *his* is phonologically very much like *'s*, whereas *z'n* and -*s* are clearly two distinctive sounds in Dutch. According to Janda (1980), English *his* was reduced to *'s.* The sound [s] also occurs with genitives in English. This is schematically represented for Dutch in (45) and English in (46).

(45) Dutch
     a.   genitive-*s*   →   c.   D-*s*
     b.   ……….   →   d.   D *z'n*
(46) English
     a.   genitive-*s*   →   c.   D-*s*   →   e.   D-*s*
     b.   ……….   →   d.   D *his* →   f.   D *'s*

It comes as no surprise that the distinction between the two lexicalizers of D, (46e)–(46f), could not remain. It was very easy to reanalyze (46e) as a subcase of (46f) since all the examples that can be analyzed as (46e) are a subset of the examples that can be analyzed as (46f). It is possible, for instance, to analyze (43a) either as (46e) or (46f). However, the phrases in (43b)–(43c) can only be analyzed as in (46f). The overall conclusion therefore is that the pattern in (46f) covers all cases and will survive.

     Because the pronoun in Dutch remained distinct from [s] even after phonological reduction, Dutch persisted in having two constructions where English has only one. The English construction with *'s* superficially looks like the Dutch -*s*-construction but crucially differs from it and is more like the *z'n*-construction. This *z'n*-construction (and its English equivalent the *'s*-construction) is neither diachronically nor synchronically related to the genitive, although the fact that both occupy the D position can be related to the general rise of determiners.

     Recently Allen (1997) reaches a rather different conclusion for English. She argues that the modern English *'s*-construction is derived from the morphological genitive. As will be clear from the above, we are not convinced by her arguments. First of all, her proposal cannot explain the contrast between Modern Dutch (and Modern German) on the one hand and Modern English on the other, while our proposal does. Second, the empirical shortcoming of Janda's (1980) analysis, noted by Allen, can be overcome partly by the intervention of a stage as in (46c) and (46e) in English, whereas the fact that the *his*-genitive is initially restricted to only one form can be observed in the history of Dutch as well (cf. [42] and subsequent discussion). Finally, the process of reanalysis that is needed under Allen's proposal does not strike us as very plausible. Recall that a considerable number of phrases have to be ambiguous in order for reanalysis to take place. As far as we can tell, Allen's proposal does not meet his condition. Schematically, the reanalysis needed under her proposal can be represented as in (47).

(47)   [Det-GEN N-GEN] [D ∅]   NP   →   Det N   [D s]   NP
        þæs cyninges   hus   þe cyning 's   hus

The crucial point is that *þæs cyninges* is, in fact, not ambiguous. In order for the reanalysis to be successful the genitive of the leftmost determiner has to be neglected. This, however, is rather surprising since, in general, flexion on determiners is relatively more stable than flexion on the noun itself.

We agree, though, with Allen that there is no principled reason against a reanalysis of a case suffix into a clitic (an instance of degrammaticalization). The only requirement is that a plausible reanalysis of surface forms has to be possible. As said, we believe that in the case at hand the genitive on the determiner (cf. [47]) stands in the way. Interestingly, Norde (1997) discusses a situation where this can be overcome. She shows that Swedish has an *-s*-construction comparable to the English *'s*-construction (and to the Dutch *z'n*-construction). Norde argues convincingly that here the *-s*-construction is historically related to the morphological genitive. Why was such a reanalysis possible in Swedish but not in the West Germanic languages? We believe that there is a straightforward explanation. As opposed to English, Dutch, and German, an article follows the noun in Swedish. Consequently, an Old Swedish DP in the genitive looks like (48a). Norde further notes that flexion on nouns tends to disappear, in agreement with the above-mentioned asymmetry between determiners and nouns in the process of deflexion. For the example at hand the result is (48b). Note that precisely this construction allows a plausible reanalysis, as indicated in (48c), that is, a reanalysis in which no elements have to be neglected.[15]

(48) a. konungsens   hus
          king-GEN-the-GEN house
          'the king's house'
      b. konungens   hus
          king-the-GEN house
      c. N-Det-S [D ∅] NP → N-Det [D S] NP

In other words, the Swedish *-s*-construction shares its historic root with the Dutch *-s*-construction, but its synchronic analysis with the Dutch *z'n*-construction. The reanalysis that took place in Swedish could not occur in the West Germanic languages, as in these languages the determiner cannot appear postnominally.

