CASE COMPETITION IN HEADLESS RELATIVES

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List of abbreviations

ACC	accusative
AN	animate
COMP	complementizer
CONN	connective
DAT	dative
DEM	demonstrative
DUR	durative
GEN	genitive
INF	infinitive
M	masculine
NF	non-future
NOM	nominative
N	neuter
PL	plural
PRED	predicative
PRES	present tense
PST	past tense
PTCP	participle
REL	relative
SG	singular

SS	same subject
TOP	topic
TR	transitional sound

Chapter 1

Introduction

This dissertation is about case competition, a situation in which two cases are assigned but only one of them surfaces. One of the constructions in which case competition appears is relative clauses that lack a head, i.e. headless relatives.

In this introduction I first introduce what I mean exactly with case competition in headless relatives. Then I introduce the topics I discuss in this dissertation.

1.1 Decomposing the title

Languages can use case to mark the grammatical role of a noun phrase in a clause (**moravcsik2009**). Consider the two Modern German sentences in (1). What can descriptively be called the subject of the predicate *mögen* 'to like' is marked as nominative. What can be described as the object of *mögen* 'to like' is marked as accusative. The case marking of the noun phrases is reflected on the determiner in the noun phrase. In (1a), *der* in *der Lehrer* 'the teacher' appears in nominative case, because it is the descriptive subject in the clause. *Den* in *den Schüler* 'the pupil' appears in accusative case, because it is a descriptive object of *mögen* 'to like'. In (1b), the grammatical roles are reversed: *der* in *der Schüler* 'the pupil' appears in nominative case, because it is the descriptive subject in the clause. *Den* in *den Lehrer* 'the teacher' appears in accusative case, because it is the descriptive object of *mögen* 'to like'.

(1) a. Der Lehrer mag den Schüler.
the.NOM teacher likes the.ACC student
'The teacher likes the pupil.'
b. Der Schüler mag den Lehrer.
the.NOM student likes the.ACC teacher
'The pupil likes the teacher.'

Not only full noun phrases, but also other elements can be marked for case, such as relative pronouns. Modern German marks relative pronouns, just like full noun phrases, for the grammatical role they have in the clause. Consider the two sentences in (2). These two sentences both contain a main clause that is modified by a relative clause. In (2a), the relative clause *der nach draußen guckt* 'that looks outside' modifies *den Schüler* 'the pupil'. *Schüler* 'pupil' is called the head (noun) or the antecedent of the relative clause. *Den* in *den Schüler* 'the pupil' appears in accusative case, because it is the descriptive object of *mögen* 'to like' in the main clause. The relative pronoun *der* 'REL.SG.M.NOM' appears in nominative case, because it is the descriptive subject of *mögen* 'to like' in the relative clause.

In (2b), the relative clause *den er beim Versteckspiel sucht* 'that he is searching for playing hide-and-seek' modifies *den Schüler* 'the pupil'. *Den* in *den Schüler* 'the pupil' appears again in accusative, because it is the descriptive object of *mögen* 'to like' in the main clause. The relative pronoun *den* 'REL.SG.M.ACC' appears in accusative case, because it is the descriptive object of *suchen* 'to search' in the relative clause.

(2) a. Der Lehrer mag den Schüler, der nach draußen
the.NOM teacher likes the.ACC student REL.SG.M.NOM to outside
guckt.
looks
'The teacher likes the pupil that is looking outside.'
b. Der Lehrer mag den Schüler, den er beim
the.NOM teacher likes the.ACC student REL.SG.M.ACC he at the

Versteckspiel sucht.
hide-and-seek game searches
'The teacher likes the pupil that he is searching for playing hide-and-seek.'

Compare the two sentences in (2). In both sentences the head is marked as accusative because it is the descriptive object in the main clause. The case of the relative pronoun in (2b) is also accusative, because it is the descriptive object in the relative clause. The case of the relative pronoun in (2a) is nominative, because it is the descriptive subject in the relative clause. So, the case of the relative pronoun in (2a) differs from the case of the head.

The focus of this dissertation lies on headless relatives. As the name suggests, this type of relative clause lacks a head.[1] Even though Modern German also has case competition in headless relatives, I turn to Gothic now. The patterns among the two languages differ slightly, and the first part of the dissertation can be illustrated best with Gothic.

I give an example of a headless relative in Gothic in (3). There is no head that this relative clause modifies, because it is a headless relative. This is different from the examples from German I gave above, which each had a head. The predicate *arman* 'to pity' takes accusative objects, as indicated by the subscript on the gloss of the verb. The predicate *gaarman* 'to pity' also takes accusative objects, indicated again by the subscript. The relative pronoun *þan(a)* 'REL.SG.M.ACC' appears in accusative case.[2]

(3) gaarma þan -ei arma
pity.PRES.1SG$_{[ACC]}$ REL.SG.M.ACC -COMP pity.PRES.1SG$_{[ACC]}$
'I pity him whom I pity'
(Gothic, Rom. 9:15, adapted from **harbert1978**: 339)

[1] This 'missing noun' has been interpreted in two different ways. Some researchers argue that the noun is truly missing, it is absent, cf. **citko2005**; **vanriemsdijk2006**. Others claim that there is actually a head, but it is phonologically zero, **bresnan1978**; **groos1981**; **grosu2003**. At this point in the discussion this distinction is not relevant. I return to the issue in Chapter 2.

[2] The relative pronoun without the complementizer *-ei* is *þana*. Therefore, I refer to the relative pronoun as *þan(a)*.

Where does this accusative case come from? Logically speaking, there are two possible sources: the predicate in the main clause *gaarman* 'to pity', the predicate in the relative clause *arman* 'to pity'. From now on, I use the terms internal and external case to refer to these two possible case sources. Now there are three logical possibilities for the source of the accusative case on *þan(a)* 'REL.SG.M.ACC' in (3): the internal case, the external case, or both.

Internal case refers to the case associated with the relative pronoun internal to the relative clause. More precisely, it is the case, which is associated with the grammatical role that the relative pronoun has internal to the relative clause. In (3), the relative pronoun is the descriptive object of *arman* 'to pity'. The predicate *arman* 'to pity' takes accusative objects. So, the internal case is accusative.

External case refers to the case associated with the missing head in the main clause, which is external to the relative clause. Concretely, it is the case which is associated with the grammatical role that the missing head has external to the relative clause. In (3), the missing head is the descriptive object of *gaarman* 'to pity'. The predicate *gaarman* 'to pity' takes accusative objects. In (3), the external case is accusative.

Now I return to the question where *þan(a)* 'REL.SG.M.ACC' in (3) got its case from. In the remainder of this section I show evidence for the claim that the relative pronoun is sensitive to both the internal and the external case. This is easy to imagine for the internal case: the internal case reflects the grammatical role of the relative clause. It is a bit more complicated for the external case. The external case is associated with the grammatical role of the missing head in the main clause. The idea is going to be that the external case cannot be reflected on a non-existing head. Indirectly, it appears on the relative pronoun.[3] This means that the internal and external case come together on the relative pronoun. In other words, there is case competition going on in headless relatives. (3) is indeed the first example I gave of case competition in a headless relative. It is an uninteresting one, because the two competing cases are identical.

Consider the example in (4), in which the internal case is accusative and the external case is nominative. The internal case is accusative. The predicate *frijon* 'to

[3]Later on I will argue that this indirect process is actually a deletion operation.

love' takes accusative objects, as indicated by the subscript on the predicate. The external case is accusative. The predicate *wisan* 'to be' takes nominative subjects, indicated by the subscript on the predicate. The relative pronoun *þan(a)* 'REL.SG.M.ACC' appears in accusative. This accusative can only come from the predicate *frijon* 'to love', which is the internal case here. The relative pronoun is marked in bold, just as the relative clause, showing that the relative pronoun patterns with the relative clause.

(4) **þan** **-ei** **frijos** siuks ist
REL.SG.M.ACC -COMP love.PRES.2SG.$_{[ACC]}$ sick be.PRES.3SG$_{[NOM]}$
'the one whom you love is sick'
(Gothic, John 11:3, adapted from **harbert1978**: 342)

The conclusion that follows is that the relative pronoun can take the internal case. At this point it remains unclear what happened to the external nominative case.

Now consider the example in (5), in which the internal case is nominative and the external case is accusative. The internal case is nominative. The predicate *wisan* 'to be' takes nominative subjects, as indicated by the subscript on the predicate. The external case is accusative. The predicate *ussiggwan* 'to read' takes accusative objects, as indicated by the subscript on the predicate. The relative pronoun *þo* 'REL.SG.N.ACC' appears in the accusative case. This accusative can only come from the predicate *ussiggwan* 'to read', which is the external case here. The relative pronoun is not marked in bold, just like as the main clause, showing that the relative pronoun patterns with the main clause.

(5) jah þo **-ei** **ist** **us** **Laudeikaion** jus
and REL.SG.N.ACC -COMP be.PRES.3SG$_{[NOM]}$ from Laodicea 2PL.NOM
ussiggwaid
read.$_{[ACC]}$
'and you read the one which is from Laodicea'
(Gothic, Col. 4:16, adapted from **harbert1978**: 357)

The conclusion that follows is that the relative pronoun can take the external case. At this point it remains unclear what happened to the internal nominative case.

The examples in (4) and (5) have shown that the relative pronoun in headless relatives can take either the internal or the external case. In the examples, the predicates take nominative and accusative, and in both cases, the relative pronoun appeared in accusative case. In other words, there was a competition between nominative and accusative, and accusative won.

In the next section, I discuss the content of this dissertation. Before that, I comment on two notational conventions I use throughout this dissertation. First, I place subscripts on the glosses of the predicates. They indicate what the internal or external case is. The subscript on the predicate in the relative clause indicates the internal case. The subscript on the predicate in the main clause indicates the external case. This subscript can mean different things. For *frijon* 'to love' in (4) the subscript indicates which case the complement of the verb appears in. The subscript on *wisan* 'to be' in (4) refers to the case the descriptive subject appears in. A subscript can also refer to the case of the indirect object of a predicate, a possibility that arises in the next chapter. In other words, the subscript can refer several elements: a subject, direct object or indirect object of a predicate. There is no overarching theoretical notion that the subscript makes reference to. The subscript simply indicates which case is required within the (main or relative) clause.

Second, I write the relative clause in bold. When the relative pronoun takes the internal case, I mark it in bold as well, as shown in (4). When the relative pronoun takes the external case, I leave it black, indicating it patterns with the main clause. An example of that is (5).

1.2 The content of this dissertation

In the previous section I introduced the notion of case competition, and I illustrated how it appears in headless relatives. This dissertation discusses two question regarding this phenomenon. The first one is which case is going to win the case competition, i.e. which case surfaces. I discuss this in Part I. The second question is whether both competitors are able to compete in the competition, i.e. whether one of the cases is surfacing or both are ungrammatical. I discuss this in Part II. For both I will show that morphology is leading. What we observe in syntax is a reflex of the morphology.

1.3 The scope of this dissertation

1.3.1 Case attraction

Case attraction in headed relatives seems related, but I will not account for it.

(6) unde ne wolden níet besên den mort den dô was geschên
and not wanted not see the murder.ACC that.ACC there had happened
'and they didn't want to see the murder that had happened.'
(MHG, Nib. 1391,14, **behaghel1923**: 756, after **pittner1995**: 198)

(7) Den schilt den er vür bôt der wart schiere
the.ACC shield.ACC which.ACC he held$_{ACC}$, that.NOM was quickly
zeslagen
shattered$_{NOM}$
'The shield he held was quickly shattered' Iwein 6722f., Lenerz 1984: 116)

OHG has case attraction in headed relatives, Gothic does not, but both show case competition in headless relatives. So, there does not seem to be a one-to-one connection there. I leave it for further research.

1.3.2 Syncretism

For a long time it has been noted that syncretism seems to resolve case conflicts. –references–

A language like Polish, that normally doesn't allow for any case mismatches, even allows for it. In this dissertation I do not offer a detailed account for what a derivation looks like.

(8) Jan unika kogokolwiek wczoraj obraził.
Jan avoid.3SG$_{[GEN]}$ REL.SG.M.ACC/GEN yesterday offend.3SG.PST$_{[ACC]}$.
'Jan avoided whoever he offended yesterday.'

I won't talk about the details.

1.3.3 The genitive

In Gothic headless relatives, there is data available of the genitive in case competition with the accusative. The genitive wins in this competition. I give an example in which the internal case is accusative and the external case is genitive in (9). The relative clause is marked in bold, the relative pronoun is not. The internal case is accusative. The predicate *gasehvun* 'saw' takes accusative objects. The external case is genitive. The noun *waiht* 'thing' combines with a genitive. The relative pronoun *þiz(e)* 'what.GEN' appears in the external case: the genitive.

(9) ni waiht þiz **-ei gasehvun**
not thing$_{[GEN]}$ what.GEN -COMP saw$_{[ACC]}$
'not any of (that) which they saw'
(Gothic, Luke 9:36, adapted from **harbert1978**: 340)

If the internal case is genitive and the external case is accusative, the genitive wins as well. Crucially, there are no attested examples in Gothic of genitives in case competition with nominatives or datives.

The same holds for the two other main languages discussed in this thesis: Modern German and Old High German. In Modern German, case competitions have been reported between all possible case combinations, so also between genitives and nominatives, between genitives and accusatives, and between genitives and datives (**vogel2001**). The genitive wins over the nominative and the accusative. In a competition between the genitive and the dative neither of them gives a grammatical result. Old High German might show some examples of case competition between genitives and accusatives and genitives and nominative. In these cases, the genitive always wins. No examples of datives against genitives are attested (**behaghel1923**). In sum, the genitive does not appear in all possible case competition combinations in all three languages, and is therefore excluded.

What do I predict for the genitive? Starke: S-acc — S-dat — gen — B-acc — B-dat

hierarchies for each language individually. Gothic syncretisms: acc-dat, acc-nom, nom-gen(!). Modern German: nom-acc-dat-gen? Old High German: ?

then the predictions would be..

The genitive differs from the other cases in a particular way. That is, nomi-

native, accusative and dative are dependents of the verb (or prepositions). Genitives can be dependents of verbs, or they can be dependents of nouns, as possessors or partitives. Consider the example in (9). The genitive relative pronoun *þiz(e)* 'what.GEN' is a dependent of the noun *waiht* 'thing'. Most of the examples in headless relatives contain genitives that depend on nouns and not those that depend on verbs. The (genitive) possessor is also placed far away from the other three cases in **keenan1977**'s (**keenan1977**) relativization hiearchy.

more: in middle high german only the genitive shows case attraction in headed relatives. again, it is different from the others.

I leave it for future research..

