

# Prenominal Arguments in Russian, German and Dutch

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## Introduction\*

Case theory has played a crucial role in the theory of how arguments are licensed in clauses. Relatively little attention has been paid to case within DPs. Most analyses make no distinction between possessors and arguments and assume they are all licensed by (some form of) genitive case. In this paper, however, we argue that a stronger parallel with verbal clause structure enables us to make a distinction between several ‘genitive’ arguments and allows us to explain a number of restrictions on ‘prenominal’ arguments which have largely been considered idiosyncratic in nature. The analysis will allow a conception of nominal structure and licensing of arguments within DPs that is very similar to clause structure. We will present evidence to show that the postnominal genitive argument, either realized morphologically or periphrastically, should be distinguished from arguments in prenominal position with the canonical marking for that position. Each argument type is licensed in the specifier of its particular agreement projection.

The paper is organized as follows. In the first three sections we present data concerning the behaviour of genitive phrases and prenominal arguments in noun phrases in Russian, German and Dutch. In section 4 we briefly go into previous analyses of ‘prenominal’ genitive and possessive pronouns. Section 5 presents our own analysis, some problems are discussed briefly in section 6. Section 7 contains the conclusions of this paper.

### *1. Prenominal Arguments and Genitive Phrases in Russian*

In Russian, a subject or possessor argument of a noun can be expressed either as a prenominal argument (PA) or as a genitive phrase (GP). This is illustrated in the Russian examples in (1) from Kopčevskaja-Tamm & Šmelev (1994) (K&Š):

- (1) a. V Nikolka-in-oj komnate  
in *Nikolka-PA-LOC.FEM* room-LOC.FEM  
‘In Nikolka’s room’

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## PRENOMINAL ARGUMENTS

environments, like the complement position of certain prepositions and verbs governing genitive case. This is not the case, witness the examples in (5).<sup>2</sup>

- (5) a. Izbegat' sestry/\*sestrino  
 avoid sister-GEN /sister-PA-N
- b. Radi sestry/\*sestrino  
 for-the-sake of sister-GEN /sister-PA-N

There is also a difference in internal complexity. PAs are limited to proper names and common nouns used as such and cannot be accompanied by modifiers or complements. There are no restrictions on the complexity of GPs:

- (6) a. \*Devočkin s persikami portret (K&Š)  
 girl-PA-M with peaches portrait
- b. \*Moej/\*moja mamina stat'ja (K&Š)  
 my-GEN/-NOM mother-PA-F article
- c. Portret devočki s persikami  
 portrait of girl with peaches
- d. Stat'ja moej mamy  
 article [my mother]-GEN

The difference between an agreeing argument in prenominal position and a genitive argument in postnominal position is not particular to Russian but can also be found in another language with a morphological case system, such as German.

### 2. PAs and GPs in German

A cursory look at German suggests that genitive-marked arguments occur on both sides of the noun. It turns out, however, there are many differences between prenominal and postnominal 'genitives' which strongly question an analysis of 'prenominal genitive' in terms of genitive case. In fact, the properties of 'prenominal genitives' are strikingly similar to the characteristics of PAs in Russian. First, a PA in German is always marked by means of *-s* regardless of the gender of the possessor or argument noun, whereas in the genitive case there is a different ending (*-r*) for a feminine noun. The feminine proper names marked *-s* only occur prenominally:<sup>3</sup>

<sup>2</sup> The PAs in these examples are in the default neuter form, the only conceivable one in this context.

<sup>3</sup> However, we do find examples like:

(i) Der Hut Annas the hat Anna-PA

There is variation among speakers as to whether they allow postnominal genitives on bare nouns. The pattern seems to be that postnominal genitives derived from bare feminine Ns are bad, but those derived from names (including names of countries) are good. It might be possible to explain some

- (7) a. Annas/Mutters Hut  
Anna-PA hat
- b. Der Hut der Anna/Mutter  
the hat the-GEN Anna
- c. \*Der Hut Mutters  
the hat Mutter-PA

As in Russian, if a noun has more than one argument the PA always encodes the higher argument:

- (8) a. Peters Behandlung seiner Mutter  
Peter-PA treatment his mother-GEN
- b. \*Peters Behandlung des Arztes (Bhatt 1990:101)  
Peter-PA treatment the doctor-GEN  
'Peter's treatment by the doctor'

Also, there can be only one GP and one PA with each noun:

- (9) a. \*Die Behandlung Peters seiner Mutter (Bhatt 1990:101)  
the treatment Peter-GEN/PA his mother-GEN
- b. \*Peters Mutters Behandlung  
Peter-PA mother-PA treatment  
'Peter's treatment of his mother' or 'Mother's treatment of Peter'

Again, PA arguments cannot contain complex expressions other than proper names. Example (10)a is ungrammatical because the input is too complex.

