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Complex Possessive Pronouns in West Flemish and German*

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Abstract:

In this article we discuss a contrastive, morphological agreement pattern exhibited by singular possessive pronouns in West Flemish and German. While West Flemish *zen* ('his') and *eur* ('her') require a suffix *-en* to mark masculine agreement, they are unmarked for feminine agreement. Conversely, German *sein* ('his') and *ihr* ('her') require a suffix *-e* to mark feminine agreement, but they are unmarked for masculine agreement. Put differently, in both languages only one gender is marked for agreement, and West Flemish marks a different gender than German. To account for this intra- and cross-linguistic variation, we argue for a fine-grained analysis, couched in Nanosyntax (Starke 2009 et seq.), of the possessive pronouns and their agreement markers.

Keywords: *Agreement, Gender, Germanic, Nanosyntax, Possessive Pronouns*

1. Introduction

In this article, we investigate third person singular possessive constructions in West Flemish and German. More specifically, we focus on the contrastive, morphological agreement marking exhibited by the possessive pronouns, as illustrated in (1) for West Flemish and in (2) for German.

- (1) a. zen-**en** hoed
 his-masc.sg hat.masc.sg
 'his hat'
 b. zen-**∅** veste
 his-∅ jacket.fem.sg
 'his jacket'
 c. eur-**en** hoed
 her-masc.sg hat.masc.sg
 'her hat'

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- d. eur- \emptyset veste
 her- \emptyset jacket.fem.sg
 ‘her jacket’
- West Flemish (Haegeman 2013)
- (2) a. sein- \emptyset Hund
 his- \emptyset dog.masc.sg
 ‘his dog’
 b. sein-**e** Schwester
 his-fem.sg sister.fem.sg
 ‘his sister’
 c. ihr- \emptyset Hund
 her- \emptyset dog.masc.sg
 ‘her dog’
 d. ihr-**e** Schwester
 her-fem.sg sister.fem.sg
 ‘her sister’
- German (Georgi and Salzmann 2011)

In (1) and (2), we see that every pronoun agrees with the possessum (i.e. the person/object that is possessed) in number and gender, but this is morphologically realised in opposite ways. In both languages only one gender is marked by an agreement suffix, the other is unmarked (indicated by \emptyset), and the gender which is marked is different for each language. In other words, the pronouns in West Flemish require a suffix to agree with singular masculine possessums, but not with feminine ones, and the pronouns in German require a suffix to agree with singular feminine possessums, but not with masculine ones. This way, the data in (1) and (2) present us with a cross-linguistic contrast in number/gender agreement, and the question arises if/how we can account for this variation.¹

¹ With regards to the West Flemish and German data, we leave out two elements. The first element is neuter pronouns, (i) and (ii). In both languages, the pronouns (ia-b) and (iia-b) pattern with the masculine pronouns, (1-2). However, the agreement in West Flemish follows the feminine pattern, (ic), and in German the masculine one, (iic). This does not mean that we imply that masculine/feminine and neuter gender consist of the same features, but the distinction between them is currently uninformative to our discussion.

- (i) a. (het kind) zen-**en** hoed
 (the child).neut.sg its-masc.sg hat.masc.sg
 ‘(the child)’s hat’
 b. (het kind) zen- \emptyset veste
 (the child).neut.sg its- \emptyset jacket.fem.sg
 ‘(the child)’s jacket’
 c. (de man) zen- \emptyset kleed
 (the man) his- \emptyset dress.neut.sg
 ‘(the man)’s child’
- West Flemish (Haegeman 2013)
- (ii) a. (dem Kind) sein- \emptyset Hund
 (the child).neut.sg its- \emptyset dog.masc.sg
 ‘(the child)’s dog’
 b. (dem Kind) sein-**e** Schwester
 (the child).neut.sg its-fem.sg sister.fem.sg
 ‘(the child)’s sister’
 c. (dem Mann) sein- \emptyset Kind
 (the man) his- \emptyset child.neut.sg
 ‘(the man)’s child’
- German (Georgi and Salzmann 2011)

The second element is case. Since West Flemish seems to have no (overt) morphological case marking anywhere else except for personal pronouns (cf. Haegeman 2013), and since our discussion wants to primarily shed light on the number/gender marking between the two languages, we opted to not obscure the picture unnecessarily. In addition, there are also some theoretical arguments to assume that the exclusion of case will not significantly alter the analysis we propose (cf. section 2.3, and Caha 2021).

To date, the markings in (1) and (2) have, as far as we know, not received much attention. In the existing literature, discussions of West Flemish and German possessive pronouns are often embedded in larger discussions of the so-called ‘Possessive Doubling Construction’ (PDC) (see for instance Haegeman 2004, 2013; Weiß 2008; Georgi and Salzmann 2011 and Buelens 2014 amongst others). The PDC is a mere extension of the constructions in (1) and (2), as it explicitly contains the pronominal possessor, (3).

- (3) a. **Peter/Marie** zen-en/eur-en hoed
 Peter/Mary his-masc.sg/her-masc.sg hat
 ‘Peter’s/Mary’s hat’

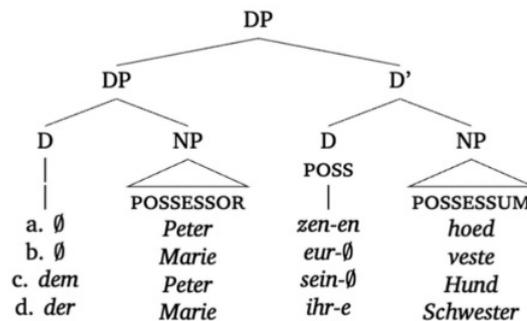
West Flemish

- b. **Peter/Marie** sein-e/ihr-e Schwester
 Peter/Marie his-fem.sg/her-fem.sg sister
 ‘Peter’s/Mary’s sister’

German

For the constructions in (3), the focus has mostly been on the derivation of the DP in its entirety. That is, previous studies, for instance, examined word order, case assignment and the relation between the possessor and the possessum. The composite morphology of the pronoun has not been investigated in detail yet. With respect to its function, though, there is a consensus that the pronoun occupies a single functional head within the DP. Type-wise, this head has been argued to be a determiner head, *D* (see Heck and Müller 2007; Weiß 2008; Georgi and Salzmann 2011), an inflectional head, *I* (Haegeman 2004, 2013), or a possessive head, *POSS* (Buelens 2014). The structures that have been proposed are all variations on the basic DP structure in (4a-b) for West Flemish and (4c-d) for German.

(4)



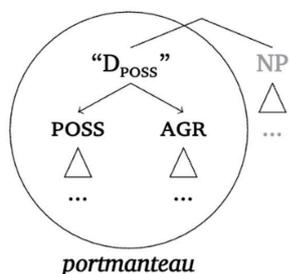
Now, it is not our aim to counter the findings in the literature. We entirely concur with the structure in (4) but we will add to it by zooming in on the possessive pronouns. The goal is to provide a fine-grained and principled account of the intra- and cross-linguistic distribution of suffixed and zero agreement in West Flemish and German. Taking a more cartographic ‘one morpheme – one head’ approach to the data (cf. Cinque and Rizzi 2008), we essentially propose that the possessive is made up of two parts, the pronoun proper and the agreement. This way, we show that the possessive does not lexicalise one functional head as in (4), but rather a sequence of them. Our analysis will be couched in Nanosyntax (Starke 2009 et seq.).

The article is structured as follows. In section 2, we introduce the prerequisites for our analysis. The main proposal is then further described in section 3. Section 4 provides a brief conclusion and touches upon potential future work in this area of research.