5.   Why did the genitive disappear?

We have seen that the genitive disappeared from Dutch in the Middle Dutch period and was replaced by the *van*-construction. The *-s*-construc-

tion is historically related to the morphological genitive but is not a mere relic similar to genitive case. The rise of articles affected prenominal functional projections and caused a new analysis of *-s* as a determiner element. We still have not answered the questions of why genitive case disappeared and why, in general, the case system eroded away. This, we will claim, is the result of two factors: (i) the phonological reduction of the different cases and (ii) the hierarchical structure of the case paradigm.

The traditional explanation for the loss of case stems from the domain of phonology. A change in the stress system (cf. Jacobs 1989) activated several phonological deletion processes at the ends of words. We have already discussed two such processes; in (49) we add another phonological reduction process that is claimed to occur at the time.

(49) Middle Dutch phonology
 a. Vowel reduction (reduces vowels to schwa in unstressed syllables)
 b. *n*-deletion (deletes [n] at the end of words)
 c. Schwa deletion (deletes schwa at the end of words)

These phonological reduction rules can partly, though not wholly, explain the loss of case morphology. We will illustrate this by looking at the history of the word *tong* 'tongue' (singular) from Gothic to Modern Dutch in all its possible case forms:

(50) a. Gothic   b. Middle Dutch   c. Modern Dutch

	Gothic	Middle Dutch	Modern Dutch
NOM	tuggo	tonge	tong
GEN	tuggons	tongen	
DAT	tuggon	tongen	
ACC	tuggon	tonge	

Nearly all changes in (50) can be interpreted as being the result of the phonological reduction processes in (49). Traditionally, it is said that the forms in (50a) and (50b) became ambiguous at a certain point in history. For instance, some speakers pronounced the dative /tuggon/ as [tunggen] as a result of the rule in (49a). New speakers of the language perceived this sound as a schwa and not as derived from /o/. In Middle Dutch the dative /tongen/ could become /tonge/ as a result of (49b). Again, new speakers may have come to the conclusion that there was no dative suffix at all, etc.

This phonological approach, however, cannot explain the loss of the genitive as it actually took place. It is evident that the phonological processes played an important part in the process of deflexion, yet phonology alone cannot explain the observed changes. We saw in section 2 that

the genitive was still productive in the thirteenth century but gave way to the *van*-construction in the fourteenth century. The preposition *van* as a head of FP was not followed by a caseless DP, but, as we noted in texts from the fourteenth and fifteenth century, by a noun phrase in the dative case. We have given some examples of dative DPs following *van* in (51):

(51)   a.   (Brugge: fourteenth century)
dach van der   zelver   maand
day of   the-DAT same-DAT month
'day of the same month'
b.   (Brugge: fourteenth century)
namen van der   ballinghen
name of   the-DAT exile-DAT
'name of the exile'
c.   (Brugge: fifteenth century)
dochter   van den   hertoghe   Kaerle
daughter of   the-DAT duke-DAT Karel-DAT
'daughter of Duke Karel'

There are a number of cases where the complement of *van* is caseless, but these are a minority, as (52) shows.[16]

(52)   Deflexion in *van*-constructions in texts from Brugge

Thirteenth century	Fourteenth century	Fifteenth century
0%	2%	5%

Although the *van*-construction replaced the genitive, this did not imply that all case morphology was on the rebound. It seems that the dative was still around when the genitive was on its way out.