- (10) a. \*Meines Bruders aus Wiesbaden neue Wohnung (Bhatt 1990:117)  
my-GEN brother-GEN from Wiesbaden new house
- b. \*Mein Bruder aus Wiesbadens neue Wohnung  
my brother from Wiesbaden-PA new house
- c. Die neue Wohnung meines Bruders aus Wiesbaden  
the new house my-GEN brother-GEN from W.

The examples in (11) show that a true, complex genitive does not occur prenominal in modern German. Examples like (11)a, with a masculine or neuter head

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restrictions on the formation of genitive case on bare nouns in terms of PA formation. Genitive on bare nouns is possible with names of countries but not mass nouns. This could be explained if these genitive forms were in fact post-nominal PAs. It would raise the problem how it is possible that the PAs occur postnominally.

## PRENOMINAL ARGUMENTS

of the prenominal genitive, inspire a ‘Goethe-flavour’ in native speakers; when the head is a feminine noun they are fully impossible.<sup>4</sup>

- (11) a. ?Des Kindes Teddybär  
the child-GEN teddy-bear
- b. \*Der Frau Haus  
the-GEN woman house

Again, if one assumes a uniform ‘genitive’ analysis of *-s* in prenominal and postnominal position, the prenominal forms in (7)a would be expected to occur in canonical genitive environments outside the DP. Both *wegen* ‘because of’ and *bedürfen* ‘need’ select genitive case in German, and exclude PA forms.

- (12) a. Wegen \*Mutters/<sup>ok</sup>der Mutter  
because of mother-PA/the-GEN mother
- b. Wir bedürfen \*Mutters/<sup>ok</sup>der Mutter  
we need mother-PA/the mother-GEN

We conclude that in languages with morphological case in the noun phrase prenominal arguments can be licensed without being assigned genitive case. In the next section we will look at a similar phenomenon in Dutch, a language without morphological case.

### 3. PAs and GPs in Dutch

We assume that the Dutch equivalent to the PA and GP discussed so far are the ‘prenominal genitive’ and a PP headed by *van* ‘of’ respectively. The properties of the ‘prenominal genitive’ match those of PAs in Russian and German, which justifies an analysis of these elements as PAs and not genitives. To the extent that they are applicable the arguments discussed earlier to distinguish PAs from GPs will be repeated for Dutch.

If the noun has only one argument we can realize it either by means of a PA or a *van*-PP. If the noun has two arguments, we find a fixed distribution where the PA encodes the higher argument (see also (3)b and (8)a):

- |         |  |     |   |
|---------|--|-----|---|
| (13) a. | Jans boek<br>Jan-PA book               | a’. | Het boek van Jan<br>the book of John              |
| b.      | Mijn moeders boek<br>my mother-PA book | b’. | Het boek van mijn moeder<br>the book of my mother |

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<sup>4</sup> Our hunch is that speakers are familiar with examples like (11)a only due to education, and that it is the morphological similarity with PAs that allows them to be in some way incorporated into the system. The fact that feminine nouns are excluded shows that this late formal learning is not enough to develop a full-fledged prenominal genitive as part of the speaker’s grammar.

- (14) Jans behandeling van de arts  
 Jan-PA treatment of the doctor  
 'The doctor's treatment by John'

In prenominal position PAs can be derived from proper names and nouns used as such. DPs introduced by a referential determiner, indefinite determiner or quantifier cannot be PAs, nor can any modified DP.<sup>5</sup>

- (15) a. \*De/een/iedere jongens boek  
 the/a/every boy-PA book
- b. \*Alle jongens boeken  
 all boys-PA books  
 'All boys' books'
- c. \*De vrouw met die gekke bril's caravan  
 the woman with them funny glasses-PA caravan

We have presented evidence to support the distinction between PAs and GPs in Russian, German and Dutch. PAs occur strictly prenominally, they are derived forms and can show agreement, they always encode the higher theta role and are restricted to proper names. This calls for a unified analysis of PAs in the three languages.