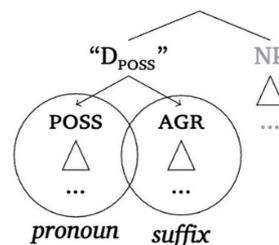
2. Ingredients of the analysis

As was mentioned in the Introduction, West Flemish *eur-(en)* and German *ih(r)-e* traditionally lexicalise a single, functional head in the DP-structure. However, the main argument that we develop in this section is that this head is actually decomposable into multiple layers, and that some of these layers are lexicalised by the pronoun, and some by the agreement marker. The core of our argument is visualised in (5). Following the morphology on the possessives, the D-head is split up into two constituents, POSS and AGR, which are themselves internally complex. In some cases (cf. (1b,d) and (2a,c)), these two constituents are spelled out as a portmanteau, (5a), in other cases (cf. (1a,c) and (2b,d)), they are spelled out separately, (5b).²

(5) a.



b.

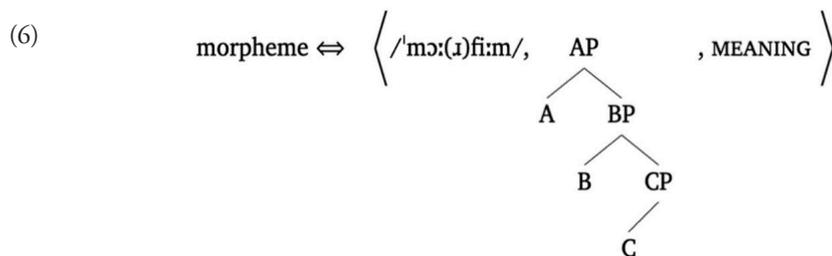


To explain the picture in (5), we will start by introducing the concepts of ‘phrasal spellout’ and ‘root size’ in section 2.1. This will help clarify how we can account for both the lexicalisation of portmanteaus and separate morphemes. After that, in section 2.2 and section 2.3, we examine the internal structures of POSS and AGR individually and provide an explanation for the differences between West Flemish and German agreement.

2.1 Phrasal spellout and root sizes

Before delving into the decomposition of the possessive pronouns, we must introduce two concepts within the nanosyntactic framework that will allow us to explain why the possessives sometimes require suffixation to agree with the possessum and sometimes do not. These concepts are phrasal spellout (Baunaz and Lander 2018; Caha 2009, 2019; Starke 2009, 2018 to name only a few) and root sizes (Starke 2014; Caha *et al.* 2019).

Let us start from the basics. Nanosyntax (Starke 2009 *et seq.*) is a Late-Insertion theory of morphology, where syntactic structures are merged first and then lexicalised afterwards by means of lexical items. Under this view, lexical items consist of several parts: a phonology and/or concept and a syntactic representation. This is illustrated by the abstract lexical item in (6).

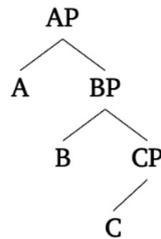


² We will not go into the specifics of how the possessive pronoun eventually gets merged with the NP (which is why the NP is in light grey), as we put the focus specifically on the possessive pronoun in this article. We refer the reader, for instance, to Ross (2021) for an implementation of this in Nanosyntax.

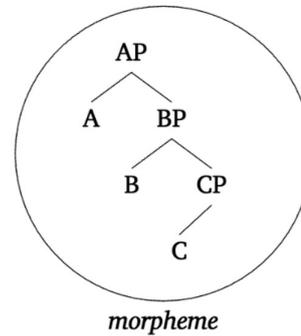
The relationship between the syntax and the lexicon in Nanosyntax is considered to be one of ‘matching’. That is, whenever syntax builds a structure, e.g. (7a), it will search the lexicon for a suitable lexical item that is either a perfect equivalent of the structure or that contains a subpart of it.

Concretely, the lexical item in (6) forms a match with the structure in (7a), because it is identical to it. It can thus be inserted at the top node AP and lexicalise not only this phrase, but also the other features contained within it. We indicate successful lexicalisation with a circle, (7b). A situation like this, where a single morpheme is able to lexicalise multiple syntactic terminals, is referred to as ‘phrasal spellout’.

(7) a.

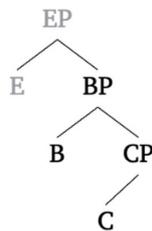


b.

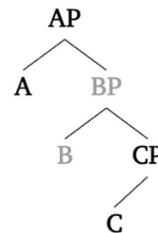


There are, however, instances where a lexical item only matches a subpart of the syntactic structure. An example of such an instance would be when the top node of the structure in (7a) is not AP, but a different feature E, as in (8a). Another example would be when one of the features is left out, as in (8b). The features which are not part of the lexical item in (6) are indicated in light grey.

(8) a.



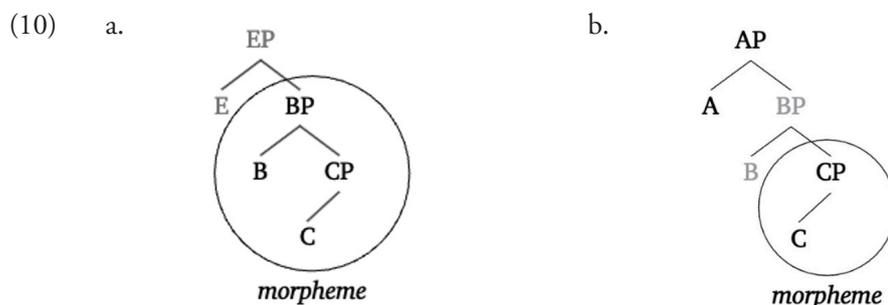
b.



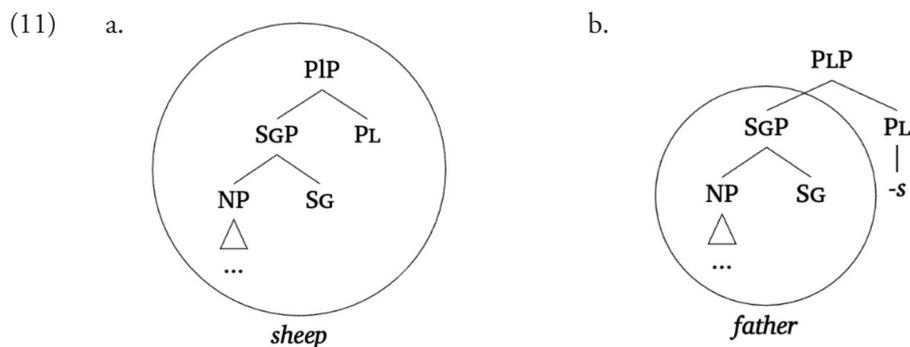
In situations like (8), the lexical item cannot lexicalise the full structure, because it either does not contain the new feature, or because it is missing a feature. However, in both circumstances, it can still lexicalise a subpart of the structure due to the so-called Superset Principle. This principle is formulated in (9).

- (9) Superset Principle (Starke 2009)
 A lexically stored tree L matches a syntactic node S iff L contains the syntactic tree dominated by S as a subtree.

Put informally, the principle states that a lexical item can lexicalise any node of a syntactic tree as long as all the features below that node are contained within it. Taking the examples we have been using thus far, the lexical item in (6) can be inserted at the BP node and lexicalise all the features it encompasses, (10a). It can also be inserted even lower at the CP node and lexicalise just a single feature, (10b).