Part I

The case

Part II

The base

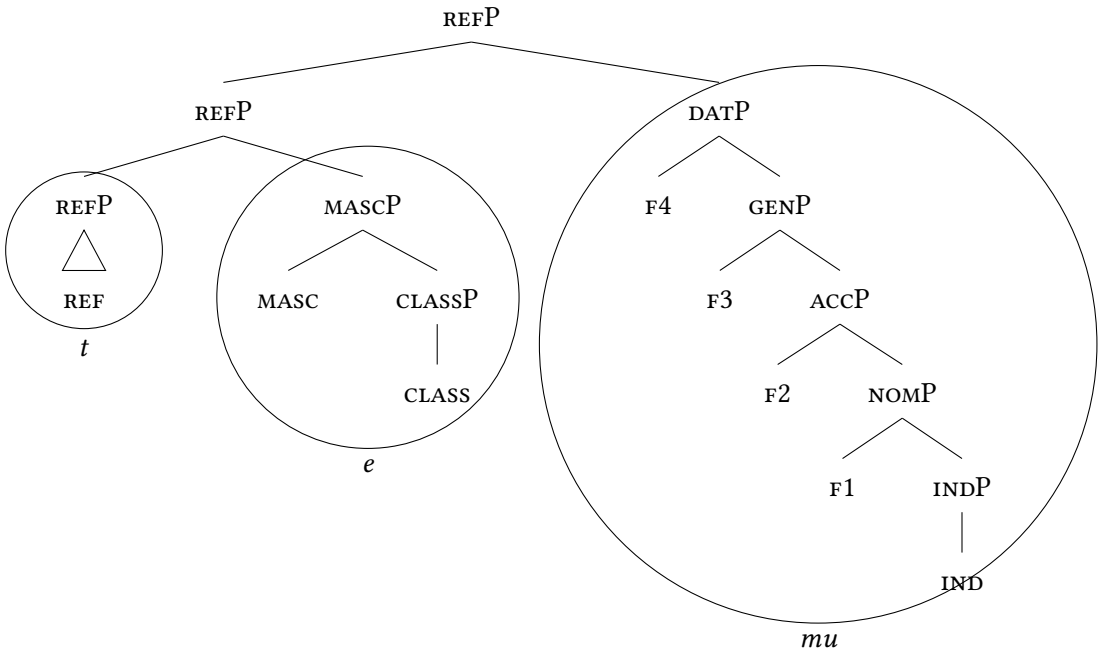
1.4 option 1

fseq: REF — (WH) — (ANA) — CLASS — MASC — IND — (D) — F1 — F2 — F3

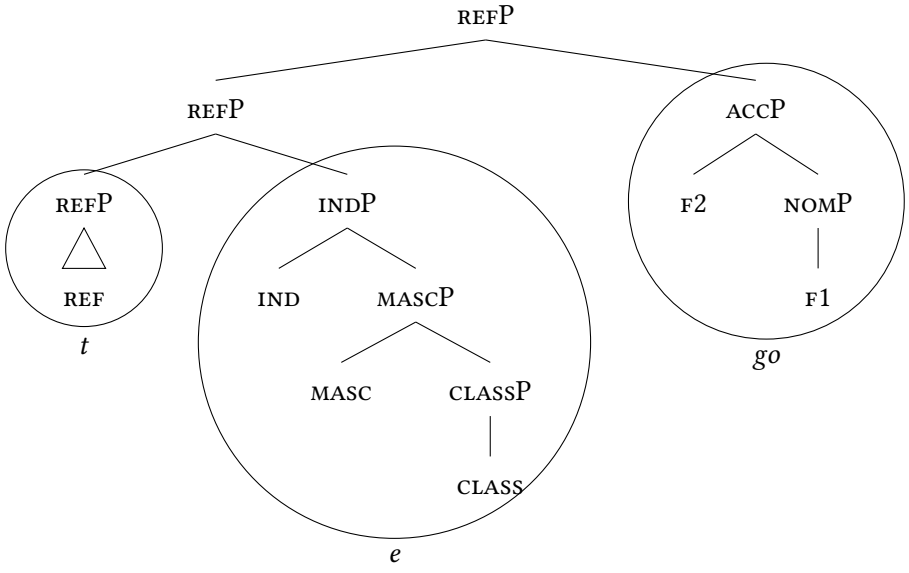
- I need to have the WH right after the REF, because otherwise I don't know how to get *k* to overwrite *t*. This means that D and WH are at quite different places. I don't have any idea about how acceptable my fseq is like this.
- I need a feature for the difference between DEM and WHS in Polish: ANA. I did not want to put it right below K, because then I don't have space anymore to let the *mu* backtrack into the vowel. However, it needs to be there if I want to let the *o* contain the *e*. I don't see how I can have them both. Now I put it under CLASS, which already causes *o* not to contain *e*. That means that I also exclude the situations in which there are matching cases. Another reason for not letting *mu* backtrack into the vowel is that it is syncretic between neuter and masculine, which can be captured by letting MASC be the highest features (that's how I have it for DAT) below now.
- I don't see of a way of make the Polish non-matching ones ungrammatical but making the matching ones grammatical. I can exclude them all, and find a different reason for why the matching ones are ok.
- For Modern German, I now let WH form a complex spec. When ANA is merged, backtracking opens the two structures up, and ANA merges with WH. It's not necessary important here, but I do not see how I could ever get WA for for instance *was*. How do I let gender play a role here? I need them all in my structure on the right.
- Old High German differs from the two other languages in that it has a more complex light head, and that it has D instead of WH. You could see D and WH as two instances of REL.

	light head	relative pronoun
Polish	REF CLASS MASC IND FS	REF **WH ANA** CLASS MASC IND FS
Modern German	REF CLASS MASC IND FS	REF **WH ANA** CLASS MASC IND FS
Old High German	REF **ANA** CLASS MASC IND **D** FS	REF **ANA** CLASS MASC IND **D** FS