#### 4. Previous Analyses

We will now discuss some previous analyses of these and similar facts. English possessive 's has been analyzed as a D<sup>o</sup> element from the beginning of the DP hypothesis (Abney 1987). By analogy, many researchers have assumed the same for Dutch and German prenominal possessors, including Demske (1995), who argues that the entire PA in Modern German resides in D<sup>o</sup>. Demske's arguments include the fact that PAs occur in complementary distribution with determiners and behave as definite expressions, and that possessive pronouns cooccur with dative NPs which might then be argued to occur in SpecDP. Our main objection against this proposal is that it treats PAs as syntactic heads, an analysis that is incompatible with the fact that PAs can be assigned a  $\theta$ -role by the head N<sup>o</sup> as independent morphological words (see (3)). Following the standard assumption concerning (argumental)  $\theta$ -roles that they must be assigned to XPs this means that PAs cannot be D<sup>o</sup>s.<sup>6</sup>

<sup>5</sup> See section 6 for discussion of cases like *mijn moeders boek* 'my mother's book'.

<sup>6</sup> Baker, Johnson and Roberts (1989) propose that in a passive I<sup>o</sup> can be the recipient of an argument  $\theta$ -role. They argue for this analysis on the basis of (among other things) the fact that a *by*-phrase may be inserted, expressing the semantics of the  $\theta$ -role assigned to I<sup>o</sup>. The assumption that the external  $\theta$ -role of an N<sup>o</sup> is assigned to D<sup>o</sup> would then predict the availability of an adjunct expressing this

PRENOMINAL ARGUMENTS

An alternative approach is to analyze the PA as a combination of an argument DP in SpecDP and the D<sup>0</sup> head of the projection dominating the main N<sup>0</sup>, as in the structure of *Peter's hat* given in (16).

- (16) [DP Peter [D' s [NP hat]]

Under this approach, *-s* cliticizes phonologically to the element in SpecDP, as proposed for English by Abney (1987). Proposals along these lines were also made by Haider (1987) for German and by Corver (1990) for Dutch. Attractive as they may seem to account for the body of facts presented above, there are problems with this approach for each of the languages discussed here. First of all, PAs cooccur with demonstratives in Russian and German, as shown in (17).<sup>7</sup>

- (17) a. On nenavidit ètu moju/Vasinu rabotu  
 he hates this my/Vasja-PA work  
 'He hates this work of mine/Vasja's'
- b. Diese meine Frage (Giusti 1995)  
 this my question  
 'This question of mine'

Russian does not have articles, but demonstratives have a special status among modifiers that justifies treating them as occurring in a higher functional projection. Adjectives focus-scramble freely out of the DP, but they cannot in the presence of a demonstrative:

- (18) a. Xorošuju on kupil knigu  
 good-ACC he bought book-ACC  
 'He bought a good book'
- b. \*Xorošuju on kupil ètu knigu  
 good-ACC he bought this book-ACC  
 'He bought this good book'

Under the assumption that extraction out of a noun phrase proceeds via SpecDP, the fact that demonstratives block adjective extraction can be explained under the assumption that they occur in SpecDP. Since demonstratives can cooccur with PAs, as in (17), PAs cannot occur in SpecDP.<sup>8</sup>

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semantics. This, however, is not the case. We therefore will not discuss this option any further.

<sup>7</sup> This type of example is possible with possessive pronouns, but not other PAs, as illustrated in (i).

(i) \*Diese Ottos Arbeit this Otto-PA work  
 Also, the first element can be a demonstrative, but not an article.

(ii) \*Die meine Frage the my question

We have no explanation for these facts, although solutions must quite clearly be sought in the fact that the possessive pronoun carries inflectional morphology, unlike the PA.

<sup>8</sup> If a demonstrative were to occupy D<sup>0</sup> a PA could only precede it. This word order is ungrammatical.

Possessives in this context (i.e. as in (17)) probably receive the particular interpretation also found in the English 'of mine' construction as found in the glosses. It could then be argued that the analysis should be as in English, which under some analyses involves a structure with two DPs, as in (18)b, (19) (see Schmitt 1996).

(19) [DP This house [DP of mine]]

However, we want to argue that there is no semantic feature that characterizes this position that does not also occur on complement DPs in other positions. Also, it is fully unclear, if the analysis of the Russian cases where analogous to the one in (18)b, (19) how the possessive could end up as high in the higher DP as it does. For these reasons, we will follow De Wit (1996) and assume that *this house of mine* involves DP-internal predication of *mine* over *this house*, with *of* as a licenser of the predicate.

An additional problem with the assumption that possessors are in D° is that it leaves unexplained Dutch cases like those in (20).

(20) Dit is mijn fiets; waar is de jouwe?  
 this is my bike, where is the your?  
 'This is my bike, where is yours?'

Here, a D° cooccurs with and precedes a possessive pronoun. Under the assumption that PAs always occur in the same syntactic position such examples are further evidence that in Dutch this position is not SpecDP nor D°.