In the examples above, the lexical item in (6) matched a subpart due to some kind of disruption in the syntactic structure. However, it can also be the case that the lexical item itself simply has a different ‘root size’. Caha (2021) illustrates this by means of a comparison between the plural forms of the English nouns *sheep* and *father*. Whereas the former can be both singular and plural, the latter can only be singular and will require a suffix to pluralise. This suggests that the lexical structures for *sheep* and *father* are not the same. That is, *sheep* must have a bigger size, because it incorporates both number features, whereas *father* only incorporates one of them. This is depicted in (11).³ Already note the resemblance between these structures and the ones we drew in (5): *sheep* can spell out the structure as a portmanteau, *father* must resort to two morphemes.



In sum, we have learned in this section that phrasal spellout in combination with the Superset Principle allows morphemes to spell out more or less structure, depending on the context, and that lexical items come in various sizes. In the next two sections, we will use both

³ One could wonder why the lexical item *sheep* does not lexicalise both structures in (11), as it is a perfect match for both. As proposed by Caha *et al.* (2019), the reason for this essentially has to do with the retention of concepts. They argue that, when a certain lexical item is chosen at the start of the derivation, the rest of the derivation must remain faithful to that choice so as not to illogically replace the concept *father* with *sheep* in the course of lexicalisation.

concepts to account for the fact that some West Flemish and German possessive pronouns can spell out POSS and AGR (cf. (5)) by means of a portmanteau, but others must resort to a second morpheme to do so. We will show that the lexical items of both POSS and AGR spell out a sequence of features and that in each language these sequences differ in size, creating the need for additional agreement suffixation as in (11b).

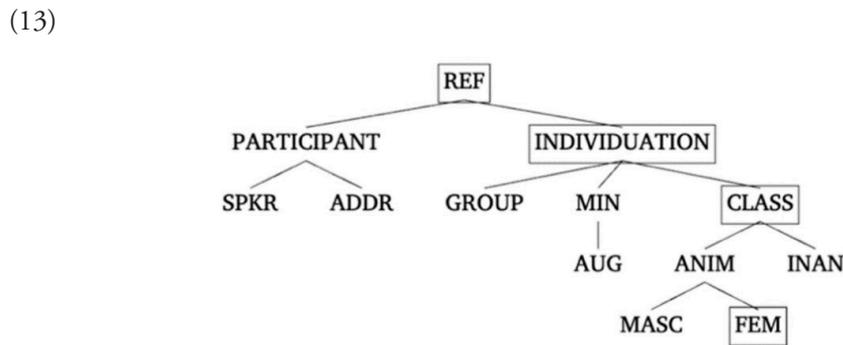
2.2 *The internal structure of POSS*

As was mentioned before (cf. (5)), we divide the D-head into two elements: POSS and AGR. In this section, we start with the POSS and determine its underlying structures. As a reminder, POSS is the part that corresponds to the pronominal parts of the possessives in both West Flemish and German. These are marked in bold in (12).

(12)

	MASC AGR	FEM AGR
WEST FLEMISH	zen/eur-en	zen/eur-ø
GERMAN	sein/ibr-ø	sein/ibr-e

Since we are dealing with a type of pronoun, we will adopt the same features for the underlying structures that were proposed in Harley and Ritter’s (2002) cross-linguistic study on personal pronouns. In their study, they found that pronouns can be formally distinguished by means of a limited set of morphological features that are hierarchically organised, as in (13).



The tree in (13) can be read as follows: The first node at the top of the tree is REF. This feature is part of every pronoun because it indicates that they are referential expressions. Below this node, we find all the features that are privative, i.e., they are either present or absent, there are no negative feature values. These features are then divided over two branches. On the left, there are person features. Speaker (SPKR) and Addressee (ADDR) are used to distinguish between first and second person and are absent in the case of third person. On the right, there are number, class and gender features. Minimal (MIN) and Group (GROUP) distinguish between singular and plural. MIN and GROUP combined, or Augmented (AUG) on its own, are used for other number systems like dual and paucal. Under the CLASS node, the remaining class and

gender features are used to distinguish between Animate (ANIM) and Inanimate (INAN), as well as Masculine (MASC) and Feminine (FEM).

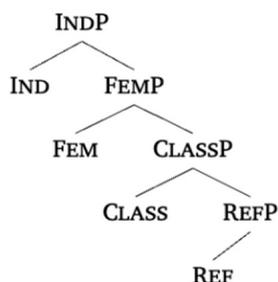
However, since we are only interested in possessive pronouns that are [3, SG, FEM/MASC], we will not use all the features in (13) to model their structures. We will only take the subset of features that is marked by a rectangle. Note that taking such a subset is permitted due to the privative nature of these features, e.g. if the pronoun is singular, the other number features are gone by default. The features we are left with are summarised in (14).

(14) REF > IND > CLASS > FEMM

For the selection in (14), we slightly reinterpret the meaning of some of the features. For number, we take IND to be the singular feature instead of MIN. This way the features of singular and dual number are more conveniently disambiguated. For class and gender, we dispose of class since neither German nor West Flemish make a formal distinction between animate or inanimate possessives. Instead, we redefine CLASS as a default feature for all genders except feminine. As suggested by Baggio (2022), feminine remains distinct from the other genders and projects its own dedicated FEM feature.

In addition to these adjustments, we also restructure the features following Caha (2021). The ordering we opt for is shown in (15). As the root node, REF is placed at the bottom in a similar fashion as nouns are in NPS. Gender and number features follow REF.⁴

(15)

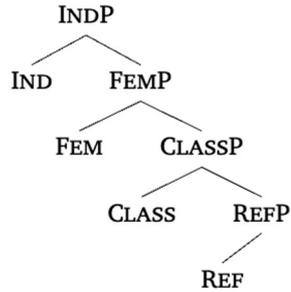


Since we assume that single morphemes can lexicalise multiple syntactic terminals through phrasal spellout, we take the structure in (15), repeated in (16a), to be the underlying structure of the feminine possessive pronouns *eur* and *ibr*. What underlies the masculine pronouns *zen* and *sein* is similar, but lacks the dedicated feminine feature, (16b).⁵

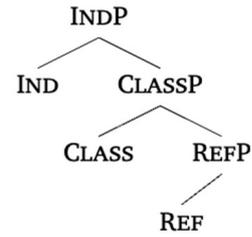
⁴ For discussion of the particular ordering NUMBER > GENDER we refer the reader to Picallo (1991) and Kramer (2015). For the sake of clarity, we present the structures in (15) and (16) with a unary branching foot, but the pronouns could be expected to be built from a root, as in Compton (2022).

⁵ In their current forms, the structures of possessive pronouns are indistinguishable from those of personal pronouns. It is therefore possible that we might need a feature that is characteristic of possessives, like a dedicated poss feature or a genitive case feature, as proposed by Van Baal and Don (2018). However, since this paper is focused on the realisation of the gender agreement marking rather than the pronominal features, we leave it undecided for now what such a possessive feature would be, whether there would be one or more, or where it should sit in the structure.

(16) a. feminine:



b. masculine:



With the base structures of the POSS of masculine and feminine possessive pronouns in place (but see the next section for an update), we will now shift our attention to AGR in the next section.