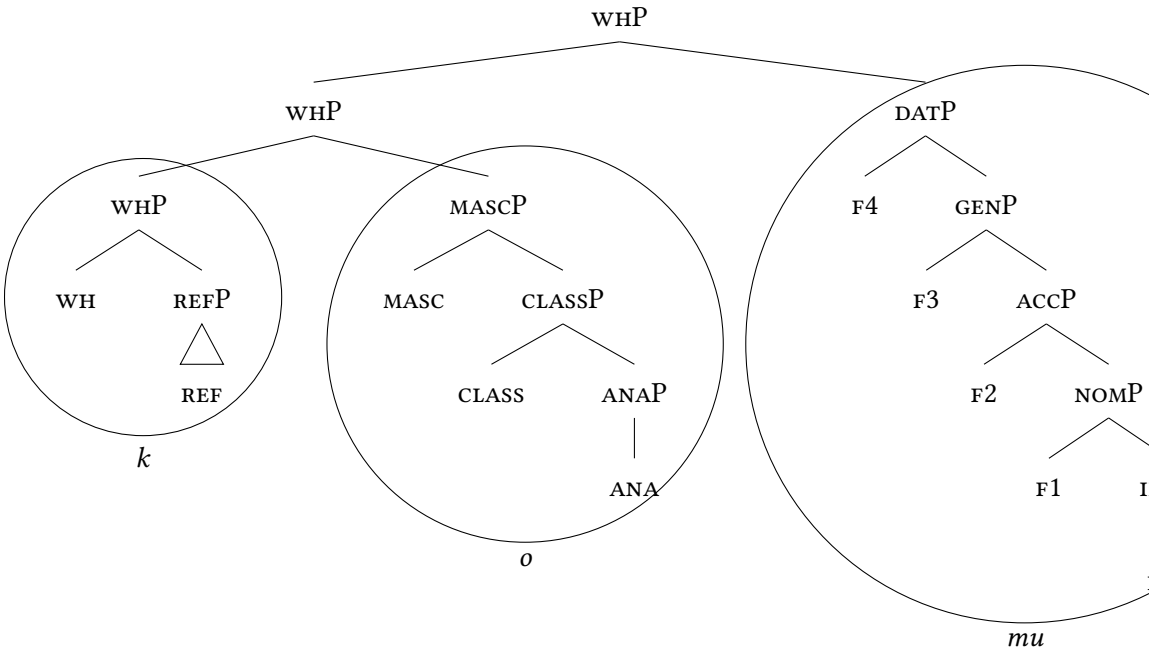
(10) Polish: EXT DAT



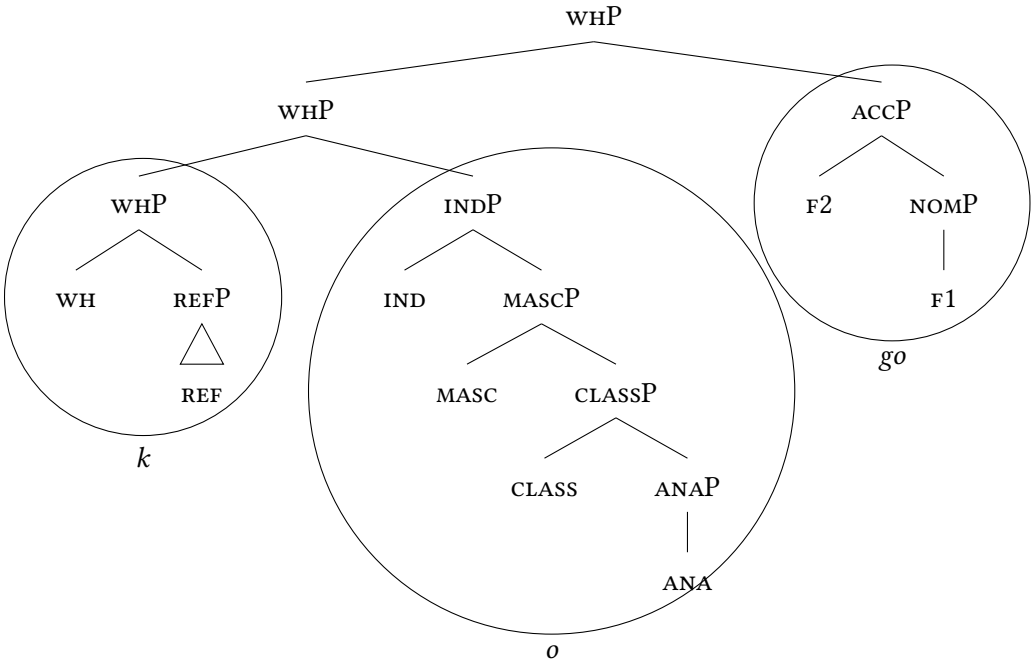
(11) Polish: EXT ACC



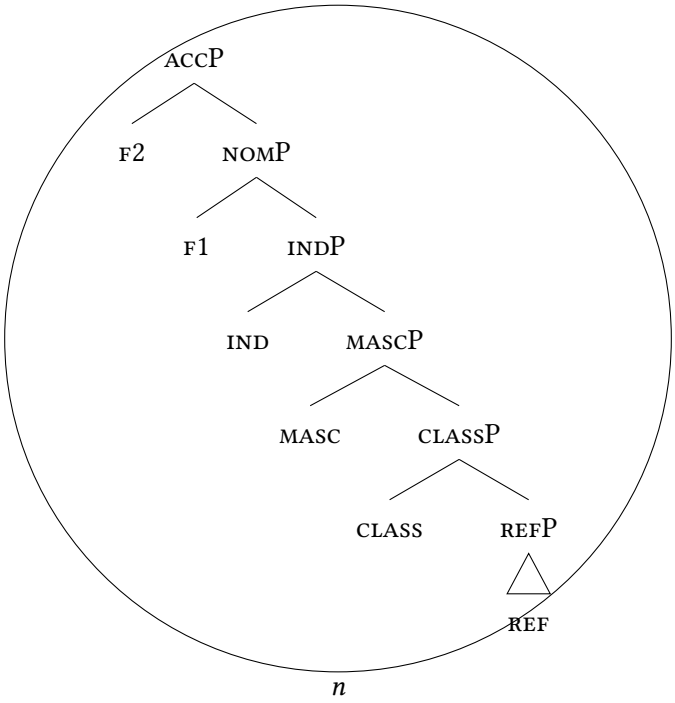
(12) Polish: INT DAT



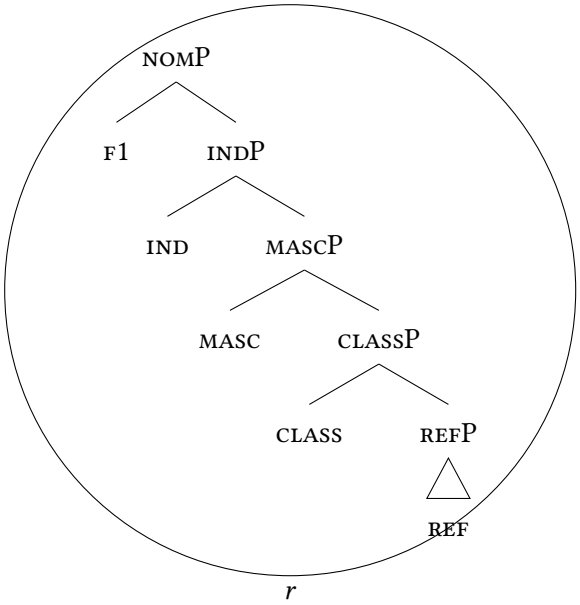
(13) Polish: INT ACC



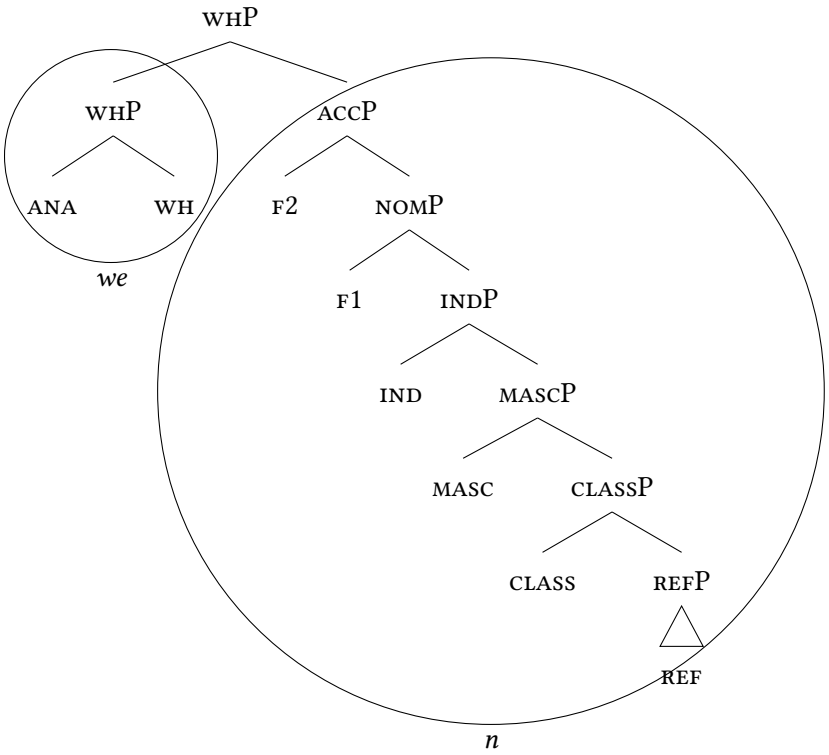
(14) Modern German: EXT ACC



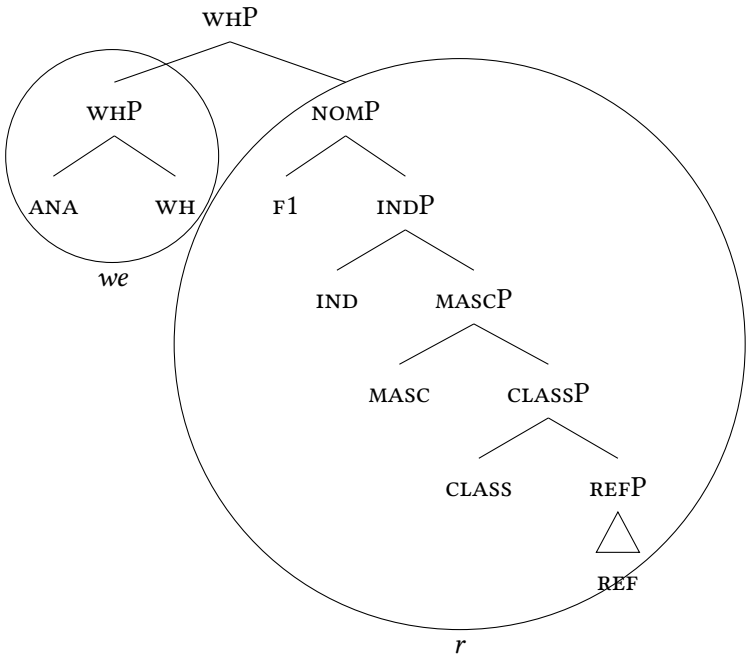
(15) Modern German: EXT NOM



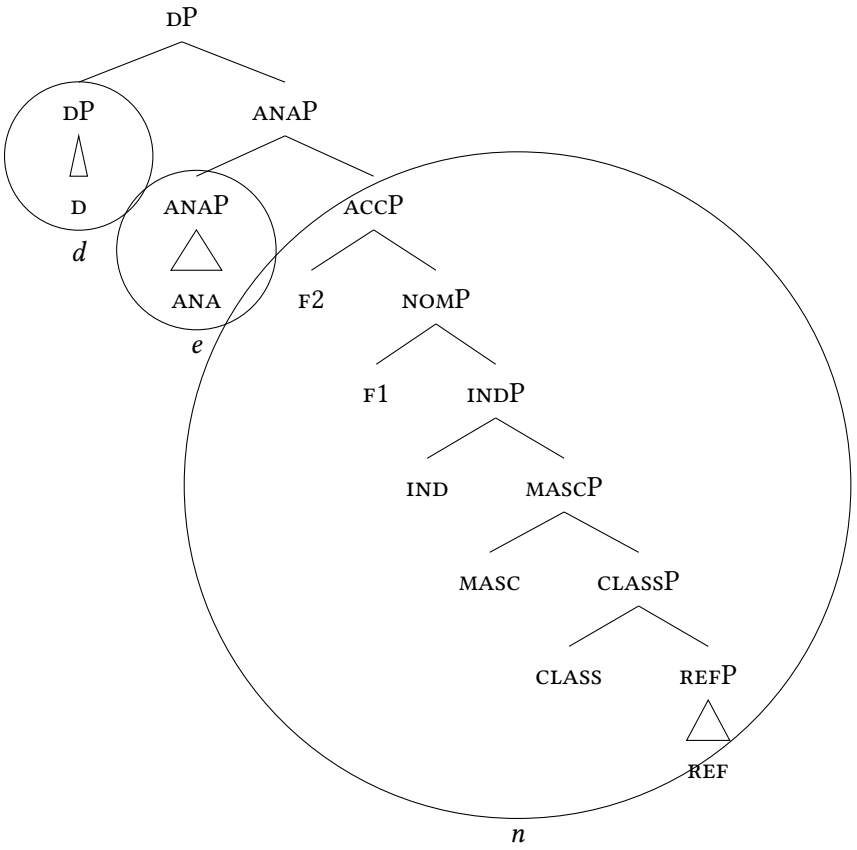
(16) Modern German: INT ACC



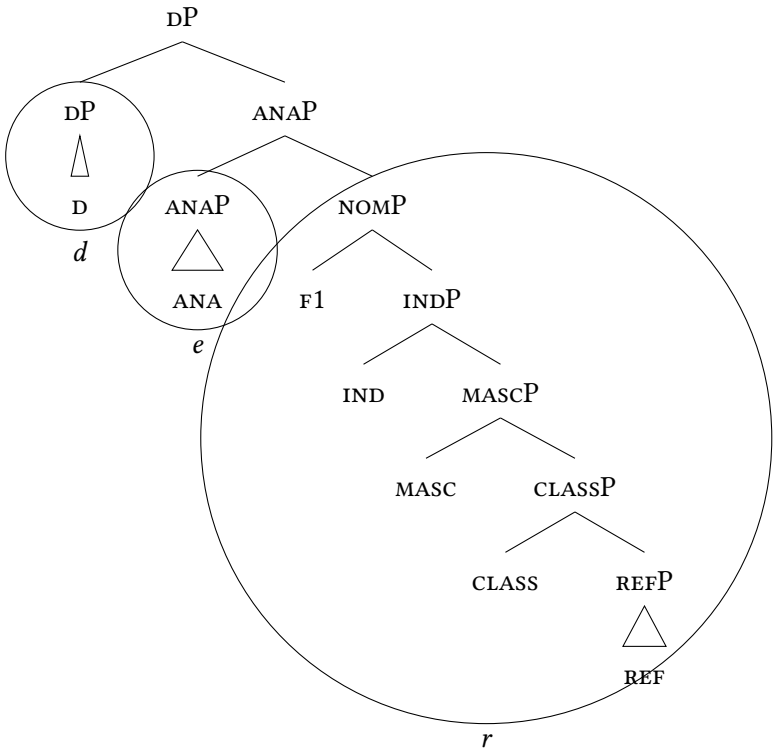
(17) Modern German: INT NOM



(18) Old High German: INT/EXT ACC



(19) Old High German: INT/EXT NOM


DP
DP
ANAP
D
d
ANAP
ANA
e
NOMP
F1
INDP
IND
MASCP
MASC
CLASSP
CLASS
REFP
REF
r

1.5 option 2

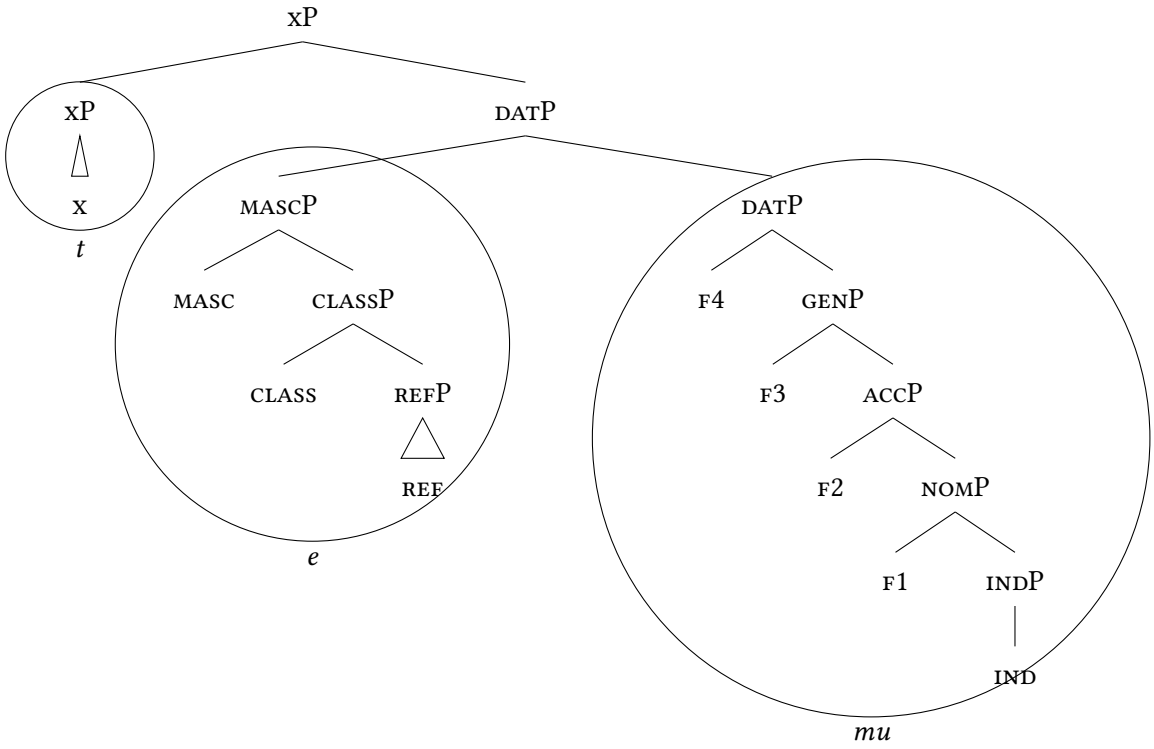
fseq: REF — (ANA) — CLASS — MASC — IND — X — (WH) — (D) — F1 — F2 — F3

- I introduced an X that corresponds to Polish *t*. That way, *t* corresponds to features that form a complex spec, and I can merge it with features later (like WH/D). ANA is still low, because it needs to change the vowel in Polish, but it can't be at the top, because the shrinking of *e*/*o* needs to take place there.

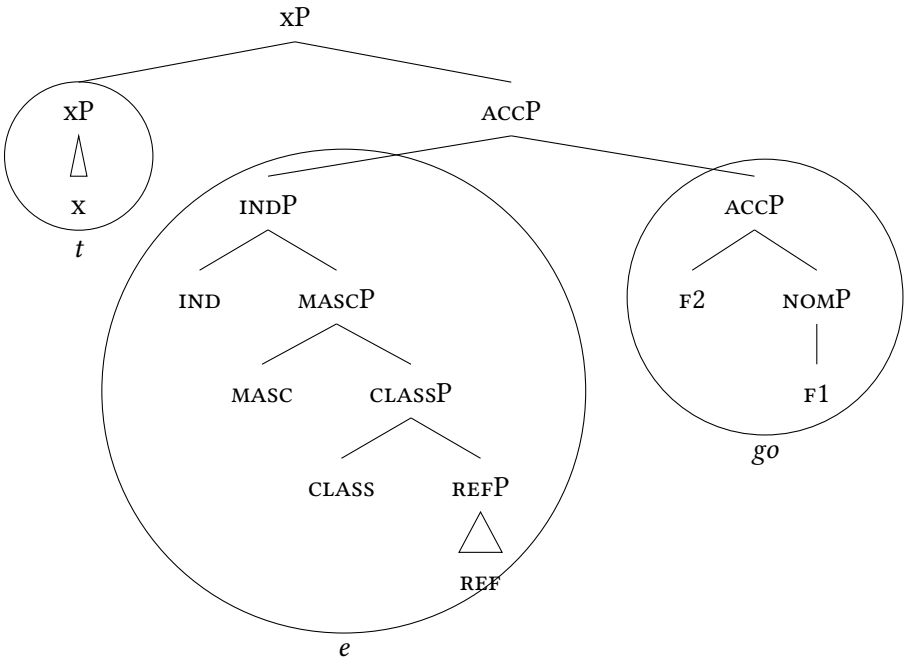
	light head	relative pronoun
Polish	REF CLASS MASC IND X FS	REF **ANA** CLASS MASC IND X **WH** FS
Modern German	REF CLASS MASC IND X FS	REF **ANA** CLASS MASC IND X **WH** FS
Old High German	REF **ANA** CLASS MASC IND X **D** FS	REF **ANA** CLASS MASC IND X **D** FS

- Polish: *t* is whatever features X corresponds to, some kind of indefinite demonstrative. When X is merged, it forms a complex spec. Features merged after X get into the right tree via backtracking and X and the rest up. ANA is merged low, so the right vowel is already chosen quite early. The switch between *mu* and *go* is an interesting one: it happens when some case features are already merged, and then backtracking takes place all the way back until before the complex spec was merged.
-