Our conclusion is that the surface position of PAs is not in SpecDP nor D° of the higher noun in any of the three languages under discussion.<sup>9</sup>

Italian is very similar to Russian: pronominal possessors agree with the noun with which they occur. Also, like Russian PAs, Italian possessors cooccur with demonstratives. On the basis of these properties of Italian possessors, Giorgi & Longobardi (1991, henceforth G&L) reach the following conclusion (1991:54): 'possessive elements are syntactically specified to be realized on the surface either

<sup>9</sup> The behaviour of predicative possessors also raises some questions. In Dutch, only pronominal PAs can occur predicatively, in all other cases a *van*-PP must be used, as in (i). In Russian all PA forms can be used predicatively (see (iii)), in German PAs derived from proper names are good, pronominal possessors take on the same ending as all other PAs: *-s*.

(i) *Die fiets is de mijne/\*Jans/van Jan*  
 that bike is the my-AGR/ John-PA/of John

(ii) *Das Fahrrad ist Peters/deins*  
 that bike is Peter-PA/yours

(iii) *Étot velosiped - Mašin/tvoj*  
 that bike (is) Maša-PA-NOM.M/your-NOM/M

The fact that Dutch dialects that allow inflection on PAs allow predicative use of them as well as the contrast between the bad instance of (i) vs. all other ones suggest that predicative use of PAs is possible only when some inflection is available. A related question is why this is the only position where Dutch possessive pronouns other than *ons/onze* 'our' may carry adjectival agreement inflection in the first place.

PRENOMINAL ARGUMENTS

as As (as in Italian), or as Ds (as in English and French).’ Having discarded the D<sup>o</sup> analysis for possessors in Russian, German and Dutch, we could extend G&L’s proposal for Italian to these languages and assume that PAs are adjectives. This assumption leads to the following problems.

The first problem is that even in Italian PAs do not always pattern with adjectives. In ellipsis contexts the element expressing definiteness with a PA form is *il*, with an adjective it is demonstrative *quello*.<sup>10</sup>

- (21) a. Il mio                      b. Quello grande                      c. \*Il grande  
           the my (mine)                      this big (one)                      the big (one)

Secondly, if PAs are treated as adjectives this means they occur in adjectival position. In most theories, adjectives occupy a position distinct from arguments, which again makes it difficult to account for the fact that they are assigned  $\theta$ -roles by the head N.<sup>11</sup>

The third problem is that PAs do not have adjectival semantics. Consider the Russian examples in (22).

- (22) a. Materinskaja ljubov’  
           motherly love  
       b. Mamina kniga  
           mother-PA book: ‘mother’s book’

The adjective *materinskij* is derived from the noun *mama* ‘mother’ by a productive morphological process of adjective formation. If forms like *mamin* were adjectives their semantics would be comparable to the semantics of *materinskij*. However, *mamin* refers to a particular person, someone’s mother, whereas *materinskij* does not: Its non-deictic semantics is entirely modificational. Babyonyshev (1996) provides evidence that the nominal base inside a derived adjectives is non-referential, as opposed to the nominal base of a PA:

- (23) a. Ja prinesla Nadinu<sup>i</sup> knigu. Ona<sup>i</sup> prosila ee segodnja vernut’  
           I brought Nadja-pa book. She asked it today return  
           ‘I brought Nadja’s book. She asked me to return it today’  
       b. ??Ja prinesla detskuju<sup>i</sup> knigu. On(-i)<sup>i</sup> prosil(-i) ee segodnja vernut’  
           I brought children’s book. He/they asked it today return.

<sup>10</sup> Quello grande exists with a marked deictic semantics.

<sup>11</sup> This reasoning prevents any adjective from carrying a  $\theta$ -role, a prediction that seems to be violated by examples like *The Italian invasion of Albania* (see Grimshaw 1990). However, it is not clear whether the adjective here is a true bearer of the  $\theta$ -role. It might be an adjunct expressing a  $\theta$ -role in the same way that a *by*-phrase does in a passive clause. G&L provide evidence against an argumental treatment of these adjectives involving reflexivization (p. 125-6).

Finally, PAs inflect in a slightly different way from adjectives, using a paradigm that is sometimes referred to as ‘pronominal’. This is illustrated in (24).<sup>12</sup>

- (24) a. naš, naša, naši  
our-NOM/SG/M, our-NOM/SG/F, our-NOM/PL
- b. Vasin, Vasina, Vasiny  
Vasja-PA-NOM/SG/M, Vasja-PA-NOM/SG/F, Vasja-PA-NOM/PL
- c. milyj, milaja, milye  
dear-NOM/SG/M, dear-NOM/SG/F, dear-NOM/PL

Some pronominal PAs (*ego* ‘his’, *ee* ‘her’ and *ix* ‘their’) do not inflect at all.<sup>13</sup>

Our conclusion, added to the conclusion that PAs are not in DP, is that PAs are not adjectives either.