2.3 Morphological concord

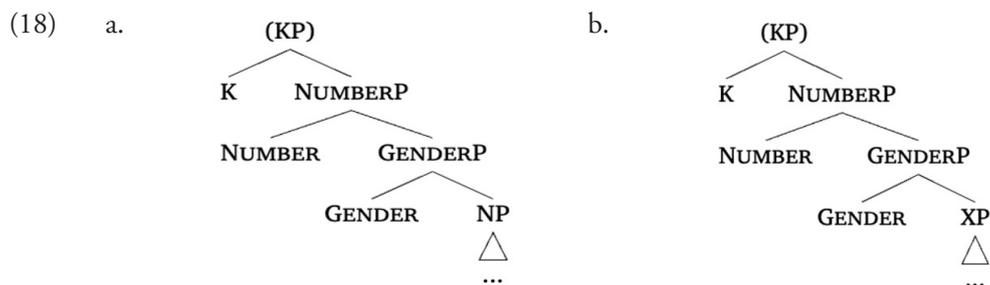
As we already know, West Flemish possessive pronouns mark agreement with the suffix *-en* when they are combined with masculine singular possessums, and German possessive pronouns mark agreement with the suffix *-e* when they are combined with feminine singular possessums, (17). In other words, the data suggest that AGR is made up of gender and number features.

- | | | |
|---------|--|--------------|
| (17) a. | zen- en hoed
his-masc.sg hat.masc.sg
'his hat' | West Flemish |
| b. | eur- en hoed
her-masc.sg hat.masc.sg
'her hat' | West Flemish |
| c. | sein- e Schwester
his-fem.sg sister.fem.sg
'his sister' | German |
| d. | ihr- e Schwester
her-fem.sg sister.fem.sg
'her sister' | German |

If this is correct, then it would seem that AGR consists of similar features as POSS, because, as we concluded in section 2.2, the pronominal features also consist of gender and number. While such feature doubling may seem redundant and curious, various studies on morphological agreement in both the nominal as well as the verbal domain have also observed this phenomenon (see for instance Taraldsen 2010, Ross 2021, Starke 2020, Blix 2021, and Caha 2019, 2023).

Particularly interesting to us in this regard, is the proposal made by Caha (2023). He argues that whenever concord morphology is present, all agreeing categories, i.e., adjectives, numerals

or demonstratives, project the same hierarchy of ϕ -features (and case features) as (pro)nominals, on top of their own categorial features. This is depicted in (18) for full concord, i.e., a situation in which the morphology of the nominal (18a) and the agreeing category (18b) would overlap for gender, number and case.



Caha finds evidence for the proposal in (18) in languages which have identical markings on their (pro)nominals and modifiers. Take for instance Spanish, (19) (taken from Caha 2023: 5). Here, the gender and number agreement between the predicate adjectives and the pronouns is clearly marked each time by the same morphemes (in bold).

- (19) a. Nosotr-**o-s** estamos list-**o-s**
we-masc-pl be.1pl ready-masc-pl
b. Nosotr-**a-s** estamos list-**a-s**
we-fem-pl be.1pl ready-fem-pl

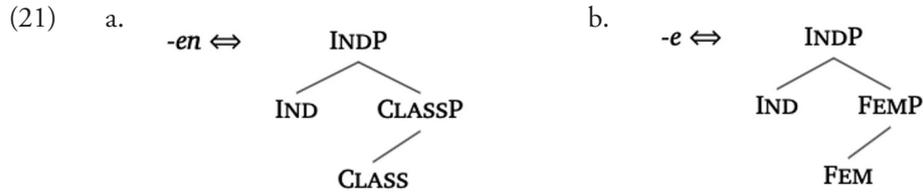
Another language in Caha (2023: 3) is Finnish, (19). Here, morphological concord is also found between the noun and the adjective, but this time for number and case (again in bold).

- (20) a. iso auto
big car
'a/the big car'
b. iso-**ssa** auto-**ssa**
big-in car-in
'in a/the big car'
c. iso-**i-ssa** auto-**i-ssa**
big-PL-in car-PL-in
'in (the) big cars'

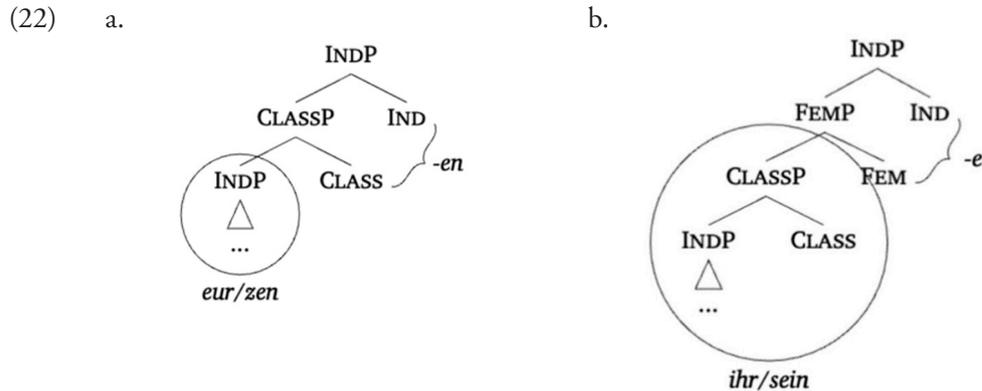
Since the possessive pronouns we are investigating also show concord morphology, i.e., there is suffixal marking for one gender in each language (and case in German, but see footnote 2), it is not a big stretch to argue that we can put them in the same category as the other agreeing categories identified in Caha (2023). Concretely, this means that the suffixes *-en* and *-e* lexicalise a series of concord features for number and gender following the pronominal features. This is in accordance with the data.

The features which each suffix contains are shown in (21). Given that we redefined CLASS as the default masculine feature, and FEM as the marked feminine feature in section 2.2, and

given the empirical information, it follows that West Flemish masculine *-en* spells out CLASS and IND to agree in number and masculine gender, (21a), and German feminine *-e* FEM and IND to agree in number and feminine gender, (21b).



The complete structure for West Flemish *eur-en/zen-en* is accordingly as in (22a), and the structure for German *ihr-e/sein-e* as in (22b). If we recall the structure in (5b), the structures in (22) show what happens for lexicalisation with two morphemes. Note that due to the specific features of AGR in each language, POSS will turn out to be a different size.

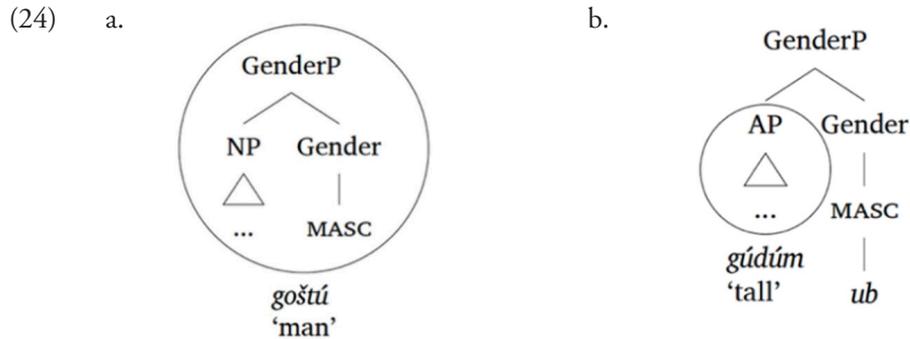


There are still two issues that must be addressed. The first issue is that, unlike in Spanish and Finnish, West Flemish and German do not show agreement morphology on the head noun but only on the possessive. How do we thus ascertain that we are dealing with a similar kind of morphological concord? Turning again to Caha (2023), we find that he is faced with similar data. There are languages in his sample for which the modifiers have more morphology than the nouns they agree with. Consider the data from Dime for instance in (23), (Caha 2023: 26).