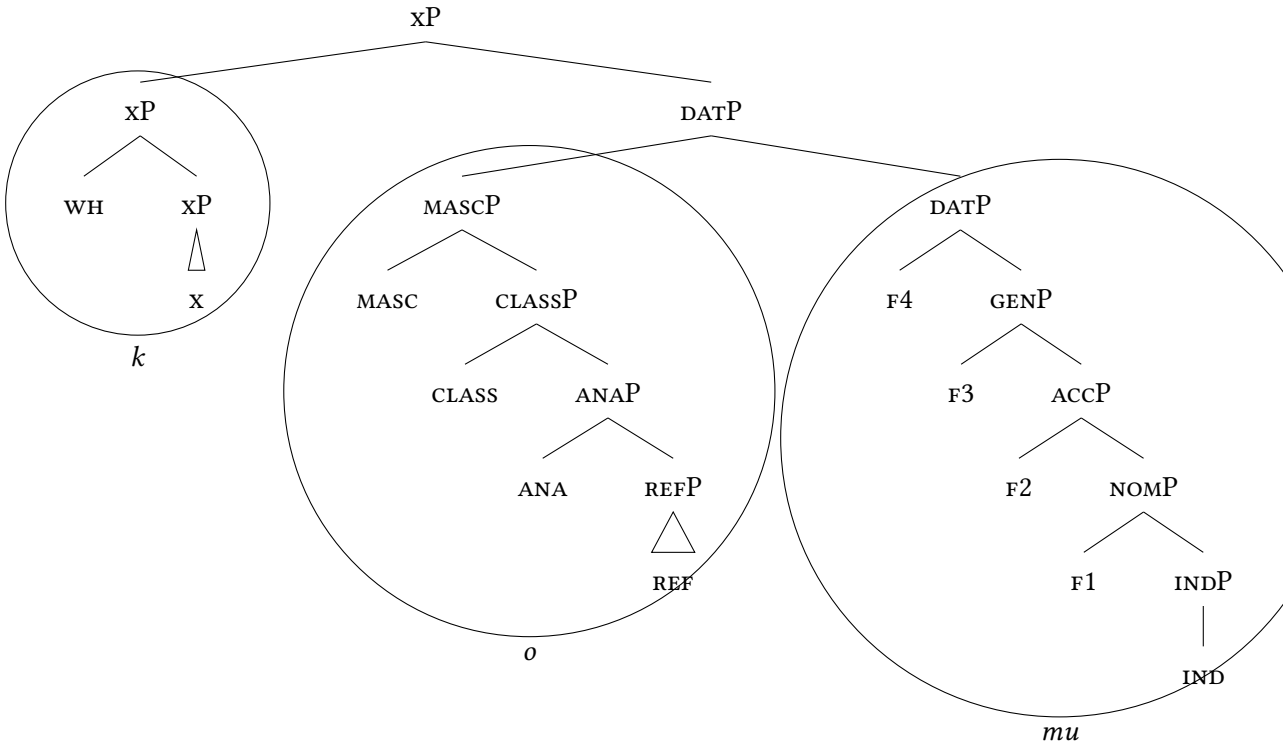
(20) Polish: EXT DAT



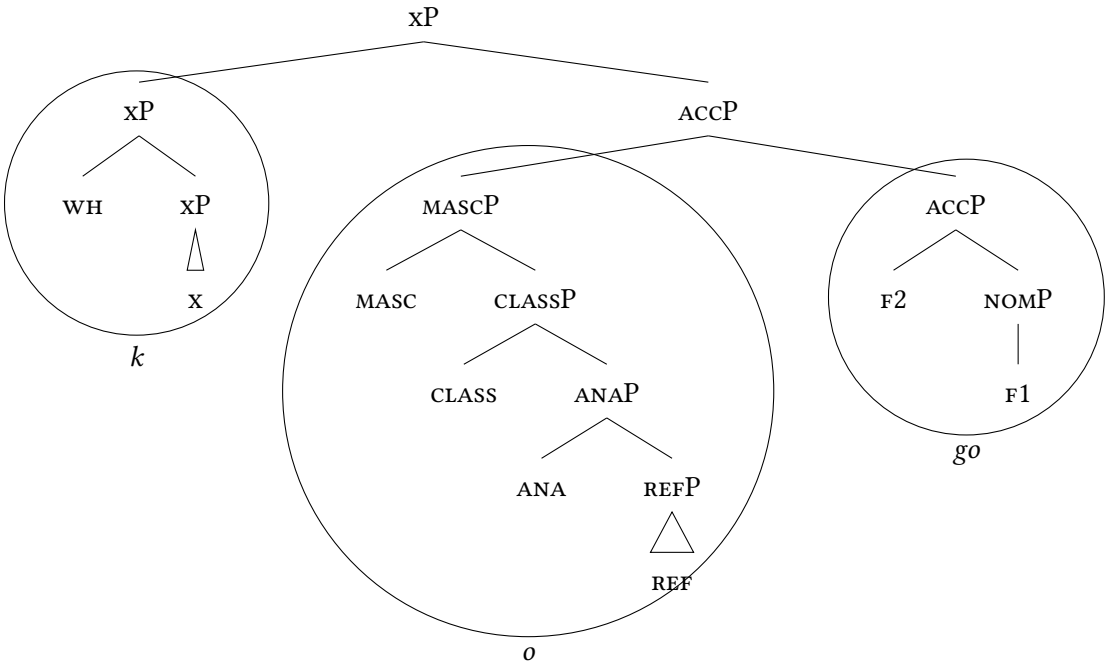
(21) Polish: EXT ACC



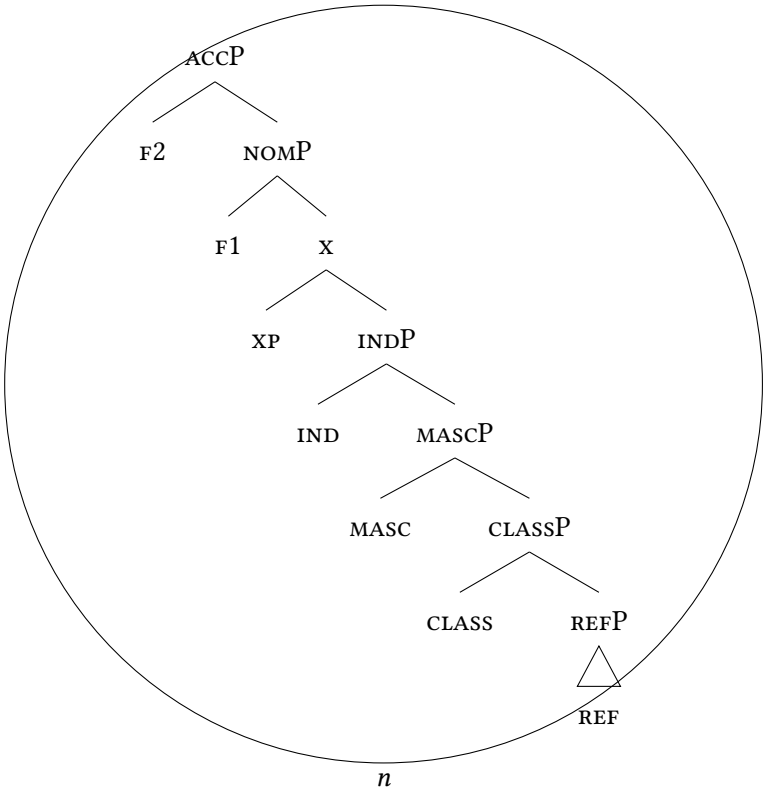
(22) Polish: INT DAT



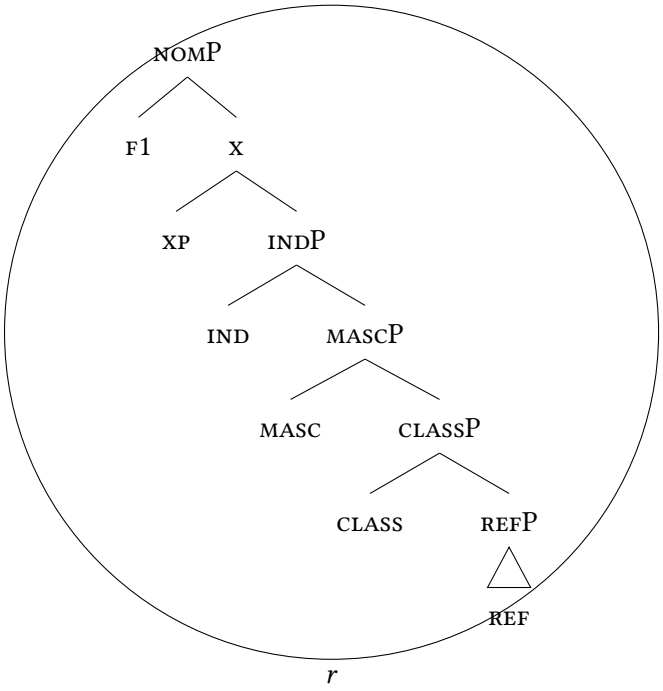
(23) Polish: INT ACC



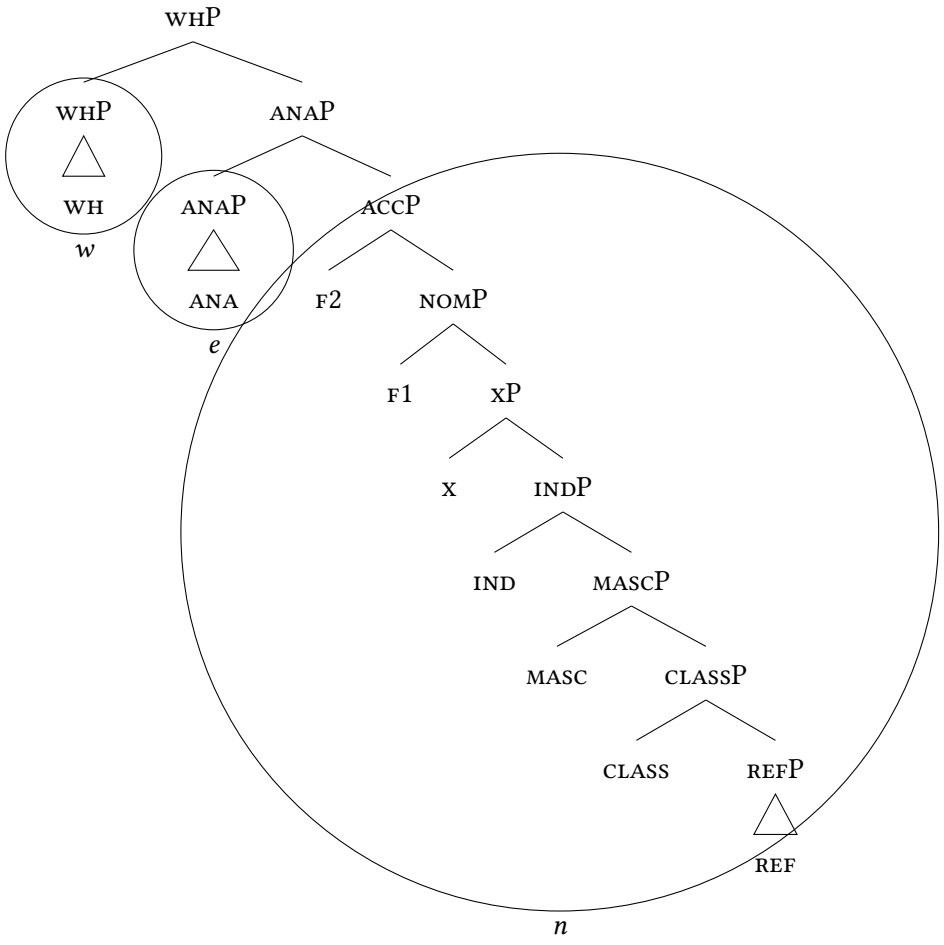
(24) Modern German: EXT ACC



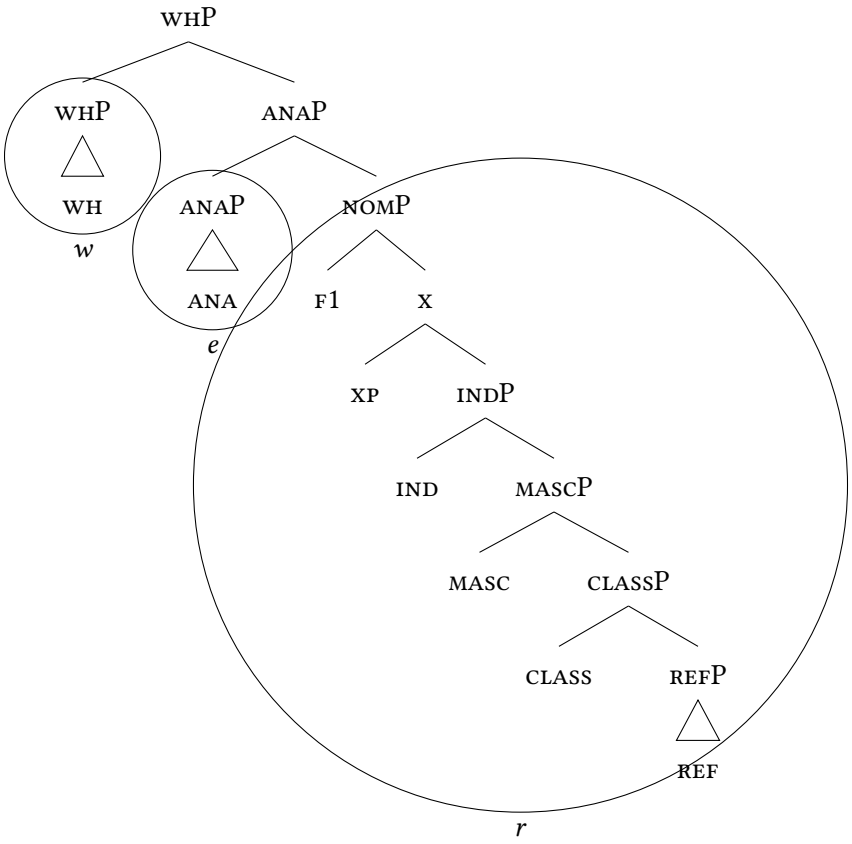
(25) Modern German: EXT NOM



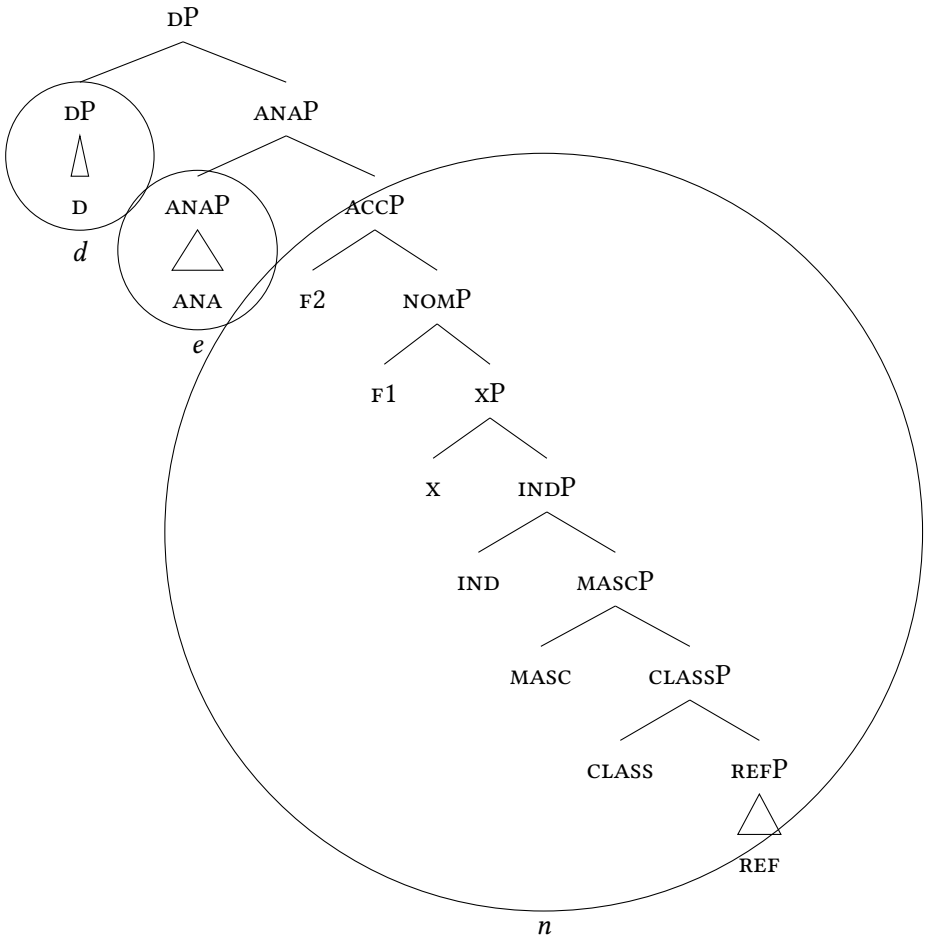
(26) Modern German: INT ACC



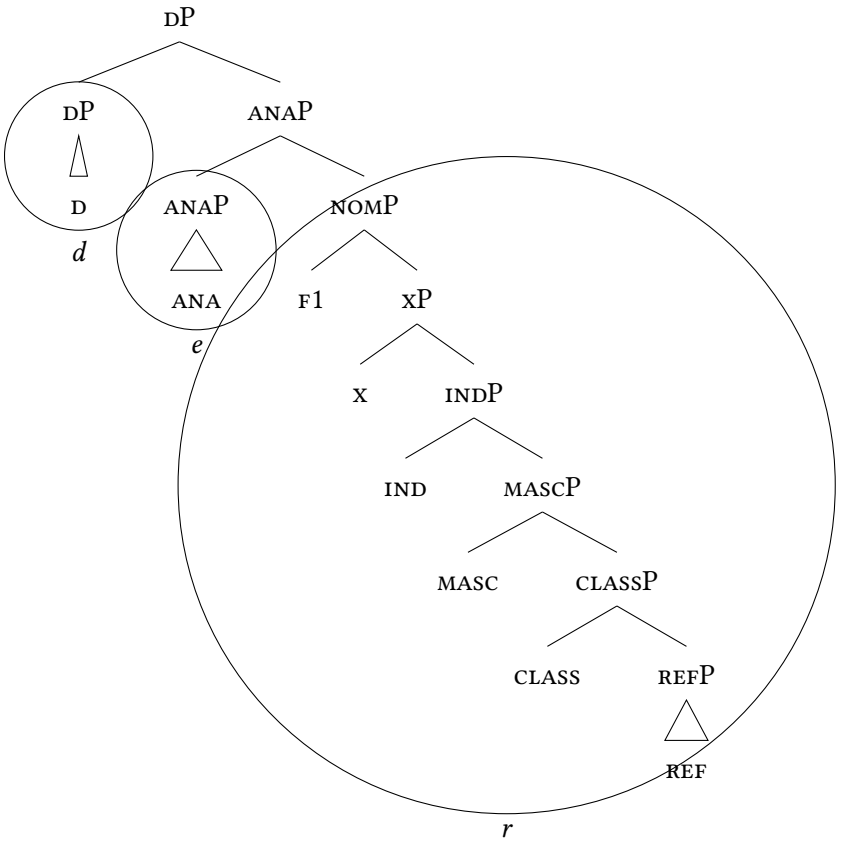
(27) Modern German: INT NOM



(28) Old High German: INT/EXT ACC



(29) Old High German: INT/EXT NOM


DP
DP
D
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F1
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IND
MASCP
MASC
CLASSP
CLASS
REFP
REF
r

Chapter 2

Constituent containment

In Chapter **??** I introduced two descriptive parameters that generate the attested languages, as shown in Figure 2.1. The first parameter concerns whether the external case is allowed to surface when it wins the case competition (allow EXT?). This parameter distinguishes between non-matching languages (e.g. Old High German) on the one hand and internal-only languages (e.g. Modern German) and matching languages (e.g. Polish) on the other hand. The second parameter concerns whether the internal case is allowed to surface when it wins the case competition (allow INT?). This parameter distinguishes between internal-only languages (e.g. as Modern German) on the one hand and non-matching languages (e.g. Polish) on the other hand.

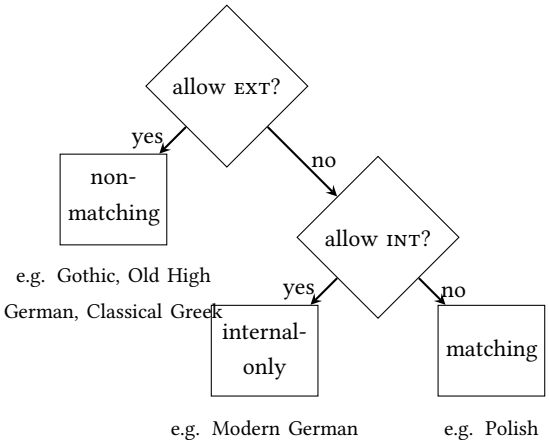


Figure 2.1: Two descriptive parameters generate three language types

"A natural question at this point is whether this typology needs to be fully stipulative, or is to some extent derivable from independent properties of individual languages" **grosu1994**147

The goal of this chapter is to give the theoretical counterparts of these descriptive parameters. Goal: something that can be observed independently.

This chapter is structured as follows.

2.1 The basic idea

The goal of this chapter is to give a theoretical account for the crosslinguistic variation found in headless relatives. It should derive how languages differ in whether they allow the internal case and the external case to surface when either of them wins the case competition. In other words, the chapter gives the theoretical counterparts of the descriptive parameters given in Figure 2.1. This section gives the basic idea behind my proposal. Throughout the rest of the chapter I motivate my proposal, and I illustrate it with examples. Before I can describe the theoretical counterparts, I need to introduce some concepts: the internal element and external element and the base of these elements.

I start with the internal and external element. In the thesis so far, I stated that the relative pronoun appears in the case that wins the case competition. I have not been explicit about where the case competition takes place. In order to avoid introducing theoretical machinery just for case competition situations, I assume it takes place in syntax. I propose that at some point in the derivation headless relatives have an internal and an external element.[1] The internal element bears the internal case, and the external element bears the external case. At the end of the derivation, the element bearing the more complex case surfaces as the relative pronoun, at least if the element is allowed to surface.