To present a yet fuller picture of the productivity of the dative as opposed to the decline of the genitive, we have looked at a number of texts to see whether dative flexion also occurred on indirect objects and the complements of other prepositions that governed the dative. In these cases we also find a consistent use of dative flexion, even in texts as late as the fourteenth and fifteenth century, although the number of noun phrases without a dative case increases in the course of time (approximately 10% in the fourteenth and 20% in the fifteenth century). Again, this indicates that the dative remained in the language longer than the genitive did.

Finally, we have tried to establish whether the accusative was still productive at this time. As we will see in (53), this is difficult to establish as the accusative form is morphologically identical to the nominative

form except for two cases. But when we look at these forms in the case paradigm in which the accusative and nominative are distinct, it turns out that the accusative is used consistently throughout the thirteenth and fourteenth century. Only as late as the fifteenth century did caseless forms begin to replace accusative forms.

German also provides evidence that some cases are more equal than others. Modern German (at least High German) still has productive accusative and dative case, but genitive case is disappearing fast. Children of five years of age still use the dative and accusative productively (cf. Clahsen et al. 1994; Eissenbeiss 1994). The -*s*-construction is also productive and develops relatively early on according to Clahsen et al. (1994). The true morphological genitive, however, is conspicuously absent from child German. In adult German, too, genitive is perceived to be stylistically marked as well as archaic.[17]

Phonology cannot explain the relative order in which cases disappear. We can think of no reason why phonological rules would target the genitive rather than the dative or accusative. In fact, on the basis of the phonological properties of dative and accusative versus genitive case we would expect the exact opposite to occur. The list in (23), repeated in (55), provides an overview of Middle Dutch genitive forms. In order to compare these with dative and accusative case forms, we also provide an overview of these in (53) and (54), respectively.

(53) Middle Dutch accusatives   (nominative)
    a. singular, masculine, strong   dien worm   (die worm)
    b. singular, masculine, weak   dien cnapen (die cnape)
    c. singular, feminine, strong   die gift   (die gift)
    d. singular, feminine, weak   die siele   (die siele)
    e. singular, neuter, strong   dat broot   (dat broot)
    f. singular, neuter, weak   dat beelde   (dat beelde)
    g. plural, strong   die worme   (die worme)
    h. plural, weak   die cnapen   (die cnapen)

(54) Middle Dutch datives   (nominative)
    a. singular, masculine, strong   dien worme   (die worm)
    b. singular, masculine, weak   dien cnapen (die cnape)
    c. singular, feminine, strong   dier gifte   (die gift)
    d. singular, feminine, weak   dier sielen (die siele)
    e. singular, neuter, strong   dien brode   (dat broot)
    f. singular, neuter, weak   dien beelden (dat beelde)
    g. plural, strong   dien wormen (die worme)
    h. plural, weak   dien cnapen (die cnapen)

(55)   Middle Dutch genitives   (nominative)
  a.   singular, masculine, strong   dies wormes   (die worm)
  b.   singular, masculine, weak   dies cnapen   (die cnape)
  c.   singular, feminine, strong   dier gifte   (die gift)
  d.   singular, feminine, weak   dier sielen   (die siele)
  e.   singular, neuter, strong   dies brodes   (dat broot)
  f.   singular, neuter, weak   dies beelden (dat beelde)
  g.   plural, strong   dier worme   (die worme)
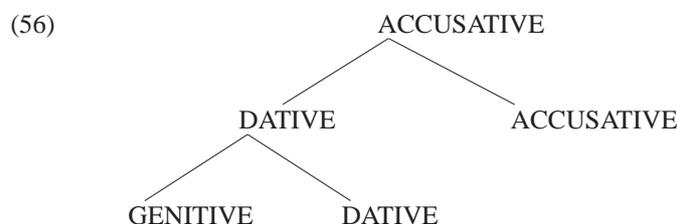 h.   plural, weak   dier cnapen   (die cnapen)

As can be seen from (53), the phonologically visible evidence that there exists a separate accusative case form is relatively scant. Apart from the forms in (53a) and (53b), the accusative and nominative are identical. The dative is more easily distinguishable, but if we take into consideration the effects of the phonological processes in (49), case morphology appears to be consistently visible only on the determiners. The genitive is more robust in that it is independently detectable on both noun and determiner.