- (23) a. gúdúm-**ub** goštú
 tall-MASC man
 ‘a tall man’
 b. gúdúm-**ind** ?ámzi
 tall-FEM woman
 ‘a tall woman’

Similarly as in West Flemish and German, the modifiers in (23) have a suffix indicating gender, whereas the nouns are just ‘bare’. Caha captures this contrast by combining the ideas of phrasal spellout and root size. He argues that while the nouns have a bigger lexical structure that includes nominal as well as gender features, the adjectives are smaller and need additional

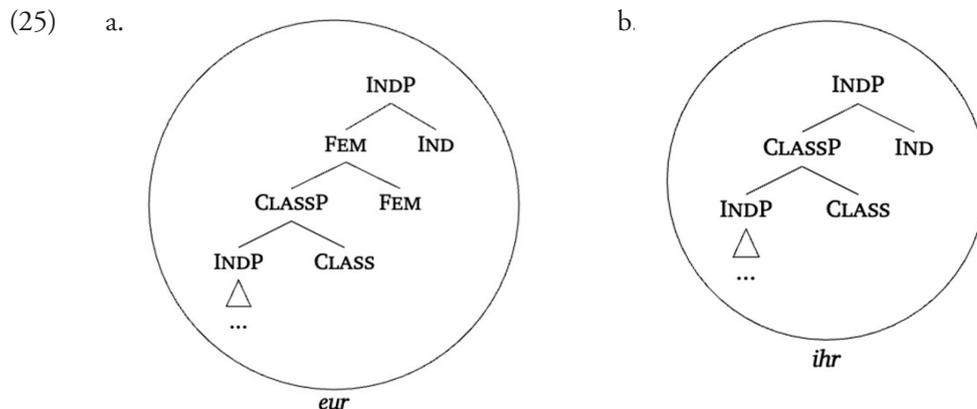
support from gender suffixes to agree with the noun. The trees for the masculine example in (23a) are given in (24).



As in (24), we will argue that it is not necessary for the West Flemish and German nouns to have the same morphological marking as the possessive pronouns, if they are simply considered to embrace a bigger structure than the possessive pronouns. Just like the nouns in Dime, they can lexicalise the NP as well as the relevant ϕ -features.

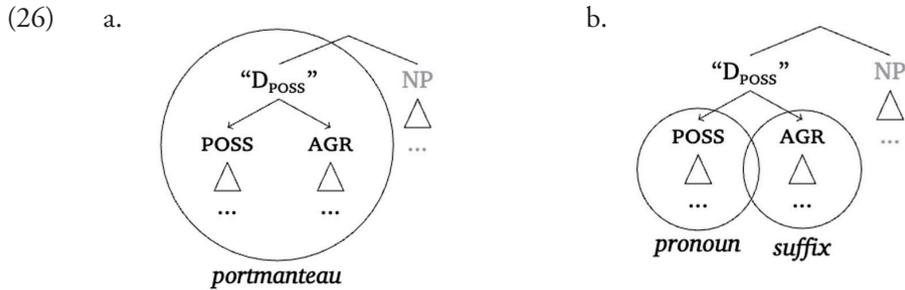
The second issue, then, is the question what happens for the other gender in each language. That is, as we could see in (22), *eur-en* will correctly copy the masculine concord features of the nominal it is paired up with, and *ihr-e* will do the same for the feminine concord features. However, when they agree with a nominal of the opposite gender, the pronouns in both languages do not have any overt agreement marking.

As far as we can see there are three possible scenarios that could explain this. The first scenario is to assume that the West Flemish pronouns simply do not agree with feminine nouns, and that the German pronouns do the same for masculine nouns. However, since both languages show overt agreement for the other genders, and also for plural, there is no valid reason to believe that this is the case. The second scenario is to assume that both languages have an available morpheme to mark one gender, and a zero suffix to mark the other gender. This scenario cannot be definitively excluded as a plausible explanation, but we will not pursue it, since it is not customary to opt for zero morphemes in Nanosyntax (see Pantcheva 2011; Starke 2014 for arguments against it). They are only introduced when there seems to be no other option, and in our case, we do have a third option. In the third scenario, which we go for, the lexical structures of the unsuffixed forms that we proposed earlier need an update. Instead of merely lexicalising pronominal features, we argue that they also lexicalise concord features. Given the patterns we see, *eur* also consists of feminine concord features, (25a), and *ihr* also consists of masculine concord features (25b).



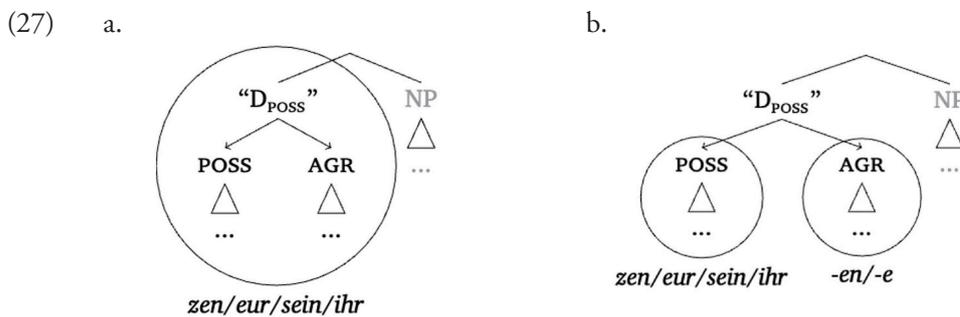
At this point, we have gathered all the ingredients to provide an analysis of the possessive pronouns in West Flemish and German. Before that, however, let us give a brief interim summary.

What we have argued for, so far, is that the possessive is made up of two separate parts, POSS and AGR, which are either lexicalised by a portmanteau morpheme or by separate morphemes. This was shown in (5), and is repeated in (26).



We showed that when West Flemish and German possessive pronouns do not show overt agreement morphology, the situation in (26a) applies. The lexical items of West Flemish *zen/eur* and German *sein/ihr* are big portmanteau morphemes that are able to spell out both the pronominal as well as the concord features. However, we saw in (25) that the West Flemish lexical items contain a feminine concord feature, and that this feature is lacking from the German lexical items. Thus, when West Flemish pronouns agree with a masculine possessum, and German ones with a feminine possessum, their lexical items will not match the syntactic structure anymore. What will happen is similar to (8a) and (8b) from section 2.1: either a feature will be added that is not part of the lexical item, or a feature will be gapped. The pronoun will only spell out a subpart of the structure and another lexical item, the suffix, will spell out the agreement features, as in (26b).

The analysis *grosso modo* thus looks like (27), but we elaborate on this in the next section with a worked-through derivation.



3. Analysis

Having gathered all the separate ingredients of the analysis, we will now proceed to a worked-through derivation of the feminine possessive pronouns and their agreement markers. We will not provide a full analysis of the masculine possessives, because the mere difference

between the two genders is the absence of a FEM feature at the height of the pronominal features. Through this analysis, we will be able to illustrate more clearly that the contrastive, morphological pattern between West Flemish and German possessives arises due to the differences in their underlying structural make-up. More concretely, it is the absence of specific concord features, used to match agreement with the nominal, that gives rise to the observed pattern.

Before we move to the derivations, it is important to note that we will adopt the Lexicalisation Algorithm as it was presented in Starke (2018). The algorithm is a step-by-step guideline for derivation that is standardly used in Nanosyntax. The steps that are relevant to us are formalised as in (28).

(28) *Lexicalisation Algorithm*

Merge-F and

- a. spell out FP.
- b. If (a) fails, move the spec of the complement of F, and retry (a).
- c. If (b) fails, undo spec movement, move the complement of F, and retry (a).
- d. If (c) also fails, attempt backtracking to the previous cycle and try the next option for that cycle.

In section 3.1, we begin with the derivation of the structure in (27a), where both POSS and AGR are spelled out by a portmanteau morpheme. After that, in section 3.2, we go through the derivation of the structure in (27b), where the morphemes can no longer spell out the whole structure and need a suffix to lexicalise AGR.