Now I turn to the so-called base of the internal and external element. The internal and the external element do not only consist of case features. They also contain other features. These other features have to do with referentiality, number, gender, definiteness, etc. I call the part of the internal and external element that corresponds to these features the base part. I refer to the part that corresponds to the case features as the case part.

Table 2.1 summarizes what I just laid out. At some point in the derivation, headless relatives contain an internal and an external element. The internal element consists of an internal base part and an internal case part. The external element consists of an external base part and an external case part. There are three options for the relative pronoun. First, it can appear as the internal element: as the internal base plus the internal case. Second, it can appear as the external element: as the external base plus the external case. Third, there is no grammatical case for the relative pronoun.

Table 2.1: Components of the internal and external element

INT element		EXT element		REL pronoun	
base_{INT}	case_{INT}	base_{EXT}	case_{EXT}	base_{INT}	case_{INT}
				base_{EXT}	case_{EXT}
				*	

[1] I am far from the only one that assumes this. Himmelreich, Hanink, but also Bresnan/Grimshaw, Groos/Riemsdijk, Harbert..

To make this concrete, consider the example in (1), repeated from Chapter **??**. In this example, the internal nominative case competes against the external nominative case. The relative pronoun surfaces in the nominative case.

(1) quham dher chisendit scolda
come.PST.3SG$_{[NOM]}$ REL.SG.M.NOM send.PST.PTCP$_{[NOM]}$ should.PST.3SG
uuerdhan
become.INF
'the one, who should have been sent, came' (Old High German, Isid. 35:5)

The situation is schematically shown in Table 2.2. In my proposal, the internal element for this sentence is *dher* and the external element is *dher* too. In Section 2.2 I motivate the featural content and phonological form of the internal and external element. The base part of *dher* is the morpheme *dh*, and the case part of *dher* is the morpheme *r*.[2] The relative pronoun in this sentence is *dher*. It is impossible to see whether this is the internal or the external element, because they are identical.

Table 2.2: The internal and external element of (1)

INT element		EXT element		EXT element	
base$_{INT}$	case$_{INT}$	base$_{EXT}$	case$_{EXT}$	base$_{REL}$	case$_{REL}$
dh	er	dh	er	dh	er

Now I have introduced the concepts internal and external element and their bases, I turn to the basic idea behind my proposal. The goal is to give a theoretical account that derives whether a language allows the internal or external case to surface when it wins the case competition or whether it does not. I propose that this follows from the comparison between the internal and external base within a language. In the comparison, I rely on containment, just as I did in Chapter **??** when comparing cases. I went with the following reasoning. A more complex case

[2]This is a simplification of the reality. The morpheme *er* realizes besides case features also non-case features, such as gender and number. This simplification can be made, because the non-case features that are present in the internal element are also present in the external element.

wins over a less complex case because the former contains all features that the latter contains. Concretely, the dative wins over the accusative because the dative contains all features that the accusative contains, the dative wins over the nominative because the dative contains all features that the nominative contains, and the accusative wins over the nominative because the accusative contains all features that the nominative contains. I apply the same reasoning in comparing the internal and external base. When the internal base contains the features of the external base, the internal element is allowed to surface. When the external base contains the features of the internal base, the external element is allowed to surface.

I illustrate this proposal by showing how this plays out in three different languages. Table 2.3 gives an overview. In Old High German, the internal base contains the external base, and the external base contains the internal base. Therefore, Old High German allows for matching cases, it allows the internal case to win, and it allows the external case to win. In Modern German, the internal base contains the external base, but the external base does not contain the internal base. Therefore, Modern German allows for matching cases, and it allows the internal case to win. In Polish, the internal base does not contain the external base, and the external base does not contain the internal base. Still, Polish only allows for matching cases.[3]

Table 2.3: Overview of languages

	INT = EXT	INT > EXT	INT < EXT
Old High German	✓	✓	✓
Modern German	✓	✓	*
Polish	✓	*	*

In what follows I discuss these three situations in the three languages. In the first situation (INT = EXT), the internal and external case match. In the second situation (INT > EXT), the internal case is more complex than the external case. In the third situation (INT < EXT), the internal case is more complex than the external case.

[3]Later I explain how this is possible.

Table 2.4 shows the three situation for Old High German. In Old High German, the internal base consists of features that correspond to the morpheme *dh*, and so does the external base. The nominative case consists of features that correspond to the morpheme *er*, and the accusative case consists of features that correspond to the morpheme *en*. I motivate this in Section 2.3.

The first row shows the situation in which the internal nominative case matches the external nominative case (INT = EXT). The internal case part, which corresponds to the nominative *er* morpheme, contains the external case part, which corresponds to the nominative *er* morpheme. The internal base part, which corresponds to the morpheme *dh*, contains the external base part, which corresponds to the morpheme *dh* too. The relative pronoun that surfaces is the internal element with its internal base and its internal case: *dher*.

The second row shows the situation in which internal accusative case is more complex than the external nominative case (INT > EXT). The internal case part, which corresponds to the accusative *en* morpheme, contains the external case part, which corresponds to the nominative *er* morpheme. The internal base part, which corresponds to the morpheme *dh*, contains the external base part, which corresponds to the morpheme *dh* too. The relative pronoun that surfaces is the internal element with its internal base and its internal case: *dher*.

The third row shows the situation in which external accusative case is more complex than the internal nominative case (INT < EXT). The external case part, which corresponds to the accusative *en* morpheme, contains the internal case part, which corresponds to the nominative *er* morpheme. The external base part, which corresponds to the morpheme *dh*, contains the internal base part, which corresponds to the morpheme *dh* too. The relative pronoun that surfaces is the external element with its external base and its external case: *dhen*.

Table 2.4: Base comparison in Old High German

	INT element		EXT element		REL pronoun	
	base_{INT}	case_{INT}	base_{EXT}	case_{EXT}	base_{REL}	case_{REL}
INT = EXT	dhe	r	dhe	r	dhe	r
INT > EXT	dhe	n	dhe	r	dhe	n
INT < EXT	dhe	r	dhe	n	dhe	n

Table 2.5 shows the three situation for Modern German. In Modern German, the internal base consists of features that correspond to the morpheme *we*. The external base does not consist of any features, so there is no morpheme that corresponds to it.[4] The nominative case consists of features that correspond to the morpheme *r*, and the accusative case consists of features that correspond to the morpheme *n*. I motivate this in Section 2.3.

The first row shows the situation in which the internal nominative case matches the external nominative case (INT = EXT). The internal case part, which corresponds to the nominative *r* morpheme, contains the external case part, which corresponds to the nominative *r* morpheme. The internal base part, which corresponds to the morpheme *we*, contains the external base part, because there is no morpheme. The relative pronoun that surfaces is the internal element with its internal base and its internal case: *wer*.

The second row shows the situation in which internal accusative case is more complex than the external nominative case (INT > EXT). The internal case part, which corresponds to the accusative *n* morpheme, contains the external case part, which corresponds to the nominative *r* morpheme. The internal base part, which corresponds to the morpheme *we*, contains the external base part, because there is no morpheme. The relative pronoun that surfaces is the internal element with its internal base and its internal case: *wer*.

The third row shows the situation in which external accusative case is more complex than the internal nominative case (INT < EXT). The external case part,

[4] Actually, not entirely, see footnote 2.

which corresponds to the accusative *n* morpheme, contains the internal case part, which corresponds to the nominative *r* morpheme. The external base part, which is empty, does not contain the internal base part, which corresponds to the morpheme *we*. The winner of the case competition is the external case, but the external base does not contain the internal base, so there is no grammatical relative pronoun.

Table 2.5: Base comparison in Modern German

	INT element		EXT element		REL pronoun	
	base_{INT}	case_{INT}	base_{EXT}	case_{EXT}	base_{REL}	case_{REL}
INT = EXT	we	r		r	we	r
INT > EXT	we	n		r	we	n
INT < EXT	we	r		n	*	

Table 2.6 shows the three situation for Polish. In Polish, the internal base consists of features that correspond to the morpheme *ko*. The external base consists of features that correspond to the morpheme *te*. The accusative case consists of features that correspond to the morpheme *go*, and the dative case consists of features that correspond to the morpheme *mu*. I motivate this in Section 2.4.

The first row shows the situation in which the internal nominative case matches the external nominative case (INT = EXT). The internal case part, which corresponds to the accusative *go* morpheme, contains the external case part, which corresponds to the accusative *go* morpheme. The internal base part, which corresponds to the morpheme *ko*, does not contain the internal base part, which corresponds to the morpheme *te*. Still, the relative pronoun that surfaces is the internal element with its internal base and its internal case: *kogo*.[5]

The second row shows the situation in which internal dative case is more complex than the external accusative case (INT > EXT). The internal case part, which corresponds to the dative *mu* morpheme, contains the external case part, which corresponds to the accusative *go* morpheme. The internal base part, which corresponds

[5]This is unexpected, and I talk about that later.

to the morpheme *ko*, does not contain the internal base part, which corresponds to the morpheme *te*. The winner of the case competition is the internal case, but the internal base does not contain the external base, so there is no grammatical relative pronoun.

The third row shows the situation in which external dative case is more complex than the internal accusative case (INT > EXT). The external case part, which corresponds to the dative *mu* morpheme, contains the internal case part, which corresponds to the accusative *go* morpheme. The external base part, which corresponds to the morpheme *te*, does not contain the internal base part, which corresponds to the morpheme *ko*. The winner of the case competition is the external case, but the external base does not contain the internal base, so there is no grammatical relative pronoun.

Table 2.6: Base comparison in Polish

	INT element		EXT element		REL pronoun	
	base_{INT}	case_{INT}	base_{EXT}	case_{EXT}	base_{REL}	case_{REL}
INT = EXT	ko	go	te	go	ko	go
INT > EXT	ko	mu	te	go	*	
INT < EXT	ko	go	te	mu	*	

Taking this all together, there are two competitions taking place in headless relatives: case competition and base competition. Case competition determines which case wins and base competition determines whether this case is allowed to surface. I put this in the metaphor with the committee that I introduced in Section **??**. The committee learns who wins the case competition, and it can either approve this case or not approve it. The information that the committee uses for its decision is the comparison between the internal and the external base. The committee approves the winning case if the base associated with it contains the base associated with the losing case.

In sum, a relative pronoun can surface in the internal case if the internal case and base contains the external case and base. It works the same the other way

around: a relative pronoun can surface in the external case if the external case and base contain the internal case and base. Notice that there is a crucial difference between comparing the cases and comparing the bases. The internal and external case can differ from sentence to sentence. The internal and external base remain stable throughout the language.

2.2 Deriving the non-matching type

The non-matching type of language allows for matching cases, it allows the internal case to win, and it allows the external case to win. I have been describing Old High German as an example of this type. In this section, I show what it is about Old High German that causes the language to be of the non-matching type. I propose that the crucial factor is that Old High German has a syncretic internal and external base. Since they are syncretic, the features in the internal base contain the features in the external base, and the features in the external base contain just as well the features in the internal base. The internal base containing the external base causes the internal case to be allowed to surface when it wins the case competition. The external base containing the internal base causes the external case to be allowed to surface when it wins the case competition.

This section is structured as follows. First, I argue that Old High German headless relatives are derived from relative clauses headed by a light head, i.e. light-headed relatives. In this analysis, the internal element is what can descriptively be called the relative pronoun, and the external element is what can descriptively be called the light head. The internal element surfaces as the relative pronoun when the internal case is more complex, and the external element surfaces as the relative pronoun when the external case is more complex. In this section, I decompose the internal and external element, and I show which morpheme corresponds to which features. Both elements consist of two morphemes: a base part and a case part. I go through the examples in Table 2.7, showing per situation how the base and case parts syntactically contain the other base and case parts. This containment is crucial. When the internal base contains the external base, the internal case is allowed to surface when it is more complex, and when the external base contains the internal base, the external case is allowed to surface when it is more complex.

Table 2.7: Base comparison in Old High German

	INT element		EXT element		REL pronoun	
	base_{INT}	case_{INT}	base_{EXT}	case_{EXT}	base_{REL}	case_{REL}
INT = EXT	dhe	r	dhe	r	dhe	r
INT > EXT	dhe	n	dhe	r	dhe	n
INT < EXT	dhe	r	dhe	n	dhe	n

I propose headless relatives are derived from light-headed relatives (**fuss2014**; **hanink2018** argue the same but for Modern German[6]). In a light-headed relative, the head of a relative is not a full noun phrase, but it is a bit 'lighter': it only consists of a demonstrative. Consider the light-headed relative in (2). *Thér* 'DEM.SG.M.NOM' is the head of the relative clause, which is the external element. *Then* 'REL.SG.M.ACC' is the relative pronoun of the relative clause, which is the internal element.

(2) eno nist thiz thér then ir
now not be.3SG DEM.SG.N.NOM DEM.SG.M.NOM REL.SG.M.ACC 2PL.NOM
suochet zi arslahanne?
seek.2PL to kill.INF.SG.DAT
'Isn't this now the one, who you seek to kill?'

The difference between a light-headed relative and a headless relative is that in headless relatives, either the internal or the external is absent. The absent element is the one that has the least complex case. This shows the presence of two elements in Old High German is optional.[7] In Old High German, there are three possible constructions: the internal and external element can both surface, only the internal

[6] A difference with Modern German is that one of the elements can only be absent when the cases match. In Section 3 I return to the point why Modern German does not have non-matching headless relatives that look like Old High German, although it still has syncretic relative pronouns and light heads.

[7] This sharply contrasts with headless relatives in Modern German, which are always ungrammatical when both the internal and external elements surface. I come back to this in Section 2.3.

element can surface and only the external element can surface. If only one of the two elements surfaces, this is the element that bears the most complex case, which is either the internal or the external one, as I have shown in Chapter **??**. I assume that whether both or only one of the elements surfaces is determined by information structure. In (2), the external element *thér* 'DEM.SG.M.NOM' is the candidate to be absent. However, it seems plausible that this is emphasized in this sentence and that it, therefore, cannot be absent.

Support for the idea that Old High German headless relatives are derived from light-headed ones comes from their interpretation. Headless relatives in which the relative pronoun starts with a *d*, such as in Old High German, seem to be linked to individuating or definite readings and not to generalizing or indefinite readings (**fuss2017**). I illustrate this with the two examples I repeat from Chapter **??**.

Consider the example in (3), repeated from Chapter **??**. In this example, the author refers to the specific person which was talked about, and not to any or every person that was talked about.

(3) Thíz ist **then** **sie** **zéllent**
DEM.SG.N.NOM be.PRES.3SG$_{[NOM]}$ REL.SG.M.ACC 3PL.M.NOM tell.PRES.3PL$_{[ACC]}$
'this is the one whom they talk about'
not: 'this is whoever they talk about' (Old High German, Otfrid III 16:50)

Consider also the example in (3), repeated from Chapter **??**. In this example, the author refers to the specific person who spoke to someone, and not to any or every person who spoke to someone.

(4) enti aer ant uurta demo **zaimo**
and 3SG.M.NOM reply.PST.3SG$_{[DAT]}$ REL.SG.M.DAT to 3SG.M.DAT
sprah
speak.PST.3SG$_{[NOM]}$
'and he replied to the one who spoke to him'
not: 'and he replied to whoever spoke to him'
(Old High German, Mons. 7:24, adapted from **pittner1995**: 199)

I conclude that the internal element in Old High German is the descriptive relative

pronoun, and the external element in Old High German is the descriptive light head. In what follows I closely examine the internal structure of the internal and external element. I illustrate how the internal base and the external base are identical, so they contain each other.