##### 5. *Towards a structure for PAs and GPs*

We have reached the following conclusions concerning the status of PAs. i) PAs are not true adjectives, ii) PAs are structurally lower than  $D^0$ , and iii) PAs are DPs carrying a  $\theta$ -role, so they must project inside the NP projection. In order to derive a structure for DPs that allows us to account for the properties of PAs and GPs we combine these conclusions with the data presented earlier.

First, we want to make the following assumptions concerning argument projection in DPs. An  $N^0$  assigns a  $\theta$ -role to a complement, like a verb, it does so within its own lexical projection. If the noun can assign more than one  $\theta$ -role the arguments will project following the hierarchy POSS>AGENT>THEME mentioned earlier. Again, similar assumptions must be made to account for argument projection in the verbal domain.

Secondly, we want to argue that genitive on complements of  $N^0$  is structural case. Following generally accepted reasoning about inherent case, if the genitive were an inherent case we would expect it always to cooccur with a particular  $\theta$ -role on the complement. We have seen that there is wide variation among genitive complements to nouns as to the  $\theta$ -roles they carry - a property typical of complements with a structural case. In fact, GPs can carry any  $\theta$ -role assignable by nouns.

<sup>12</sup> Some adjectives use a very similar paradigm, but all adjectives have an overt ending for masculine singular nominative, as opposed to PAs.

<sup>13</sup> They can still be shown not to be genitive forms of the corresponding pronouns. Observe the contrast in (i) and (ii):

(i) Ja èto delala iz-za *nee* I did this because-of her-GEN  
(ii) Ja èto delala iz-za *ee* mamy I did this because-of her mother-GEN

After some prepositions, personal pronouns must be preceded by *n-*. The seemingly homophonic possessives do not show this behaviour.



Since in the languages discussed adjectives precede nouns but follow PAs we assume adjectives to reside between  $\text{Pos}^{\circ}$  and  $\text{Num}^{\circ}$ .<sup>15</sup> Independent evidence for the existence of a projection dominating NumP and dominated by DP can be given on the basis of Dutch facts like those in (29).

- |         |                        |                           |
|---------|------------------------|---------------------------|
| (29) a. | Drie artikelen         | Drie uur                  |
|         | three articles         | three hour: 'three hours' |
| b.      | Een artikel of drie    | Een uur of drie           |
|         | an article or three    | an hour or three:         |
|         | 'about three articles' | 'about three hours'       |

The noun following the numeral is usually in the plural, but some counted nouns remain singular (like *uur* 'hour'). In the approximate construction (29)b the noun is always singular, and the noun is separated from the numeral by an element homophonous with the coordinating conjunction *of* 'or'. A possible analysis of the latter type of DP would involve raising of the head noun to a head position dominating the numeral in SpecNumP but dominated by  $\text{D}^{\circ}$ .

An analysis in terms of coordination, even though it might provide a way to explain the semantics, would not explain numerous other properties of this construction. Crucially, the pronunciation of *een* indicates that it is an article, not a numeral, and therefore a semantic paraphrase like 'one article or three' cannot be taken too seriously, apart from the fact that 'one or three' does not generally mean 'about three'. Also, such an analysis would have nothing to say about the similarities between this construction and its Russian cognate, which does not involve any overt coordinator. See Billings (1995) for an analysis of approximate inversion in terms of N-movement.<sup>16</sup>

- |         |                    |   |
|---------|--------------------|---|
| (30) a. | <i>Tri stat''i</i> | three article-GEN: 'three articles'       |
| b.      | <i>Stat''i tri</i> | article-GEN three: 'about three articles' |

Complements to nouns are usually optional (except objects in complex event nominals). In (1), (7) and (13) we illustrated the fact that complements of nouns can occur either as PAs or GPs, yet another form of optionality in argument realization in nouns. Within the minimalist program, there is only one way of solving the second type of optionality, which is to identify a difference between the two options which could be described in terms of a syntactic or semantic feature. We can see no such difference in these cases, the optionality seems to be

<sup>15</sup> If numerals occupy SpecNumP the assumption must be that adjectives are adjoined to Num', thereby deriving a position between the numeral and the head noun.

<sup>16</sup> Of course, this brief introduction fails to explore all the intricacies involved in approximate inversion in Dutch, in particular with respect to the semantics and the distribution of adjectives (see (i)).