3.1 Possessives without suffixal markers

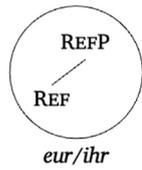
The pattern we want to capture in this section is summarised in the so-called lexicalisation table in (29). Apart from trees, this is a synoptic way in Nanosyntax to depict the result of a derivation. What can be seen in (29) are the lexical items *eur* and *ihr* and the features they can each spell out. We added AGR to the concord features to avoid confusion. The row for the West Flemish pronoun is completely light grey, because it contains all the present features. The row for the German pronoun is interrupted by a black square, because it does not contain a dedicated feminine feature.

(29)

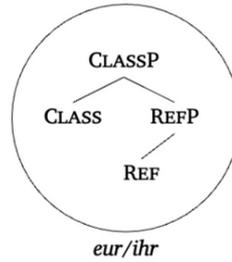
	REF	CLASS	FEM	IND	CLASS (AGR)	FEM (AGR)	IND (AGR)
<i>eur</i> (WF)							
<i>ihr</i> (Ger)							

To derive the possessive pronoun, syntax will begin with the merge of the first pronominal feature, which we assume is REF. In both languages, there is a lexical item available that can lexicalise this structure due to the Superset Principle, i.e., both *eur* and *ihr* have a REF feature and this feature is a subpart of their total lexical structure, (30a). Lexicalisation is successful and syntax merges the subsequent feature, CLASS. Again, we find a candidate for the resulting structure, (30b).

(30) a.

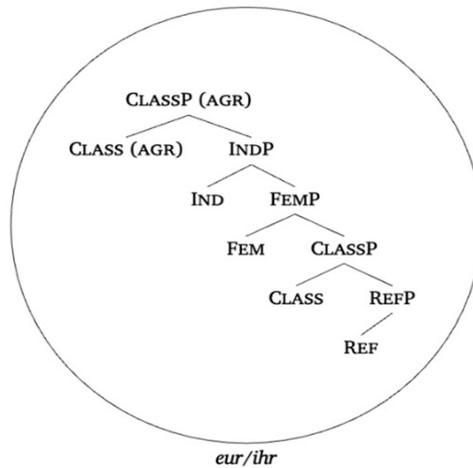


b.



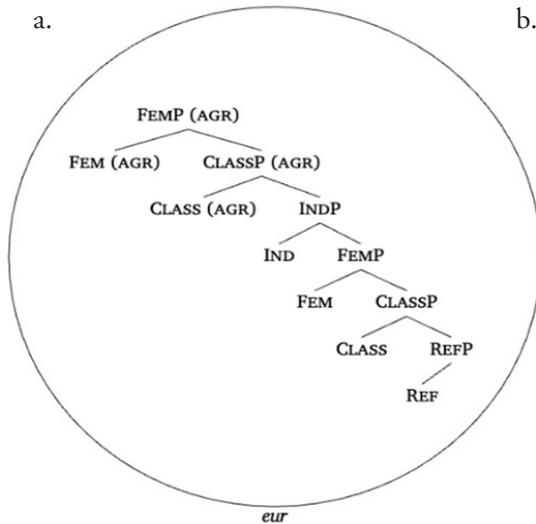
The derivation will proceed to loop through step 1 and 2 of the algorithm (cf. (28)) with no interruptions until it reaches CLASS (AGR) because at every step of the sequence REF > CLASS (AGR) syntax finds a matching lexical item in both languages, (31).

(31)

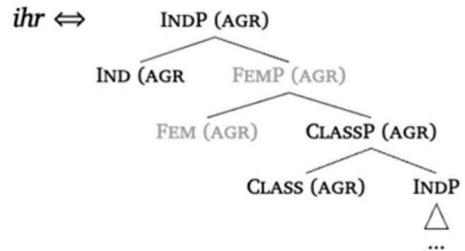


At this point, there will be a split between West Flemish and German. When syntax merges the subsequent feature, FEM (AGR), to agree with a feminine possessum, *eur* can still lexicalise the structure, (32a). However, this feature is missing from the structure of *ihr* (indicated by light grey), (32b). As we know, when a feature is intervening that is not part of the lexical item, the lexical item can no longer spell out the structure, and another lexical item is required.

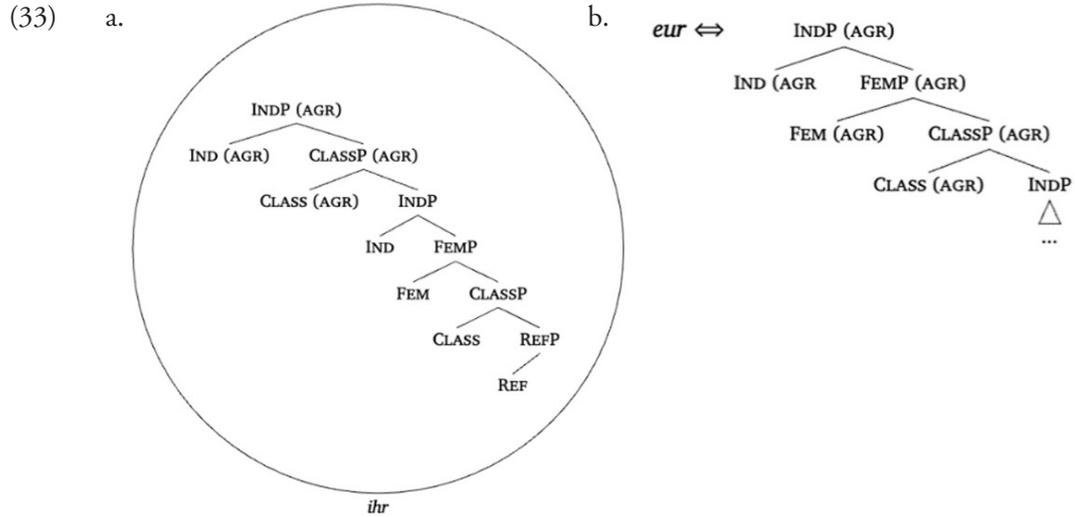
(32) a.



b.



In the case of a masculine possessum, syntax builds IND (AGR) on top of CLASS (AGR), skipping FEM (AGR), and the opposite happens: *ibr* remains a suitable candidate for lexicalisation, (33a), but for *eur* to lexicalise the structure the FEM feature must be present (33b). As we also know, when a feature is gapped that is part of a lexical item, the lexical item also fails to spell out the structure, and another lexical item is required.⁶



To sum up: we showed that West Flemish *eur* is able to lexicalise all the pronominal and concord features when FEM (AGR) is present, and that German *ibr* can do the same thing when FEM (AGR) is absent. In the opposite situation, both languages will require a suffix. This is the first difference through which the contrastive, morphological pattern arises.

3.2 Possessives with suffixal markers

The second pattern we want to capture is summarised in the table in (34). As became clear in the previous section, West Flemish needs a suffix that is able to jump in for agreement with masculine possessums, and German for agreement with feminine possessums. This is indicated in the darker grey areas: the suffix *-en* contains the features CLASS (AGR), and IND (AGR) but lacks FEM (AGR) (indicated by the black box), and conversely, the suffix *-e* does contain FEM (AGR) and IND (AGR).