The light head in a light-headed relative is a demonstrative pronoun. Relative and demonstrative pronouns are syncretic in Old High German (**braune2018**: 338). Table 2.8 gives an overview of the forms in singular and plural, neuter, masculine and feminine and nominative, accusative and dative. The pronouns consist of two morphemes: a *d* and suffix that differs per number, gender and case.[8,9]

Table 2.8: Relative/demonstrative pronouns in Old High German (**braune2018**: 339)

	N.SG	M.SG	feminine.SG
NOM	d-az̨	d-ër	d-iu
ACC	d-az̨	d-ën	d-ea/d-ia
DAT	d-ëmu/d-ëmo	d-ëmu/d-ëmo	d-ëru/d-ëro
	N.PL	M.PL	feminine.PL
NOM	d-iu	d-ē/d-ea/d-ia/d-ie	d-eo/-io
ACC	d-iu	d-ē/d-ea/d-ia/d-ie	d-eo/-io
DAT	d-ēm/d-ēn	d-ēm/d-ēn	d-ēm/d-ēn

The suffixes that combine with the *d* in demonstrative and relative pronouns also appear on adjectives. This is illustrated in Table 2.9.

[8] *d* can also be written as *dh* and *th*, *ë* and *ē* can also be *e* and *é* (**braune2018**: 339).

[9] The suffix could also be further divided into a vowel and a suffix. As this is not relevant for the discussion here, I refrain from doing that.

Table 2.9: Adjectives on *-a-/-ō-* in Old High German **braune2018**: 300

	N.SG	M.SG	feminine.SG
NOM	jung, jung-az	jung, jung-ēr	jung, jung-iu
ACC	jung, jung-az	jung-an	jung-a
DAT	jung-emu/jung-emo	jung-emu/jung-emo	jung-eru/jung-ero
	N.PL	M.PL	feminine.PL
NOM	jung-iu	jung-e	jung-o
ACC	jung-iu	jung-e	jung-o
DAT	jung-ēm/jung-ēn	jung-ēm/jung-ēn	jung-ēm/jung-ēn

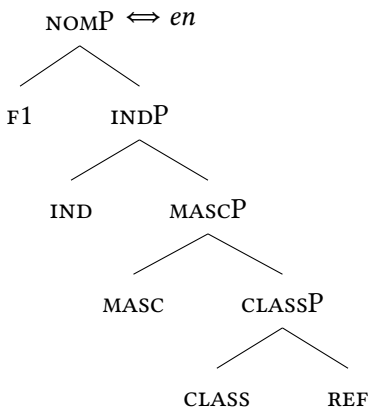
I conclude from this that the suffix expresses features that are specific to being nominal, like number, gender and case. Not part of the suffix are features that are specific to being a demonstrative or relative pronoun, like anaphoricity and definiteness. I assume that these are expressed by the morpheme *d*.

In this section, I only discuss two forms: the nominative and accusative masculine singular relative and demonstrative pronoun. The nominative is *dër* and the accusative is *dën*. In what follows, I discuss the featural content of the morphemes *d*, *ër* and *ën*. I start with the features that are expressed by the suffixes *ër* and *ën*.

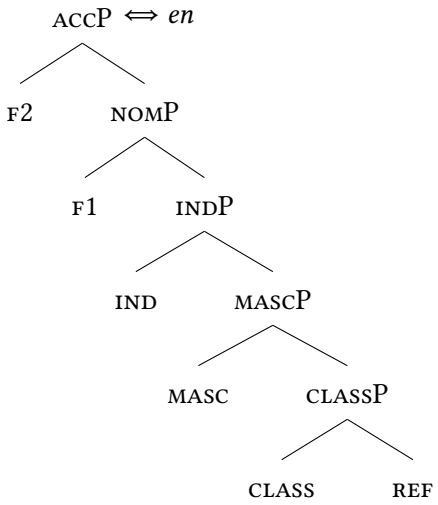
For the suffixes, I use pronominal features that are distinguished by **harley2002**: REF, CLASS, MASC and IND. REF refers to a referring expression, which all pronouns contain. The feature CLASS refers to gender features, which is neuter if it is not combined with any other features. Combining CLASS with the feature MASC gives a masculine gender. IND refer to number, which is singular if it is not combined with any other features. I addition, I use the case features introduced by **caha2009**, which I already discussed in Chapter **??**. F1 refers to a nominative, and F1 and F2 refers to an accusative.

This allows me to propose the following lexical entries for the two suffixes.

(5)

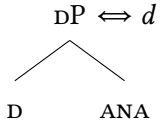


(6)



The *d* morpheme corresponds to definiteness and anaphoricity. Anaphoricity establishes a relation with another element in the (linguistic) discourse. Definiteness encodes that the referent is specific.

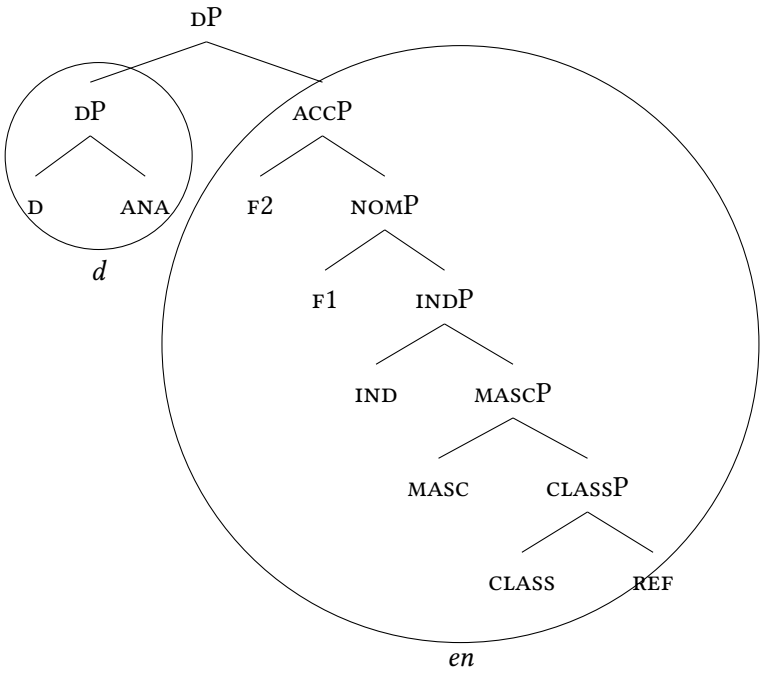
(7)



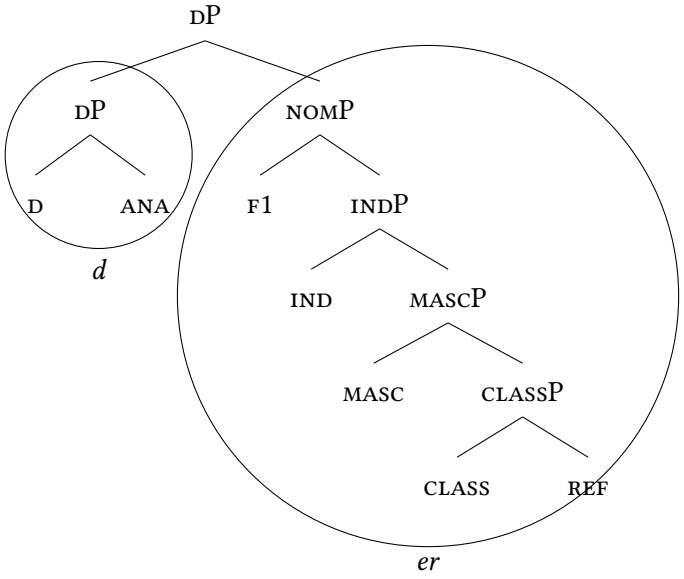
So, the two relative pronouns look like this.[10]

[10] A question that arises here is how the case features can form a constituent to the exclusion of

(8) a.



b.



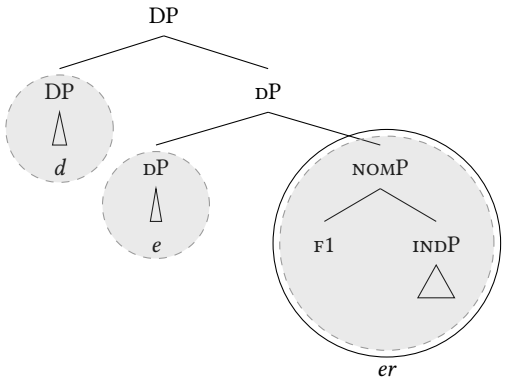
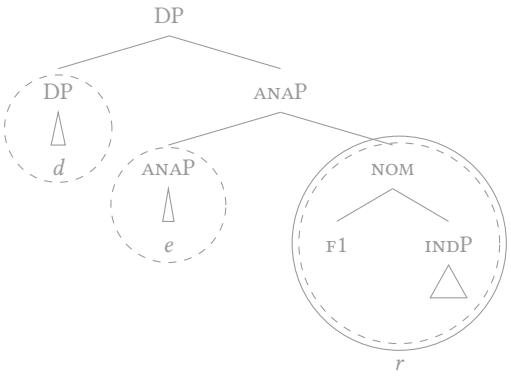
So, there is a base part and a case part. Actually, the case part also has some case in it, but that does not matter because they are identical in both case parts.

definiteness and anaphoricity. I come back to this issue in Chapter 3.

I start with the first example from Table 2.7, in which the internal and external case match (INT = EXT). The example that corresponds to this example is given in (1).

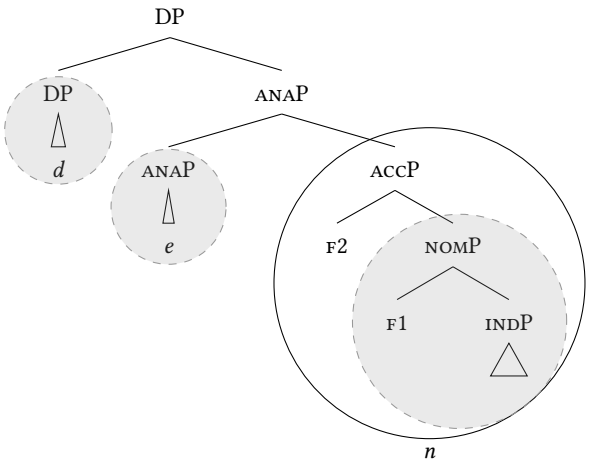
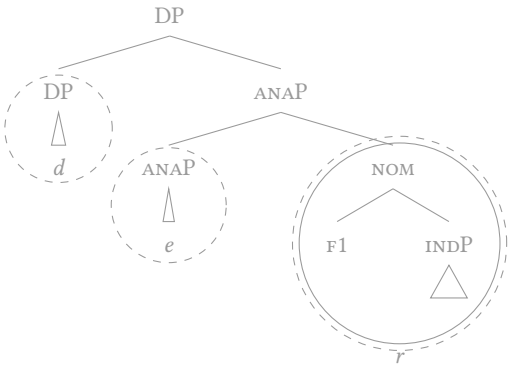
(9) quham dher chisendit scolda
come.PST.3SG$_{[NOM]}$ REL.SG.M.NOM send.PST.PTCP$_{[NOM]}$ should.PST.3SG
uuerdhan
become.INF
'the one, who should have been sent, came' (Old High German, Isid. 35:5)

Table 2.10: Old High German: internal case = external case

internal case	external case
	

(10) Thíz ist **then sie zéllent**
DEM.SG.N.NOM be.PRES.3SG$_{[NOM]}$ REL.SG.M.ACC 3PL.M.NOM tell.PRES.3PL$_{[ACC]}$
'this is the one whom they talk about' (Old High German, Otfrid III 16:50)

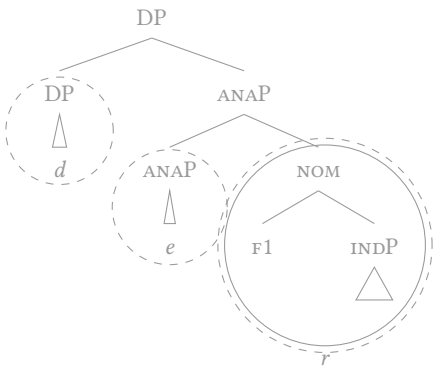
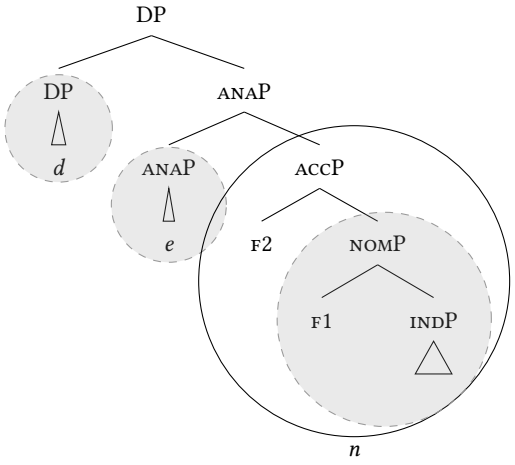
Table 2.11: Old High German: internal case > external case

internal case	external case
	

(11) ih bibringu fona iacobes samin endi fona
1SG.NOM create.PRES.1SG$_{[ACC]}$ of Jakob.GEN seed.SG.DAT and of
iuda dhen **mina** **berga**
Judah.DAT REL.SG.M.ACC my.ACC.M.PL mountain.ACC.PL
chisitzit
possess.PRES.3SG$_{[NOM]}$
'I create of the seed of Jacob and of Judah the one, who possess my mountains'

(Old High German, Isid. 34:3)

Table 2.12: Old High German: internal case < external case

internal case	external case
	

To sum up, Old High German allows the internal and the external case to surface when either of them wins the case competition. This is due to the fact that the bases of the internal and the external element are syncretic. Because of that, the internal base contains the external base, which allows the internal case to surface, and the external base contains the internal base, which allows the external case to surface.

2.3 Deriving the internal-only type

Only internal wins, external cannot. I illustrate this with nominative and accusative.

(12) a. Uns besucht, **wen** **Maria** **mag**.
2PL.ACC visit.PRES.3SG$_{[NOM]}$ REL.AN.ACC Maria.NOM like.PRES.3SG$_{[ACC]}$
'Who visits us, Maria likes.'
(Modern German, adapted from **vogel2001**: 343)

b. *Ich lade ein, wen **mir** **sympathisch**
1SG.NOM invite.PRES.1SG$_{[ACC]}$ REL.AN.ACC 1SG.DAT nice

ist.
be.PRES.3SG$_{[NOM]}$
'I invite who I like.' (Modern German, adapted from **vogel2001**: 344)

In headless relative constructions, there is a single element that surfaces: the relative pronoun. In this section, I show that the relative pronoun is syntactically part of the relative clause. The evidence comes from extraposition data in Modern German. In Modern German, it is possible to extrapose a CP (a clause), but not a DP (a noun phrase). In this section I first show that Modern German CPs can be extraposed and DPs cannot. Then I illustrate how relative clauses including the relative pronoun in headless relatives pattern with CPs: they can be extraposed as well. I conclude that the relative pronoun is the internal element in the headless relative.

The sentences in (13) show that it is possible to extrapose a CP. In (13a), the clausal object *wie es dir geht* 'how you are doing', marked here in bold, appears in its base position. It can be extraposed to the right edge of the clause, shown in (13b).

(13) a. Mir ist **wie es dir geht** egal.
1SG.DAT is how it 2SG.DAT goes the same
'I don't care how you are doing.'
b. Mir is egal **wie es dir geht**.
1SG.DAT is the same how it 2SG.DAT goes
'I don't care how you are doing.' (Modern German)

(14) illustrates that it is impossible to extrapose a DP. The clausal object of (13) is replaced by the simplex noun phrase *die Sache* 'that matter'. In (14a) the object, marked in bold, appears in its base position. In (14b) it is extraposed, and the sentence is no longer grammatical.

(14) a. Mir ist **die Sache** egal.
1SG.DAT is that matter the same
'I don't care about that matter.'
b. *Mir ist egal **die Sache**.
1SG.DAT is the same that matter
'I don't care about that matter.' (Modern German)

The same asymmetry between CPs and DPs can be observed with relative clauses. A relative clause is a CP, and the head of a relative clause is a DP. The sentences in (15) contain the relative clause *was er gekocht hat* 'what he has stolen'. This is marked in bold in the examples. The (light) head of the relative clause is *das*. In (15a), the relative clause and its head appear in base position. In (15b), the relative clause is extraposed. This is grammatical, because it is possible to extrapose CPs in Modern German. In (15c), the relative clause and the head are extraposed. This is ungrammatical, because it is possible to extrapose DPs.