(i) *Een interessant artikel of drie*  
an interesting article or three

We will leave those for further research.

a true one. Therefore, writing down triggers for movement to the various structural positions in terms of feature attraction seems to be a pointless exercise, which we will refrain from.

Instead, we assume that features are picked up as a result of movement into particular positions and spelled out by a special module of morphology (see section 6). The idea is then that argument movement to formal licensing positions inside the DP is free in principle, but some notion of equidistance must be involved in blocking movement of the lower argument into the higher Spec position. Also, AgrP must be assumed to be inactive in some cases to allow an argument to move to the higher SpecPosp, in the same way that AgrOP is inactive in clauses with unaccusative verbs or passives.<sup>17</sup>

As opposed to what happens in the verbal domain, the morphology resulting from SHAGR occurs on the specifier, not the head.<sup>18</sup> Our claim is that this fact is a possible explanation for another difference between CPs and DPs, viz. the absence in nominals of a phenomenon comparable to the EPP; a DP may remain without any arguments at all. Analyzed as the absence in DPs of a formal requirement that SHAGR take place in PosP<sup>19</sup> we can also account for the fact that a single argument of a monadic noun may move either to SpecPosP or SpecAgrP (see (1)). In a clause with an unaccusative verb, AgrOP must be inactive in order for the argument to be able to satisfy the EPP. We propose that in a DP either projection may be inactive, thereby allowing a single argument to be licensed in the other specifier.

#### 6. *Getting the Morphology Right*

So far, we have treated a PA as a nominal whose morphology reflects formal licensing as an argument. However, Russian PAs show agreement with the noun, a property that makes them look more like adjectives. Our proposal is that they are an instance of the more widespread phenomenon of mismatches between syntactic and morphological category. The general idea is the following.

We assume a model of morphology along the lines of Borer and Baker where morphology is a module of grammar which may operate and be accessed at any time in the derivation of a sentence: before syntax, in parallel with it and afterwards. We will follow Borer's terminology in referring to this kind of system as Parallel Morphology; we will refer to the module of grammar involved as Morphological Form (MF). It is irrelevant for the present discussion whether the

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<sup>17</sup> See Laka 1996 on 'active nodes' in ergative and non-ergative languages.

<sup>18</sup> A verb has no phi-features of its own, and in many cases expresses those of the element it agrees with morphologically. An N<sup>0</sup> does have phi-features (number, gender), and expresses those morphologically. The fact that it does not also express the phi-features of the element it agrees with can be attributed to the inability of a form to express the same type of features twice.

<sup>19</sup> See Schoorlemmer 1995 for an analysis of the EPP in these terms.

input to MF consists of head-adjoined structures of the Lieber type or feature annotated stems. Both of these are assumed to trigger rules adding morphological elements to the stem in the course of a syntactic derivation. The restrictions on this 'spellout' are the following (Elsewhere, see also Schoorlemmer 1995, ch. 3):

- Be non-distinct in the strict sense (don't insert morphology that spells out features not present on the stem);
- Spell out as many features as possible;
- Spell out as early as possible;
- Use a lexically listed element spelling out the features.

The fact that MF may operate during the derivation of a sentence as well as before it does not mean that there are no restrictions on the way MF operates. For instance, only morphology that occurs before syntax may be of the result of operations on a verb's argument structure, otherwise we would derive Projection Principle violations. We take as a defining property of derivation that it is the result of a morphological rule operating presyntactically, irrespective of the type of morphology involved. All other morphology will be referred to as syntactic morphology, which includes inflection and the morphological phenomena involved in clitic clustering.

So, apart from syntax and PF there is a module of morphology, MF, which operates in parallel to the syntactic derivation, with mutual access at any point. This approach precludes the insertion in syntactic trees of fully formed morphological items; instead, it builds up the morphological shape of the word by inserting the morphological elements corresponding to the features in the course of the syntactic derivation.<sup>20</sup> MF output is correct if there is no alternative that checks more features and if no features have been added to the derivation in MF.

Apart from providing a straightforward account of the Mirror Principle effect (see Baker 1988, Halle & Marantz 1993) this model has the additional advantage of allowing an explanation of mismatches in syntactic and morphological category. In the case of a passive participle, for instance, MF will spell out whatever constitutes the passive feature on a verb by inserting *morphologically* adjectival material. However, syntax is oblivious to the morphological effects of MF, and therefore the participle continues to behave as a verb syntactically. We will refer to a case like this as a *syntactic verb, morphological adjective*.