Why, then, did the genitive nevertheless disappear first? It could be that the formation of the -*s*-construction in which genitive -*s* was reanalyzed as a determiner caused the decay of the genitive, since a substantial part of the evidence for a genitive case form disappeared. Although this may have been an important factor, it cannot have played a decisive role. Reanalysis does not necessarily entail that all forms with [s] are reanalyzed regardless of their position or complexity. Even after genitive [s] had been reanalyzed as a determiner -*s*, enough evidence remained for a genitive case form, as reanalysis could only apply to a specific set of nouns in prenominal position. All genitives to the right of N, and the genitives to the left of N that either do not bear an -*s* or are not proper names are still evidence for genitive case.

We will present an explanation of the early loss of genitives based on a theory that we touched upon in our discussion of (5), where we stated that functional information on a DP is specified as morphological case only when there is morphological evidence for this in a language. This implies that a language learner starts out assuming there is no morphological case (and that [16b] is the correct structure). If language learners were to assume the opposite, they would only find out through negative evidence that they were acquiring a language without morphological case. Negative evidence can never be this important in language learning.

How, then, is a case paradigm acquired and represented if there is morphological evidence for such a paradigm? We propose that this knowledge is organized hierarchically and that language learners need to establish what is marked and what is unmarked (cf. Pinker 1984; Williams

1981). Crucial to our analysis is that the genitive, for several reasons independent of the problems discussed here, is embedded relatively deep in this hierarchical structure (cf. Weerman 1996, 1997 and Neeleman and Weerman i.p. for further discussion). This is, be it slightly simplified, schematized in (56).

(56)
```
                          ACCUSATIVE
                         /          \
                    DATIVE          ACCUSATIVE
                   /      \
            GENITIVE      DATIVE
```

A couple of remarks are in order here. First, the structure in (56) branches out from top to bottom and the right branch represents the default choice as opposed to the left branch. When there is morphological evidence for a dative form, the nondefault, this implies that the language has accusative as well. This process of establishing whether there is any morphological evidence for the nondefault proceeds from top to bottom (we will return to this later).

A second remark concerns the nominative. We have left out the nominative here as nominative is, under this view, not a case form, as opposed to the case forms in (56). Nominative DPs do not have a case shell (and are interpreted via agreement, see Weerman 1996, 1997). Consequently, nominative can be seen to be the default as opposed to accusative and indeed to the entire system in (56), in the tradition of Jakobson (1966 [1936]).

Needless to say, we do not claim that precisely the structure in (56) is part of UG. First of all, languages may have more cases than are present in this structure. In as far as these further cases are ordered in terms of markedness, this would suggest that a further branching of GENITIVE is possible. In addition, (56) does not take into account the distinction between nominative-accusative and absolutive-ergative languages. We believe that nominative equals absolutive, and that ergative is comparable to accusative, but these refinements of (56) are not relevant to the present discussion.

What is relevant, however, is the claim that morphological case is ordered hierarchically and that this order is as given in (56) for the cases at hand. In general, a hierarchy along these lines is supported in the literature — it is, for instance, similar to the one defended by Pinkster (1985). There seems to be some discussion on the order of genitive and dative, though, as we conclude from Blake (1994). We believe that this discussion is due to the fact that we have to take into account in what syntactic circumstances a

particular case is being used. For instance, Modern Greek is said to have nominative, accusative, and genitive. At first sight, this seems at odds with the idea that dative is ordered higher than genitive. At closer inspection, however, it appears that in double-object constructions the indirect object takes genitive. In other words, rather than saying that the hierarchy in (56) is overridden, we believe that dative and genitive are conflated in Modern Greek, and that the term "genitive" here refers to the history of this case rather than to its systematic synchronic status. In what follows this type of conflation will not play a role.