⁶ As an anonymous reviewer pointed out correctly, the inability of the lexical item in (33b) to lexicalise the structure in (33a) heavily depends on the choice of Superset Principle. The formalisation that we adopt (as given in Starke 2009, 2018; Caha 2009; Baunaz and Lander 2018; De Clercq 2020 amongst many others), states that the syntactic structure must be a subpart of the lexical one. As we saw in (8) and (10), intervening features or gapped features in the syntactic structure will thus prevent a certain lexical item from lexicalising. However, the Revised Superset Principle (RSP), proposed by Vanden Wyngaerd (2018), is not so restricted, as it leaves out the subpart condition. As long as the feature set of a lexical tree is bigger than the one of the syntactic tree, there will be a match. For instance, a lexical item with the features {A,B,C} will be able to lexicalise a syntactic tree that is gapped in the middle but consists of {A,C}. In other words, under the RSP, the lexical structure of *eur* would perfectly be able to shrink to lexicalise the structure in (33a). While we acknowledge that the RSP would complicate our analysis, we will not follow it, as doing so would create the necessity to revisit all previous results achieved with the more traditional Superset Principle, and it would also mean adopting a piece of technology which is less restrictive.

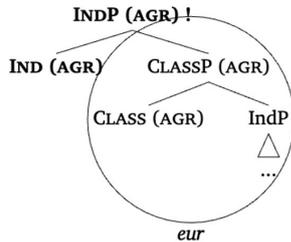
(34)

	REF	CLASS	FEM	IND	CLASS (AGR)	FEM (AGR)	IND (AGR)
eur (WF)							
ihr (Ger)							
eur-en (WF)							
ihr-e (Ger)							

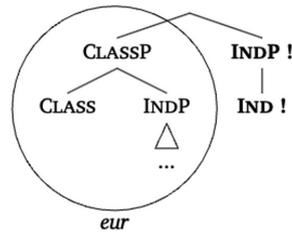
Just like in the previous section, syntax will start merging features and lexicalising them according to the availability of lexical items. As we have seen, this process is uninterrupted until after the lexicalisation of CLASS (AGR).

Starting with West Flemish, when syntax does not merge FEM (AGR) and merges IND (AGR) instead, in order to establish agreement with a masculine singular possessum, the derivation crashes, (35). The lexical item that has been lexicalising the structure thus far, *eur*, absolutely requires FEM (AGR) to be merged to keep lexicalising (cf. footnote 7).

(35) a.

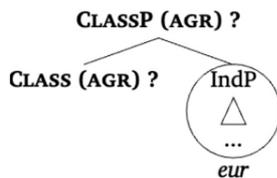


b.

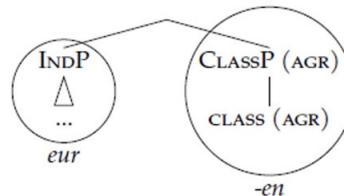


At this stage, the algorithm orders syntax to try spec movement, but since there is no specifier, this fails. As the next step, syntax must try to move the complement of IND (AGR), leaving IND (AGR) stranded as a residual constituent. However, since there is no lexical item that spells out *only* IND (AGR) or has IND (AGR) contained within its structure as a subpart, this fails as well, (35b). The last operation syntax can perform is undo what it did before and try another move. This means, the derivation is backtracked to the merge of CLASS (AGR), (36a). Instead of lexicalising it by *eur*, syntax tries to move the complement. The suffix *-en* is now a candidate for lexicalisation, as it contains the constituent [CLASSP[CLASS]] in its structure, (36b).

(36) a.

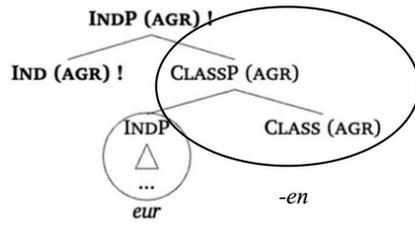


b.

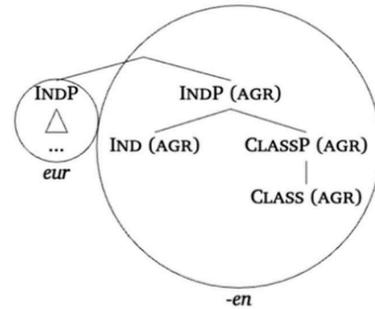


IND (AGR) is merged again, but there is no lexical item that can spell out the resulting structure. Syntax can execute spec movement this time, because now there is a spec [INDP[...]], (37a). When IND (AGR) forms a constituent with CLASS (AGR), the suffix *-en* corresponds completely to it and it gets lexicalised, (37b).

(37) a.

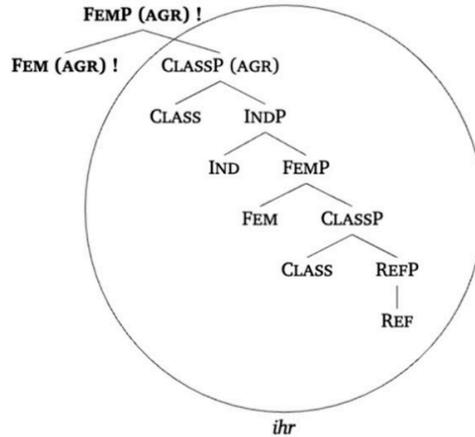


b.



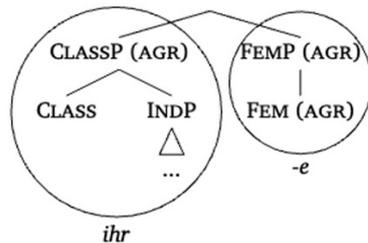
With respect to German, the story is somewhat simpler. When syntax merges FEM (AGR) to agree with a feminine possessum, the derivation gets stuck as well, because the lexical item *ihr* is no fit for the structure anymore, (38).

(38)

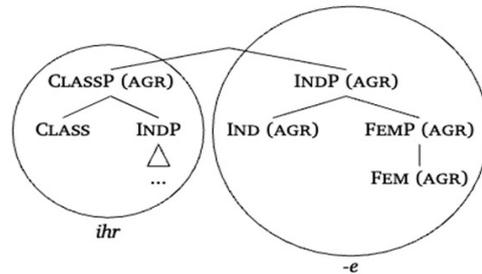


However, there is no need for a backtracking operation in this case, because when syntax moves the complement, it immediately finds a lexical item that contains FEM (AGR), *-e*, (39a). IND (AGR) then follows, and just as in West Flemish, it can be spelled out by the suffix after spec movement, (39b).

(39) a.



b.



To sum up: we showed that West Flemish *eur* is no longer able to lexicalise all the concord features when FEM (AGR) is gapped in syntax, and that German *ihr* can no longer lexicalise either when FEM (AGR) is present. In both languages, a suffix rescues the derivation. Here lies the second difference: to match masculine singular agreement, West Flemish forces the derivation to backtrack before the suffix is able to spell out the concord features; such an operation is not necessary in German.

With this, we have derived all the structures with and without suffixal marking in West Flemish and German.

4. Conclusion & Outlook

In this article, we pointed out a contrastive pattern in the morphological markings of possessive pronouns between West Flemish and German. There were essentially two questions surrounding these data: (i) how can we explain that both languages only mark one gender, and (ii) how can we explain that both languages mark the opposite gender of each other. In the course of this article, we have provided an answer to both questions by digging into the underlying structures of the possessive pronouns and the agreement markers. The answer to both questions basically boils down to root sizes. Because both languages have possessive pronouns with big lexical structures that reach as far as the concord features, they only need additional suffixation for the gender that is not captured by these possessive pronouns. Since we argued that in West Flemish the possessive pronoun consists of a feminine concord feature, but in German it does not, it thus follows that both languages will add suffixation for the opposite gender.