Having outlined our assumptions about the interaction between syntax and morphology let us now return to the PA and its adjectival appearance. The idea to account for this is the following: The DP that derives the PA moves to SpecPossP, and receives a feature [Pos] as a result of SHAGR. [Pos] percolates

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<sup>20</sup> This view on morphology and checking could be reconciled if what is inserted in syntax is not fully inflected forms but roots (either abstract or actual morphemes) with bare features to be checked. We would then have to assume that features become visible for MF spellout only after they have been checked, and deriving a successful spellout at MF would have the result of eliminating the features so as not to offend PF.

down to the head of the DP, like a case feature would. The head is input to MF, and the feature is spelled out *-in/-ov*, deriving a PA of the *morphological* category A (*mamin* from *mama*, for instance). This form is equivalent to a structural case form in the sense that it expresses a SHAGR relation. The morphological A continues to behave as a syntactic N, nothing changes in syntax. The German and Dutch *-s* morpheme deriving the PA is equivalent to the Russian *-in/-ov*. The presence of further phi-features resulting from SHAGR may lead to the appearance of agreement morphology on the PA, but we claim that this is not a syntactic fact. This happens in Russian but not German and Dutch.<sup>21</sup>

The proposal that an MF rule is responsible for deriving the actual PA immediately accounts for some of the input restrictions, most importantly, for the fact that the input can be a single word only. Also, the fact that the input to the rule is restricted to a particular lexical class of N<sup>o</sup>s, i.e. those that can be proper names, can be accounted for in a straight-forward way: in order for the MF rule to operate the input must carry a feature [proper name]. A similar restriction must also be assumed to be operative in blocking certain forms of compounding and derivation with proper names. If the *-s* morpheme were a phonological clitic it would be impossible to define the lexical restrictions on cliticization.

#### 7. *Some Problems and Possible Answers*

We will now briefly discuss some problems.

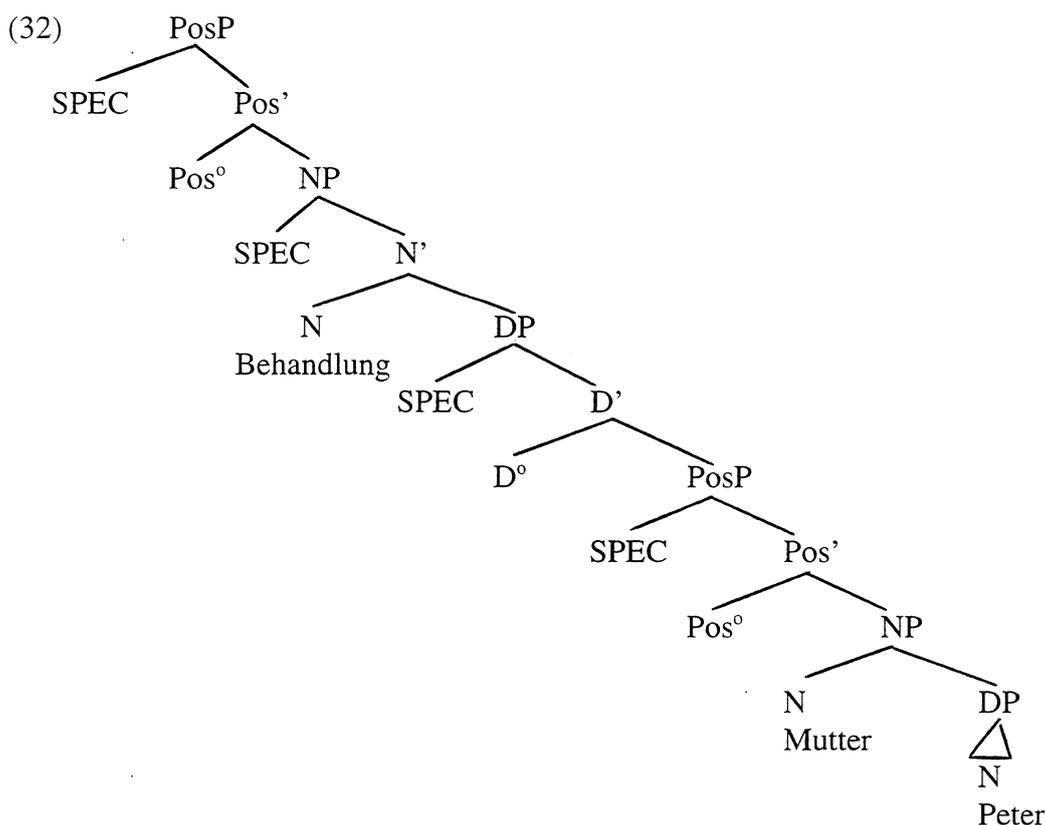
In German and Dutch, PAs can be modified by a possessive pronoun or PA, as illustrated in (31) ((31)a is Dutch, (31)b is German).