If we are correct in assuming that case is only represented when there is morphological evidence for it, and if we are correct in assuming that case is hierarchically structured as in (56), the following case systems are predicted to exist:

(57)   a.   ACCUSATIVE
       b.   ACCUSATIVE and DATIVE
       c.   ACCUSATIVE, DATIVE, and GENITIVE

The structure in (54) thus makes predictions with respect to the typology of case systems as well as the development of the case system.[18] Clahsen et al. (1994) confirm these relative steps in the acquisition of case by children. The child primarily takes morphology on the head of a phrase to be decisive in its decision whether or not such a case exists. We will return to this later, but as we are primarily interested in the genitive here we will not discuss other aspects of this model.

By now it may have become evident why (56) and (57) make it possible to explain why the genitive disappeared first and the case system developed into a system as represented in (57b). Nevertheless, the hierarchy does not explain what triggers the change from one specific stage to the next. We believe that this is caused by phonological reduction of morphological evidence, which can either directly or indirectly cause the loss of a certain case and related cases.

We saw that there was hardly any phonological evidence for an accusative case in Middle Dutch. Apparently, accusative is not spelled out in most cases, which is prototypical of a language where morphological case is on the decline. That there is such a thing as accusative case, however, can be explained with the hierarchy in (56). We saw that there was evidence for a dative case in this stage of Middle Dutch. This implies that there should be an accusative case as well, as they are immediate neighbors in the tree. The system thus allows for a restricted type of "indirect evidence"; morphological evidence for the nondefault (dative in this case) always implies the presence of the default (accusative).

Of course, we do not wish to claim that as long as there is phonological evidence for any case form, no matter where it occurs in the tree, language learners can interpret this as indirect evidence for all other case forms in the hierarchical case structure in (56). Any evidence for a genitive (or a case which may be embedded deeper) would then automatically lead language learners to conclude that all cases exist in a language (spelled out or not). Recall, however, that language learners as it were look for evidence top-down. That is to say, only when they have established that there is a dative (and implicitly an accusative) can they go one step further down the tree and process evidence for a genitive case. In other words, dative case cannot be implicit alongside accusative case. It is only direct neighbors in the tree that can support each other.

It must be said that a system where the accusative is relatively difficult to detect and is mainly indirectly supported by the existence of a phonologically well detectable dative is not a particularly strong case system. As soon as the morphological evidence for the dative disappears, the whole system collapses. It may be interesting to note here that we found a contrast between texts from the thirteenth century and texts from the fourteenth century in the number of cases where dative morphology occurred on the head noun. In the thirteenth century the dative on complements of *van* is reflected approximately half the time in a suffix on the head noun, whereas in the fourteenth century this number is considerably reduced, to less than a tenth. This concurs with earlier findings by Marynissen (1996) that schwa apocope has not yet taken place in the southern dialects in the fourteenth century. If these results are representative of the data that language learners actually encountered, and if Clahsen et al. (1994) are correct in their claim that a morphological marker on the head noun is crucial for a child to acquire a case, the delayed effect of apocope must have played an important role in the further decline of the case system in the fourteenth century.

All in all, it seems that our general conclusion is justified that the phonological reduction of the morphological evidence for an accusative, dative, and genitive made it impossible for the language learner to incorporate the genitive into the case system. Given that the genitive — even though it is phonologically more robust — is dependent on the dative and accusative, as it is more deeply embedded, it will be the first to disappear. The decline of the genitive is thus the result of a combination of factors; phonological reduction and the hierarchical structure of the case paradigm.

6. Early and late acquisition

So far, we have considered the effects of the loss of genitive case on the phrase structure of noun phrases and the reasons for these changes. We

have argued that genitive case, the most deeply embedded case in the case hierarchy in (56), disappeared in Middle Dutch since language learners could no longer incorporate it when dative and accusative became not sufficiently visible. There is indeed a strong decline of genitives in the fourteenth century. Nevertheless, the genitive did not completely disappear overnight. Apparently, it is somehow possible to acquire genitives even after the fourteenth century. In fact, we can still find phrases that look like genitives in Dutch. How can this be? Our claim is that these genitives are a result of relatively "late" acquisition, whereas our claims regarding the acquisition of case morphology in the preceding section typically involve "early" acquisition.