While the analysis proposed here neatly accounts for the distinctive morphological agreement pattern we find in West Flemish and German possessives, there is still some work to be done. With regards to West Flemish and German, for instance, we have not yet touched upon the structural make-up of the plural forms. West Flemish *zen/eur* do not need an additional suffix marker to establish agreement with plural nouns (e.g., *zen/eur hoeden* ‘his/her hats’), while German *sein/ihr* do (e.g., MASC PL *sein-el/ihr-e Hunde* ‘his/her dogs’, FEM PL *sein-el/ihr-e Katze* ‘his/her cats’). A formal analysis based on the one presented in this article will thus have to explain the presence or absence of certain gender features in the singular and their absence or presence in the plural, respectively. Exploring the structure of the plural in more detail will thus give even more insights into the interplay between gender and number. Another avenue for further research is the derivation of the full PDC. Especially from a theory-internal perspective, the complexity of the phenomenon may be an ideal testing ground to further explore and optimise the mechanisms used in the framework of Nanosyntax (e.g., Lexicalisation Algorithm). Finally, in our analysis, we confronted two West Germanic languages. Future studies focusing on a broader sample of languages, including North Germanic varieties, could provide a more detailed typology of the agreement patterns found in Germanic languages.

References

- Baggio, Pietro. 2022. “Getting Rid of MASC - The Encoding of Gender in Italian”. Submitted to *Natural Language and Linguistic Theory*. <<https://lingbuzz.net/lingbuzz/006753>> (07/2023).
- Baunaz, Lena, and Eric Lander. 2018. “Nanosyntax: The basics”. In *Exploring Nanosyntax*, ed. by Lena Baunaz, Karen De Clercq, Liliane Haegeman, and Eric Lander, 3-56. New York: Oxford University Press.
- Blix, Hagen. 2021. “Phrasal Spellout and Partial Overwrite: On an Alternative to Backtracking”. *Glossa: A Journal of General Linguistics* 6 (1): 1-17. DOI: 10.5334/gjgl.1614.

- Buelens, Liisa. 2014. "Two Flemish Possessive Structures: Affected Possession". In *Proceedings of Com(Parative) Syn(Tax) Meetings*. Leiden: University Center for Linguistics. <<https://biblio.ugent.be/publication/8578461>> (07/2023).
- Caha, Pavel. 2009. "The Nanosyntax of Case". PhD thesis, University of Tromsø.
- Caha, Pavel. 2019. *Case Competition in Nanosyntax. A Study of Numerals in Ossetic and Russian*. Berlin: Language Science Press.
- Caha, Pavel. 2021. "Modeling Declensions without Declension Features. The Case of Russian". *Acta Linguistica Academica* 68 (4): 385-425. DOI: 10.1556/2062.2021.00433.
- Caha, Pavel. 2023. "The Layered Structure of Concord: A Nanosyntactic Approach". In *The Many Facets of Agreement*, ed. by Pavel Caha, Pavel Rudnev, and Svetlana Toldova. Munich: LINCOM.
- Caha, Pavel, Karen De Clercq, and Guido Vanden Wyngaerd. 2019. "The Fine Structure of the Comparative". *Studia Linguistica* 73 (3): 470-521. DOI: 10.1111/stul.12107.
- Cinque, Guglielmo, and Luigi Rizzi. 2008. "The Cartography of Syntactic Structures". *STiL – Studies in Linguistics* 2: 43-59.
- Compton, Richard. 2022. "On the Structure of (Personal) Pronouns in Inuktitut". *Canadian Journal of Linguistics/Revue Canadienne De Linguistique* 67(3): 194-215. DOI: 10.1017/cnj.2022.21.
- De Clercq, Karen. 2020. *The Morphosyntax of Negative Markers: A Nanosyntactic Account*. Berlin: De Gruyter Mouton.
- Georgi, Doreen, and Martin Salzmann. 2011. "DP-Internal Double Agreement Is Not Double Agree: Consequences of Agree-Based Case Assignment within DP". *Lingua* 121 (14): 2069-2088. DOI: 10.1016/j.lingua.2011.07.010.
- Haegeman, Liliane. 2004. "DP-Periphery and Clausal Periphery: Possessor Doubling in West Flemish". In *Peripheries. Syntactic Edges and Their Effects*, ed. by David Adger, Cécile De Cat, and George Tsoulas, 211-240. Dordrecht: Springer Netherlands.
- Haegeman, Liliane. 2013. "Two Prenominal Possessors in West Flemish". In *Morphosyntactic Categories and the Expression of Possession*, ed. by Kersti Börjars, David Denison, and Alan K. Scott, 219-252. Amsterdam: John Benjamins. DOI: 10.1075/la.199.09hae.
- Harley, Heidi, and Elizabeth Ritter. 2002. "Person and Number in Pronouns: A Feature-Geometric Analysis". *Language* 78: 482-526.
- Heck, Fabian, and Gereon Müller. 2007. "Extremely Local Optimization". In *Proceedings of WECOL 34*, ed. by Edin Bainbridge, and Brian Agbayani, 170-182. Fresno, CA: Department of Linguistics, University of Fresno.
- Kramer, Ruth T. 2015. *The Morphosyntax of Gender*. Oxford: Oxford University Press.
- Pantcheva, Marina. 2011. *Decomposing Path. The Nanosyntax of Directional Expressions*. PhD Dissertation. University of Tromsø.
- Picallo, M. Carme. 1991. "Nominals and Nominalizations in Catalan". *Probus* 3 (3): 279-316. DOI: 10.1515/prbs.1991.3.3.279.
- Ross, Hayley. 2021. "Implications of the Danish Definiteness Alternation for Concord in Nanosyntax". *Annual Review of the Faculty of Philosophy Novi Sad* 47 (3). Special Issue, *Proceedings of SinfonIJA 14*: 15-41.
- Starke, Michal. 2009. "Nanosyntax. A Short Primer to a New Approach to Language". *Nordlyd* 36 (1).
- Starke, Michal. 2014. "Towards Elegant Parameters: Language Variation Reduces to the Size of Lexically-stored Trees". In *Linguistic Variation in the Minimalist Framework*, ed. by M.C. Picallo, 140-152. Oxford: Oxford Academic.
- Starke, Michal. 2018. "Complex Left Branches, Spellout, and Prefixes". In *Exploring Nanosyntax*, ed. by Lena Baunaz, Karen De Clercq, Liliane Haegeman, and Eric Lander, 239-249. New York: Oxford University Press.
- Starke, Michal. 2020. "Universal Morphology". *NELS* 51, 6 November – 8 November, Montréal, Québec. <<https://uqam.ca.panopto.com/Panopto/Pages/Viewer.aspx?id=c8ad61b3-1bed-43f6-800a-ac8f-0105b1eb>> (07/2023).
- Taraldsen, Knut T. 2010. "The Nanosyntax of Nguni Noun Class Prefixes and Concords". *Lingua* 120 (6): 1522-1548. DOI: 10.1016/j.lingua.2009.10.004.

- Van Baal, Yvonne, and Jan Don. 2018. "Universals in Possessive Morphology". *Glossa: A Journal of General Linguistics* 3 (1). DOI: 10.5334/gjgl.395.
- Vanden Wyngaerd, Guido. 2018. "The Feature Structure of Pronouns: A Probe into Multidimensional Paradigms". In *Exploring Nanosyntax*, ed. by Lena Baunaz, Karen De Clercq, Liliame Haegeman, and Eric Lander, 277-304. New York: Oxford University Press.
- Weiß, Helmut. 2008. "The Possessor that Appears Twice. Variation, Structure and Function of Possessive Doubling in German". In *Microvariation in Syntactic Doubling*, ed. by Sjef Barbiers, Olaf Koene-
man, Marika Lekakou, and Margreet van der Ham, 381-401. Bingley: Emerald. DOI: 10.1016/
S0092-4563(08)36013-9.