- (31) a. Mijn moeders boek  
           ‘My mother’s book’
- b. Peters Mutters Behandlung  
           Peter-PA mother-PA treatment  
           ‘The treatment of Peter’s mother’

This stacking of PAs can be derived successive cyclically, where each of the PAs is licensed in their respective SpecPosPs, as in (32).

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<sup>21</sup> The inflectional morphology is slightly different from that found on ordinary adjectives (see section 4). Probably, the morphological category is not A but ‘Pronominal A’, which accounts for the identity between the endings in PAs and demonstratives.



The DP headed by Peter moves to SpecPosP of the DP headed by Mutter, and the agreement feature is spelled out as *-s* on Peter. Now the DP headed by Mutter is inserted as the complement of *Behandlung*, and it raises to the SpecPosP of the projection of this  $N^{\circ}$ . The DP headed by *Mutter* now receives the [Pos] feature involved with SHAGR with *Behandlung*, which in turn allows *Mutter* to acquire the PA form in *-s*.

This approach predicts the absence of such stacking in Russian. In Russian, the PA agrees in phi-features with its  $\theta$ -marker, which in overt syntax occurs in Num $^{\circ}$ . When the higher DP moves to SpecPosP of the matrix DP its head, (the equivalent of) *Mutter*, must now be marked with a [Pos] feature due to SHAGR with *Behandlung* (either by movement to its own D $^{\circ}$  or by percolation). The assumption is now that agreement between *Mutter* and *Peter* needs to spell out a case feature. In *Petina mama* 'Peter's mother' the case is nominative, and *Petin* agrees with it. However, in the larger structure (the equivalent of (31)b) *mama* is going to end up marked as a possessor, which would force *Petin* to express [pos] in the lower structure and once again in the higher structure. Our assumption is that MF in Russian does not have a form to spell out this double marking.

Observe that such cases are possible in Slovak and Upper Sorbian, where the lower possessor takes on the genitive form (see Corbett 1987, Ružička 1993). Our

## PRENOMINAL ARGUMENTS

assumption is that in these languages, stacked or multiple [pos] features are spelled out with the genitive form.

The second problem also involves PAs derived from a complex DP, where the entire DP functions as a proper name. Examples are given in (33).

- (33) a. De buurvrouws fiets  
the neighbour-PA bike
- b. De president van Amerika's toespraak  
the president of America-PA speech
- c. Teti Mašina kniga  
aunt Maša-PA book

A solution to this problem must be sought in the following direction. We assume that there is a post-syntactic evaluation of the context in which a proper name occurs, and if it is modified or otherwise elaborated on the structure is ungrammatical. However, if the extra structure is part of the proper name as listed in the lexicon the PA is acceptable.<sup>22</sup>

Another problem is that in German and Dutch but not Russian PAs occur in definite DPs only. The solution to this problem is based on the idea that PAs without overt inflection need to move to SpecDP to license the agreement features not spelled out morphologically. This movement, which occurs in German and Dutch but not Russian (or Italian), puts the PA in a SHAGR relation with D<sup>o</sup>, and forces both elements to share their definiteness properties. Since PAs can be derived from proper names only, D<sup>o</sup> of the main projection will always inherit the [+def] value for definiteness of the proper name. This approach probably also explains some cooccurrence restrictions on PAs with other D elements in Dutch and German.

Further problems are the behaviour of Dutch PAs under ellipsis (see fn. 9) and the correct analysis of picture nouns, which we leave for further research.

### 8. Conclusion

We have argued that prenominal arguments in Dutch, German and Russian, even though they may look very much like genitive case forms in the language or in its

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<sup>22</sup> Corver (1990) attributes the grammaticality of (33)b to the fact that the final element can occur as a 'prenominal genitive' independently. The prediction is then that all and only DPs ending in such elements allow PA formation. This is not a valid prediction, as illustrated in (i) and (ii).

- (i) \**Mijn nichtje uit Amerika's brief*  
my cousin from America's letter
- (ii) *Jantje van de overkant's caravan*  
Johnnie from across-the-street's caravan

previous stages, are in fact different syntactic entities. They share with genitive arguments the property that they occur in a unique syntactic position and that they are licensed by SHAGR with a functional head. They differ from genitives in being the product of a morphological rule that is applicable only to a limited set of lexical items, viz. proper names.

The analysis of PAs accounts for the ways in which they differ from GPs in a manner that allows a very high degree of parallel to verbal clause structure to be maintained. Also, the analysis accounts for the restrictions on the input to PA formations without forcing syntax proper to be sensitive to a content feature.

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