Our claim that these genitives are not part of the core system can be backed in two ways. First, there is evidence that they are acquired relatively late and that they are not produced by children. Second, these genitives have different characteristics than the "true" genitives. They observe rather construction-specific restrictions in morphology, syntax, and style. In a way, these modern genitives remind us of imperfect second-language acquisition of an originally productive system.

As said, Modern Dutch prose still contains genitives. Some examples are given in (58):

(58)   a.   de tranen der   acacia's
           the tears   the-GEN acacias
       b.   het beleid der   Nederlandse universiteiten
           the policy the-GEN Dutch   universities
       c.   de ontwikkeling der   hemellichamen
           the development the-GEN stars

The genitive forms in (58) are learned as a conversion rule (from *van* + *de* 'of + the' to a genitive form) rather than as part of a full genitive paradigm. The genitive in (58) is typically found in academic prose; in particular it is used to avoid too many constructions with *van*. It is not, or hardly ever, part of spoken Dutch.

Another indication that the genitive phrases in Modern Dutch are not part of the language as acquired during the critical period is that they are morphologically and syntactically more restricted than in Middle Dutch. Most of the "genitive forms" as they occur in writing use the determiner *der* 'the-GEN.PLUR' followed by a plural noun. The form *des* 'the-GEN.SING.MASC' only occurs in idiomatic expressions, as exemplified in (59). The attempt to come up with new examples as in (60) has an almost comical effect and inspires a "Vondel" flavor:[19]

(59) a. de vader des   vaderlands
         the father the-GEN fatherland-GEN
         'father of the fatherland'
     b. de heer des   huizes
         the man the-GEN house-GEN
         'man of the house'
(60) a. ??het beleid des   decaan(s)
         the decision the-GEN dean(s)
     b. ??de ondergang des   genitief(s)
         the decline   the-GEN genitive(s)

There are examples in which a reduced form of *des*, *'s*, can appear in prenominal position. This is slightly more productive than the postnominal forms in (60) in that it can be combined with new lexical items:

(61) a. 's rijks   schatkist
         's government-S treasure
         'the government's treasure'
     b. 's mans   computer
         's man-S computer
         'the man's computer'

It is remarkable that the form of the genitive that is used most in written Dutch, the forms with *der* (cf. [58]) cannot occur in prenominal position, see (62).

(62) a. ??der   acacia's tranen
             the-GEN acacias tears
     b. ??der   Nederlands universiteiten beleid
             the-GEN Dutch   universities   policy
     c. ??de   hemellichamen ontwikkeling
             the-GEN stars   development

The form *des* also occurs in more or less academic style, where it can be used to express that a person has a certain characteristic or behavior. Again, this type of construction is restricted to *des*. As with (62), *der* is not possible as illustrated in (63b) and (63d). Instead, the diachronically masculine form *des* is preferred, even with a feminine noun as in (63d):

(63) a. Zo'n optreden is des   ministers
         such behavior is the-GEN minister-GEN
         'Such behavior is prototypical of the minister.'
     b. ??Zo'n optreden is der   universiteiten
         such behavior is the-GEN universities
         'Such behavior is prototypical of the universities.'

   c.   Dat is nu   eenmaal des   vrouws
          that is now once   the-GEN:MASC woman-GEN:MASC
          'You know what women are like.'
   d.   ??Dat is nu   eenmaal der   vrouw
          that is now once   the-GEN:FEM woman-GEN:FEM
          'You know what women are like.'

The genitive in modern Dutch thus has a couple of somewhat peculiar characteristics that make it rather different from its precessor. It became a peripheral form — not acquired early and absent from child Dutch — and is a result of "late" acquisition, comparable to a "second language."