(15) a. Jan hat das, **was er gekocht hat**, aufgegessen.
Jan has that what he cooked has eaten
'Jan has eaten what he cooked.'

b. Jan hat das aufgegessen, **was er gekocht hat**.
Jan has that eaten what he cooked has
'Jan has eaten what he cooked.'

c. *Jan hat aufgegessen, das, **was er gekocht hat**.
Jan has eaten that what he cooked has
'Jan has eaten what he cooked.' (Modern German)

The same can be observed in relative clauses without a head. (16) is the same sentence as in (15) only without the overt head. The relative clause is marked in bold again. In (16a), the relative clause appears in base position. In (16b), the relative clause is extraposed. This is grammatical, because it is possible to extrapose CPs in Modern German. In (16c), the relative clause is extraposed without the relative pronouns. This is ungrammatical, because the relative pronoun is part of the CP. This shows that the relative pronoun in headless relatives in Modern German are necessarily part of a CP, which is here a relative clause.

(16) a. Jan hat **was er gekocht hat** aufgegessen.
Jan has what he cooked has eaten
'Jan has eaten what he cooked.'

b. Jan hat aufgegessen **was er gekocht hat**.
Jan has eaten what he cooked has
'Jan has eaten what he cooked.'

c. *Jan hat **was** aufgegessen **er gekocht hat**.
Jan has what eaten he cooked has
'Jan has eaten what he cooked.' (Modern German)

In conclusion, extraposition facts show that the relative pronoun in Modern German is syntactically part of the relative clause. Therefore, the relative pronoun is the internal element in headless relative construction.

The deletion in Modern German is not optional, but obligatory. The reason for that is that the weak demonstrative is phonologically(?) not heavy enough to be the head of a relative clause. Maybe not only phonologically, because *vom* also does not work..

are free relatives restrictive or non-restrictive? > restrictive, and restrictive and weak are incompatible :) » this is why we have deletion!

(17) Sie ist vom Mann, mit dem sie gestern ausgegangen ist, versetzt worden.

In the previous section I introduced the relative pronoun as the internal element. This means that the other element is the external element. This section starts with the observation that there actually are languages in which two elements surface in so-called double-headed relative clauses. In these languages, the external head is a subset of the internal head, and that some features like D and case are necessarily excluded in the external head. I adopt this insight, and I apply it to the headless relative situation. I propose that the external head in headless relatives is a copy of a specific part of the relative pronoun.

As I said earlier, I need two elements to do case competition with. In headless relatives, I only see a single one surfacing. However, some languages actually show two elements surfacing. Here there are two copies of the element, one inside the relative clause, one outside of the relative clause.

(18) [**doü** adiyan-o-no] **doü** deyalukhe
sago give.3PL.NONFUT-tr-CONN sago finished.ADJ
'The sago that they gave is finished.' (Kombai, **vries1993**: 78)

The external element is not always an exact copy of the element inside of the relative

clause. An example from Kombai shows that the element outside of the relative clause can also be a subset of what the element inside of the relative clause is. Here I give two examples, there is an *old man* and a *person*, and there is *pig* and a *thing*.

(19) a. [**yare** gamo khereja bogi-n-o] **rumu**
old man join.SS work do.DUR.3SG.NF-TR-CONN person
na-momof-a
my-uncle-PRED
'The old man, who is joining the work, is my uncle.' 77

b. [**ai** fali-khano] **ro** nagu-n-ay-a.
pig carry-go.3PL.NF thing our-TR-pig-PRED
'The pig they took away, is ours.' (Kombai, **vries1993**: 77)

Let me now apply what we have seen so far to headless relatives. Headless relatives do not have an overt NP, so this cannot be copied. However, there is the relative pronoun which is specified for number, gender, case, etc. Are all of these features copied onto the external element? The copy is the portion of the nominal extended projection c-commanded by the relative clause. A headless relative is a restrictive relative clause. Therefore, there is no D and no case.

Is it possible to add features onto the external head after it has been copied? Yes, for example D, as the example shows, but also case.

(20) Junya-wa [Ayaka-ga **ringo**-o mui-ta] sono **ringo**-o tabe-ta.
Junya-TOP Ayaka-NOM apple-ACC peel-PST that apple-ACC eat-PST
'Junya ate the apples that Ayaka peeled.' (Japanese, **erlewine2016**: 2)

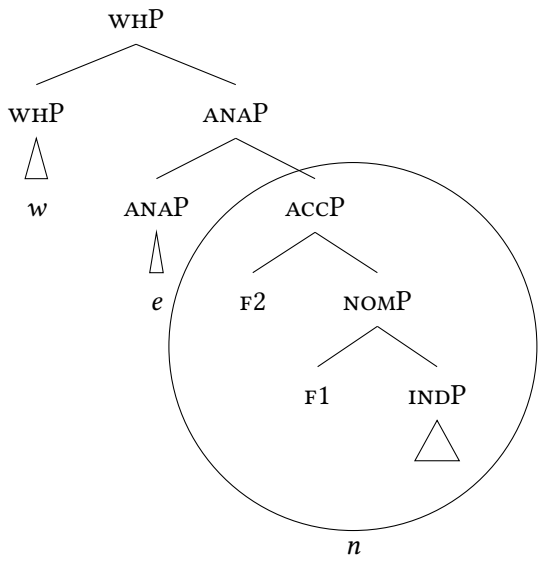
In sum, the external element is a copy of a subset of the features of the relative pronoun. Definiteness and case are not copied. New features can be merged onto the external element.

Table 2.13: Relative pronouns in headless relatives in Modern German

	AN
NOM	w-e-r
ACC	w-e-n
DAT	w-e-m

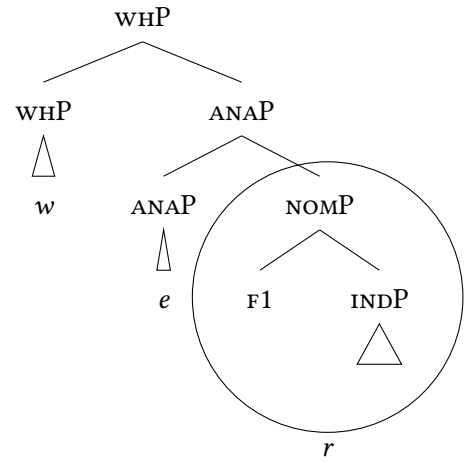
three morphemes: WH, ANA, number+gender+case
accusative relative pronoun

(21)



nominative relative pronoun

(22)



I copy the IND and I only merge the cases.

Modern German has two types of demonstratives: the strong one and the weak one.

The strong article is used when there is an anaphoric relation. Often there is a linguistic antecedent that is referred back to.

(23) Hans hat heute **einen Freund** zum Essen mit nach Hause gebracht.
Hans has today a friend to the dinner with to home brought
Er hat uns vorher ein Foto **vom**/ **von dem** **Freund**
he has us beforehand a photo of the$_{\text{WEAK}}$ of the$_{\text{STRONG}}$ friend
gezeigt.
shown
'Hans brought a friend home for dinner today. He had shown us a photo of the friend beforehand.'

Weak articles are used when situational uniqueness is involved. Uniqueness can be global or within a restricted domain. The discourse participants mutually shared knowledge that uniqueness holds.

(24) a. Der Einbrecher ist zum Glück vom /von dem Hund
the burglar is luckily by the$_{\text{WEAK}}$ by the$_{\text{STRONG}}$ dog

verjagt worden.
chased away been
'Luckily, the burglar was chased away by the dog.'

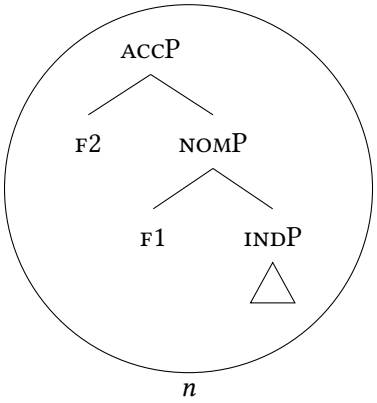
b. Armstrong flog als erster zum Mond.
Armstrong flew as first one to the$_{\text{WEAK}}$ moon
'Armstrong was the first one to fly to the moon.'
(Modern German, **schwarz2009**: 40)

In the headless relatives, there is uniqueness. Show?

The strong article cannot be used because it does not go together with the free choice interpretation of WH-relatives (say something about Hanink).

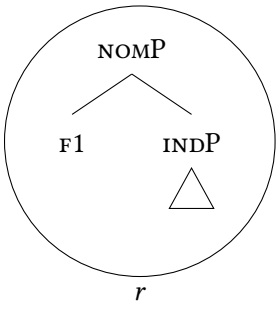
The weak article is used. accusative:

(25)



nominative:

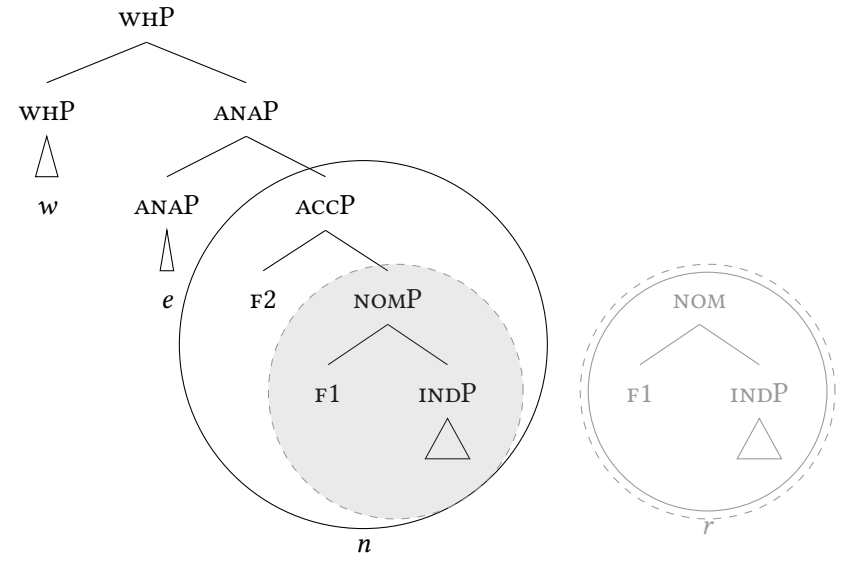
(26)



(27) Uns besucht **wen** **Maria** **mag**.
we.ACC visit.3SG$_{[NOM]}$ REL.ACC.AN Maria.NOM like.3SG$_{[ACC]}$
'Who visits us, Maria likes.' (adapted from **vogel2001**: 343)

the internal case is more complex than the external case, and the internal base part is more complex than the external non-cas part

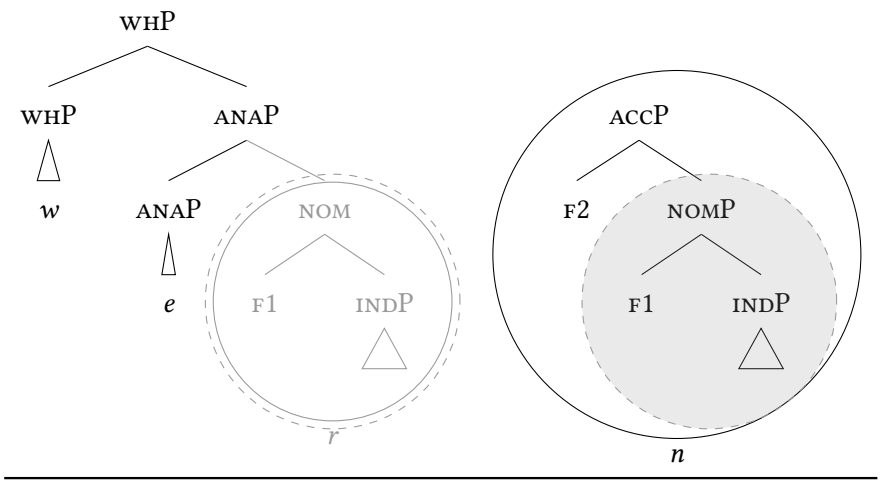
Table 2.14: Modern German: internal case > external case

internal case	external case
	

(28) *Ich lade ein, wen **mir** **sympathisch** **ist**.
1SG.NOM invite.PRES.1SG$_{[ACC]}$ REL.AN.ACC 1SG.DAT nice be.PRES.3SG$_{[NOM]}$
'I invite who I like.' (Modern German, adapted from **vogel2001**: 344)

the external case is more complex than the internal case, but the external base part is not more complex than the internal base part

Table 2.15: Modern German: internal case > external case



2.4 Deriving the matching type

Polish only allows the deletion of the light head in the matching situation. It is not obligatory there, you can just as well have a light-headed relative. The deletion is possible, because you have two elements that are pretty similar?

(29) Jan czyta to, co Maria czyta.
Jan read this what Maria reads
'Jan reads what Maria reads.' (Polish, **citko2004**: 96)

Radek: Czech distinguishes between accidental uniqueness and inherent uniqueness. Accidental uniqueness: with DEM, inherent uniqueness: without DEM.

Radek's situation:

Two student assistants A and B are at their shared workdesk, which they share with other student assistants and where there's a computer and a couple of other things, including a book (it doesn't really matter to whom the book belongs). A is looking for a pencil, B says

(30) Nějaká tužka je vedle počítače /#toho počítače.
some pencil is next to computer DEM computer
'There's a pencil next to the computer.'

All situations like the topic situation – A and B's shared office (desk)– have exactly one computer in it.

(31) Nějaká tužka je vedle té knížky /#knížky
some pencil is next to DEM book book
'There's a pencil next to the book.'

There is exactly one book in the topic situation – A and B's shared office (desk) – and it does not hold that all situation like the topic situation have exactly one book in it

Florian showed that this is different for Modern German:

	anaphoric	situational uniqueness	inherent uniqueness
Polish	DEM	DEM	∅
German	$\text{DEM}_{\text{STRONG}}$	DEM_{WEAK}	DEM_{WEAK}

to is incompatible with *ever*, because *to* makes it accidentally uniqueness and *ever* requires inherent uniqueness

2.5 Excluding the external-only type

2.6 Summary

The linguistic counterpart of 'allow EXT?' is whether the internal base and the external base are syncretic (base_{INT} = base_{EXT}?). The linguistic counterpart of 'allow INT?' is whether the external base is a clitic (base_{EXT} = clitic?).

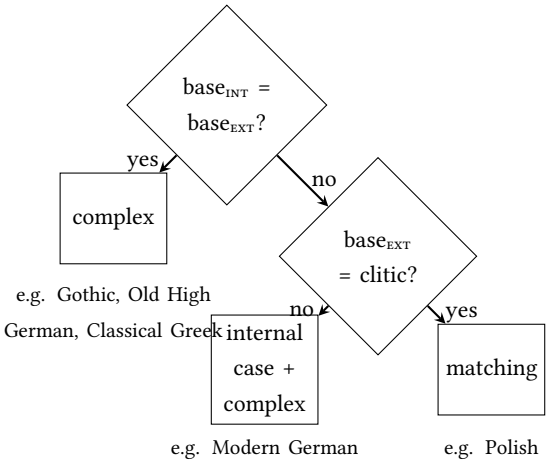


Figure 2.2: Two theoretical parameters generate three language types

2.7 Aside: a larger syntactic context

If you talk about different patterns, there can be different locations to put your parameters. Himmelreich put her parameters in the structure. I put my parameters in the elements themselves. I show what an analysis like Himmelreich looks like, and I show then that it is difficult to reduce that then to differences in the lexicon (because it has to do with agree?).

So what I do is keep the parameters that she was differing stable. I change the things that she kept constant, the internal and external element. Does her structure then work with what I want? Not entirely, because I have to do a c-command that is going in the wrong direction. Then I show a syntactic structure that could be compatible with mine, and I show why a grafting one is not.