   Similar observations can be made for German. The examples in (64) show that a true, complex genitive is not productive prenominally:

(64) a. *des   Kindes   Teddybär
          the-GEN child-GEN teddy-bear
      b. *der   Mutter Haus
          the-GEN Mother house
      c. *der   Anna Haus
          the-GEN Anna house
          (Lindauer 1995)

In addition, Schachtl (1989), Lindauer (1995), and Gallman (forthcoming) observe that when inflectional genitive case is used it can only be realized under certain conditions. Normally, a complement DP can either be marked with inflectional genitive case or be preceded by the preposition *von* 'of':

(65) a. die Behandlung der   Patienten
          the treatment   the-GEN patients-GEN
          'the treatment of the patients'
      b. die Behandlung von den Patienten
          the treatment   of   the patients.

However, when there is no prenominal material such as an adjective or determiner in DP, the flexion on N^0 itself is not sufficient to license the postnominal DP:

(66) a. *die Aussagen Zeugen
          the statements witnesses-GEN
          'the statements of witnesses'
          (Schachtl 1989)
      b. *der Geschmack Weines
          the taste   wine-GEN
          'the taste of wine'
      c. *die Behandlung Patienten
          the treatment   patienten-GEN

These properties can more easily be explained if we assume, as in Dutch, that genitive phrases in German, too, are acquired relatively late and are not part of the core system. This is supported by the fact that genitive phrases are absent in many dialects of German and do not occur in child German.

We conclude from this discussion that genitive phrases have truly disappeared and are not acquired at an early stage by first language learners of Dutch (or German). Rather, genitives result from late acquisition. As such, it is thus still possible to find genitive phrases in Modern Dutch, although these genitives do not fit into a case paradigm and show all kinds of restrictions that were not present in earlier stages.

7.   Concluding remarks

This article supports the traditional view that phonological processes — which occur as a result of a change in the stress system — trigger the loss of case morphology. At the same time, we have argued that phonology alone cannot explain the exact way these changes took place. To be able to understand why the genitive disappeared, earlier than the accusative and the dative, we used an independently motivated theory of case, which claims that case forms are structured hierarchically. The nucleus of our proposal is that as the accusative and dative were reduced, this eliminated the very roots of the case system, as a result of which language leaners were unable to develop the genitive.

We also saw that the genitive was succeeded by two constructions that are essentially different from the genitive, namely the *van*-construction and the -*s*-construction. The *van*-construction arises because a noun, as opposed to a verb, does not allow its functional complement to be unspecified. The birth of the -*s*-construction, we showed, was related to the arrival of a determiner system, which in turn may be related to the general decay of the case system.

Notes

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1. We will refer to any constituent that follows N as its complement, abstracting away from its specific thematic relation.

2. Our choice of texts is based on the work by Gerritsen (1987). We have restricted ourselves to ordenances and chronicles (which are comparable in style).

3. The total number of constructions found in the texts increased with the centuries. We found 91 constructions in the thirteenth century, 147 constructions in the fourteenth century, and 615 constructions in the fifteenth century.

4. The total number of constructions found in these texts was 148 in the thirteenth century and 245 in the *Luikse Diatesseron*.

5. There are some attested examples of bare sequences of a DP and a noun where the DP is the possessor. These examples of PREgenitives such as *die giganten land* 'the giants land' *de weeskinderen goeden* 'the orphans goods' (from Van Helten 1877, section 350) and Koelmans 1975: 441), and they occurred relatively early in Middle Dutch. An anonymous reviewer pointed out to us that similar examples occur in the history of English. Note that the prenominal possessors can be analyzed in several ways: as genitives, as -*s*-constructions, and as *z'n*-constructions (cf. section 4), be it that the determiner remains unexpressed here. This is related to the following two factors. First, the constructions mentioned above appear at a stage in which empty determiners are still possible in other constructions as well (cf. section 3). Second, it is not uncommon that the functional head remains unexpressed when its specifier is lexically filled. The presence (or absence) of a specifier in embedded questions, for instance, determines whether or not the complementizer is lexically present. This is illustrated in the following Dutch sentences. The complementizer *of* can only be absent if a *wh*-specifier is present, as in (ii).

(i)   a.   Ik vraag   mij af   of zij op tijd is.
          I   wonder me PART if she on time is
      b.   *Ik vraag mij af zij op tijd is.
(ii) a.   Ik vraag   mij af   wie of er   op tijd is.
          I   wonder me PART who if there on time is
          'I wonder who will be on time'
      b.   Ik vraag mij af wie er op tijd is.

6. The observation that all complements to N need to be visibly marked seems to be contradicted by a special type of genitive construction, the construct state, in Semitic. Here, a noun is followed by a bare DP. Ritter (1988) and Longobardi (1996) show, however, that construct states should be analyzed differently from genitive complements as we discuss them here, namely as involving head movement of the head noun to D.

7. We will claim this to be a result of the fact that the EPP is inoperative in DP. The EPP is a conjoined statement that (i) an argument should be externalized and that (ii) an argument should be externalized into a specific position. The EPP is responsible for the fact that a single argument of V^0 is in principle always externalized into a specific position — spec, AgrsP — and that an expletive is inserted if the verb has no arguments. In line with Drijkoningen (1993), De Wit (1997) shows that the EPP is inoperative in DP (resulting in different possible surface positions for single arguments of N) and that

the conceptual equivalent to the EPP is the requirement, operative in many languages, to "fill-D." See De Wit (1997) for further discussion.

8. Notice that (12c) is correct when object and verb are reversed: *het Piet doden* 'the Piet kill'. In this case it is not *doden* 'to kill' that is nominalized, but *Piet doden* 'Piet kill'.

9. The minimalist program dispenses with the notion of head government altogether and tries to explain similar phenomena in terms of movement or incorporation. We will not discuss these possible alternatives here, but refer the reader to Neeleman and Weerman (i.p.) for a comparison of the two conceptual alternatives.

10. This leaves open the possibility that a verb can (lexically) select for a prepositional complement (as it can select for a particular case).

11. This differs from the use of the preposition *of* in English, which is purely functional in nature and mutually exclusive with *to be*:

    (i)   *This car is of John.

    Instead, a predicative phrase containing *'s* needs to be used.

    (ii) This car is John's.

    See De Wit (1997) for an analysis of these forms and the related structure *a car of John's* in terms of predication.

12. Some speakers find the use of a form such as *Annas* acceptable after the noun. All speakers reject the possibility of using *Mutters* following the noun as in (25b). We think that in the case of *Annas*, this form is reinterpreted as a morphological genitive. This could also explain why this construction is felt to be slightly archaic.

13. Note that this approach (rightly) predicts that coordination is possible in -*s*-constructions, since it is possible in compounds as well (cf. [30]):

    (i)   a. het [mannen en   vrouwen] huis
              the men   and women   house
          b. [Jan   en   Piet]s boeken
              John and Pete's books

14. Note that requirements on specifier–head relations may constrain the set of DPs in a specifier position as in (37b). Clearly, Dutch and English differ in the elements that can appear in D, and via specifier–head agreement this may have effects for the specifier as well. We will abstract from this for the purposes of this article.

15. Even if (48a) is reanalyzed directly the required process is more plausible than in Allen's case, since here only the inflection on the noun has to be ignored.

16. The number of *van*-constructions is 49, 123, and 590, respectively.

17. This process is also known as *Genetivschwund* in German. See Schachtl (1989) and Bhatt (1990) for some discussion.

18. As said above, a child will start out with the hypothesis that the case shell is empty (i.e. that [16b] is the correct structure). Note that a DP with an empty case shell has a similar surface form to a DP without such a shell. In other words, if there is no spell-out of a case shell, nominative is no different from a spell-out of (16b). In acquisition this is expected to be the first step.

19. Vondel (1587–1679) was a Dutch writer.

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