In this dissertation I focus on when languages allow the internal and external case to win the case competition. In my proposal, this depends on the comparison between the internal and external base. The larger syntactic context in which this takes place should be kept stable. For concreteness, I show a possible implementation in Cinque's double-headed analysis of relative clause. I do by no means claim that claim this is the only or even correct implementation.

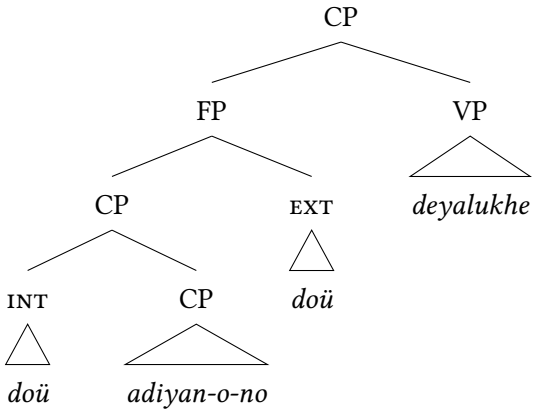
According to Cinque, every type of relative clause in every language is underlyingly double-headed. Evidence for this claim comes from languages that show this morphologically. An example from Kombai is given in (32). The head of the relative clause is *doü* 'sago', and it appears inside the relative clause and outside.

(32) [**doü** adiyan-o-no] **doü** deyalukhe
sago give.3PL.NONFUT-TR-CONN sago finished.ADJ
'The sago that they gave is finished.' (Kombai, **vries1993**: 78)

The internal and external instances of *doü* correspond to the internal and external element I assume to be there in the headless relatives.

(33) shows the syntactic structure of the sentence in (32).

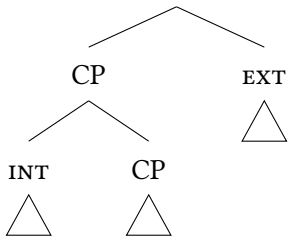
(33)



In most languages one of the two heads is deleted throughout the derivation.

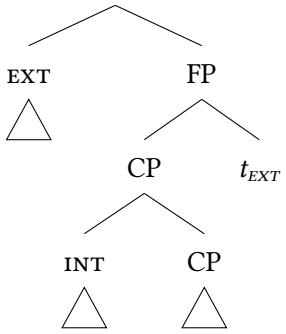
According to **cinqueforthcoming**, the internal element can delete the external element, because the internal element c-commands the external element. This is c-command according to Kayne's definition of it: the internal element is in the specifier of the specifier of the FP.

(34)



In order for the internal element to be able to delete the external element, a movement needs to take place. The external element moves over the relative clause.[11] From this position, the external element can delete the internal one, because the external element c-commands the internal one.

(35)



Also talk about D here, and that maybe Old High German deletes a thing without a D when the internal thing wins. does that also have a not so definite interpretation?

What does not work:

For this pattern a single element analysis seems intuitive, if you assume that case is complex and that syntax works bottom-up. First you built the relative clause, with the big case in there. Then you build the main clause and you let the more complex case in the embedded clause license the main clause predicate.

Consider the example in (36). Here the internal case is accusative and the ex-

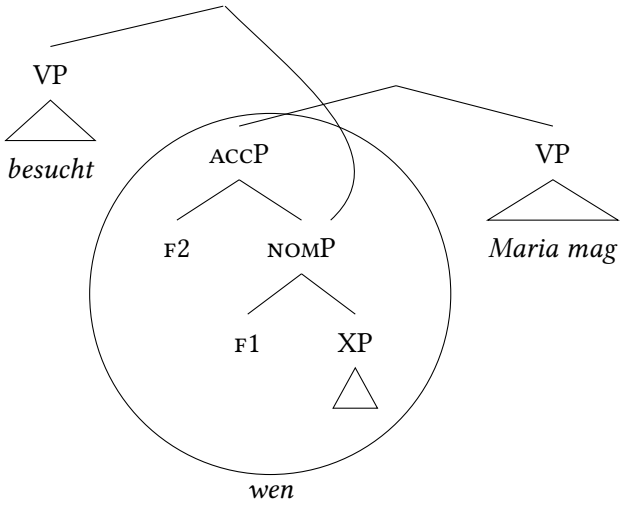
[11] What remains unclear is what the trigger is for the movement of the external element over relative clause is.

ternal one nominative.

(36) Uns besucht **wen** **Maria** **mag**.
we.ACC visit.3SG$_{[NOM]}$ REL.ACC.AN Maria.NOM like.3SG$_{[ACC]}$
'Who visits us, Maria likes.' (adapted from **vogel2001**: 343)

The relative clause is built, including the accusative relative pronoun. Now the main clause predicate can merge with the nominative that is contained within the accusative.

(37)

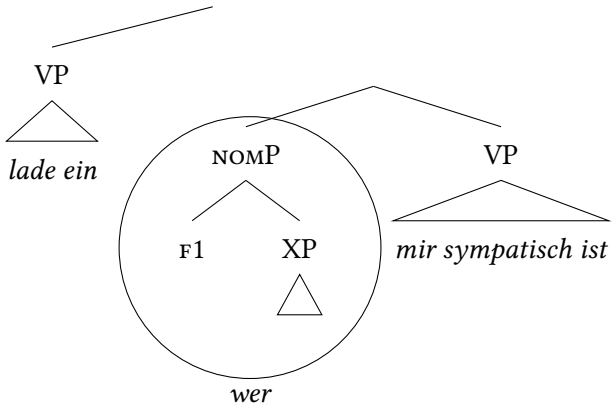


The other way around does not work. Consider (38). This is an example with nominative as internal case and accusative as external case.

(38) *Ich lade ein, wen **mir** **sympathisch** **ist**.
I.NOM invite.1SG$_{[ACC]}$ REL.ACC.AN I.DAT nice be.3SG$_{[NOM]}$
'I invite who I like.' (adapted from **vogel2001**: 344)

Now the relative clause is built first again, this time only including the nominative case. There is no accusative node to merge with for the external predicate. Instead, the relative pronoun would need to grow to accusative somehow and then the merge could take place. This is the desired result, because the sentence is ungrammatical.

(39)



So, this seems to work fine. The assumptions you have to do in order to make this are the following. First, case is complex. Second, you can remerge an embedded node (grafting). For the first one I have argued in Chapter **??**. The second one could use some additional argumentation. It is a mix between internal remerge (move) and external merge, namely external remerge. Other literature on multidominance and grafting, other phenomena. Problems: linearization, .. But even if fix all these theoretical problems, there is an empirical one.

That is, I want to connect this behavior of Modern German headless relatives to the shape of its relative pronouns. These pronouns are WH-elements. The OHG and Gothic ones are not WH, they are D. Their relative pronouns look different, and so their headless relatives can also behave differently.

Himmelreich

there are agree relations between - V_{EXT} and EXT - V_{INT} and INT - INT and EXT

three parameters: 1 relation between V_{EXT} and EXT + V_{INT} and INT are symmetric or asymmetric 2 relation between EXT and INT are symmetric or asymmetric 3 if EXT — INT is asymmetric, EXT or INT probes

I keep the parameters she has stable, the bigger syntactic context is the same everywhere. I vary the content of EXT

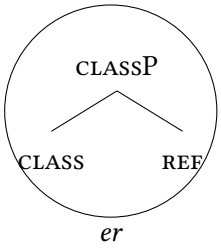
2.8 Aside: D between ϕ and K

How can cases and number/gender be packaged together to the exclusion of D? Because D is actually merged below K. Let me illustrate this.

(40) **Spellout Algorithm:**
Merge F and

a. Spell out FP.
b. If (a) fails, attempt movement of the spec of the complement of F, and retry (a).
c. If (b) fails, move the complement of F, and retry (a).

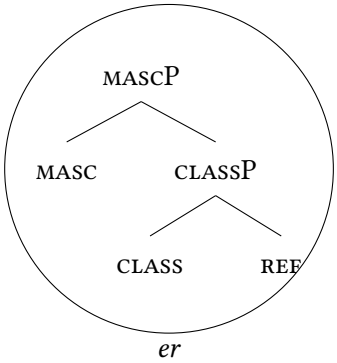
(41)



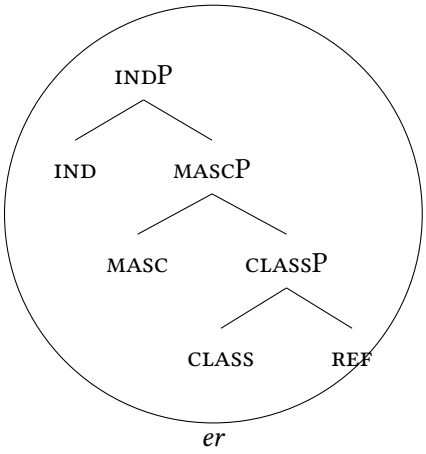
When a new match is found, it overrides previous spellouts.

(42) **Cyclic Override** (**starke2018**):
Lexicalisation at a node XP overrides any previous match at a phrase contained in XP.

(43)

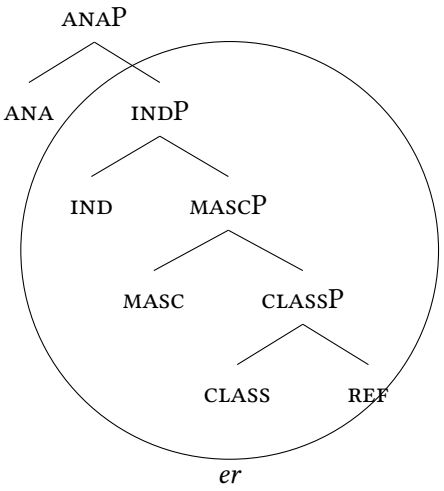


(44)



ANA cannot be spelled out together with what has been spelled out so far. Try the movements, which is not helping. I need to make a left branch.

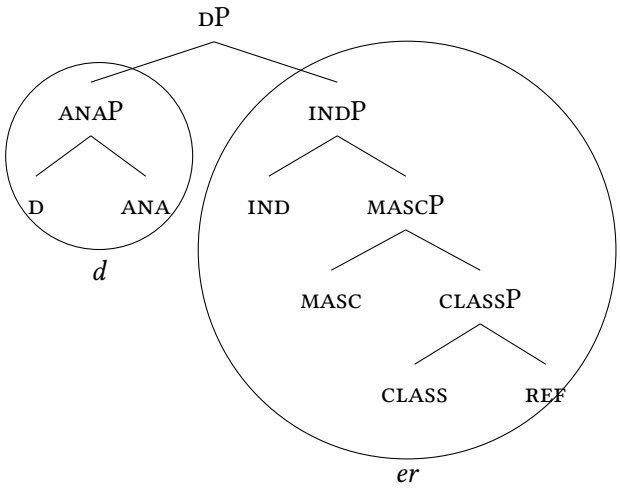
(45)



A specifier is constructed.

(46) **Spec Formation (starke2018)**:
If Merge F has failed to spell out (even after backtracking), try to spawn a new derivation providing the feature F and merge that with the current derivation, projecting the feature F at the top node.

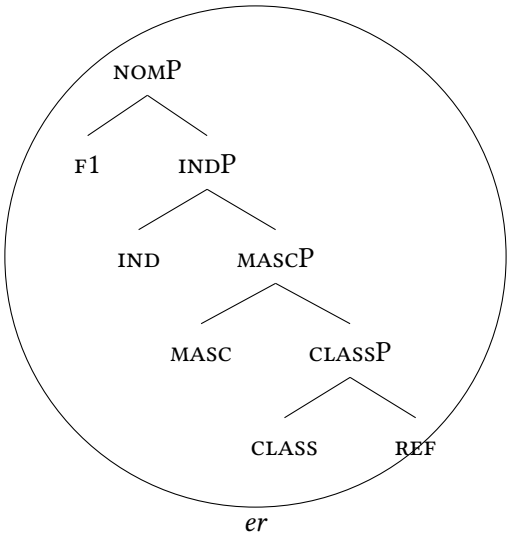
(47)



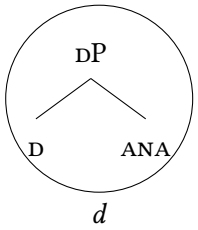
If the spellout procedure in (40) fails, backtracking takes place.

(48) **Backtracking** (**starke2018**):
When spellout fails, go back to the previous cycle, and try the next option for that cycle.

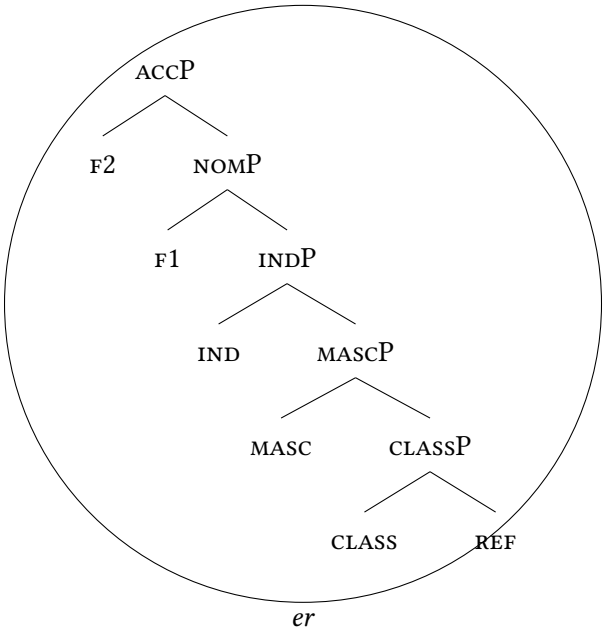
(49) a.

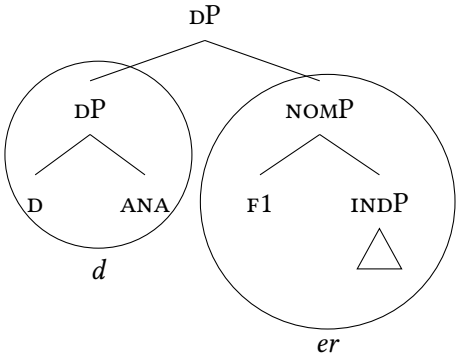


b.


DP
D
ANA
d

(50)


ACCP
F2
NOMP
F1
INDP
IND
MASCP
MASC
CLASSP
CLASS
REF
er


DP
DP
D
ANA
d
NOMP
F1
INDP
er

Chapter 3

Discussion

3.1 Diachronic part

First, German only had the d-pronoun and attraction. The pattern of attraction that came with that pronoun is ext only. At some point, German invented the wh-pronoun. Helmut showed how it emerged. With that came the other pattern: int only. Some people lost the attraction (but everybody kept the d-pronoun) and with that the pattern disappeared. So the patterns in headless relatives follow from the relative pronouns in the language.

Why are all languages of the 'matching' type dead languages? Was it a common thing that wh-pronouns were not used as relative pronouns?

Wouldn't we now not expect that Modern German patterns with Old High German wrt attraction in headed constructions. Yes, we would. And yes, this is exactly what we see. Paper by Bader on case attraction.

First there was only the relative pronoun with a D. Then we did case competition with this one, in both directions. Later, we only did it with the wh, and we only had internal left. Because this competitor was introduced, the case competition with D disappeared.

3.2 Suppletive nominatives in Gothic

3.3 Towards deriving the always-external pattern

grosu: morphological distinctions correlate with 'freedom'

Why FEM does not have WH-pronouns?

3.4 More languages

valita 'choose' takes a partitive object

(1) Valitsen mista sina piddt. choose-I.el what-el you like-you.part 'I choose what you like.'

pitää 'like' takes elative objects

(2) *Pidan mista sind valitset.
like-I.part what-el you choose-you.el
'I like what you choose.'

(3) *Pidan mita sind valitset.
like-I.part what-el you choose-you.el
'I like what you choose.'

Primary texts

Col.	Colossians, New Testament
Isid.	Der althochdeutsche Isidor
John	John, New Testament
Luke	Luke, New Testament
Mons.	The Monsee fragments
Nib.	Das Nibelungenlied
Otfrid	Otfrid's Evangelienbuch
Rom.	Romans, New Testament