

CASE COMPETITION IN HEADLESS RELATIVES

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List of abbreviations

ACC	accusative
DAT	dative
DEM	demonstrative
ELH	extra light head
F	feminine
GEN	genitive
INF	infinitive
M	masculine
NOM	nominative
N	neuter
PL	plural
PRES	present tense
PST	past tense
PTCP	participle
RP	relative pronoun
SG	singular

Part I

Case competition

Part II

The typology

Part III

Deriving the typology

Chapter 9

Deriving the unrestricted type

In Chapter 6, I suggested that languages of the unrestricted type have two possible light heads. Headless relatives can be derived from light-headed relatives headed by either of the two light heads. The different light heads are part of the derivation under different circumstances. The light-headed relative headed by the first possible light head derives the pattern correctly for the situation in which the internal and external case match and for the situation in which the internal case is more complex than the external case. The light-headed relative headed by the second possible light head derives the pattern correctly for the situation in which the internal and external case match and for the situation in which the external case is more complex than the internal case.

The first possible light head has the same internal syntax as the extra light head in internal-only languages, such as Modern German. It is spelled out by a portmanteau for phi and case features. The relative pronoun is spelled out by that same portmanteau plus a separate lexical entry that spells out the feature *REL*. This means that the internal syntax of the first possible light head and the relative pronoun looks as shown in Figure 9.1.

These lexical entries lead to the grammaticality pattern shown in Table 9.1.

Table 9.1: Grammaticality in the unrestricted type (part 1)

situation	lexical entries		containment	deleted	surfacing
	LH-1	RP			
$K_{INT} = K_{EXT}$	$[K_1[\phi]]$	$[REL], [K_1[\phi]]$	structure	LH	RP_{INT}
$K_{INT} > K_{EXT}$	$[K_1[\phi]]$	$[REL], [K_2[K_1[\phi]]]$	structure	LH	RP_{INT}
$K_{INT} < K_{EXT}$	$[REL], [K_1[\phi]]$	$[K_2[K_1[\phi]]]$	no	none	*

Consider first the situation in which the internal and the external case match. The

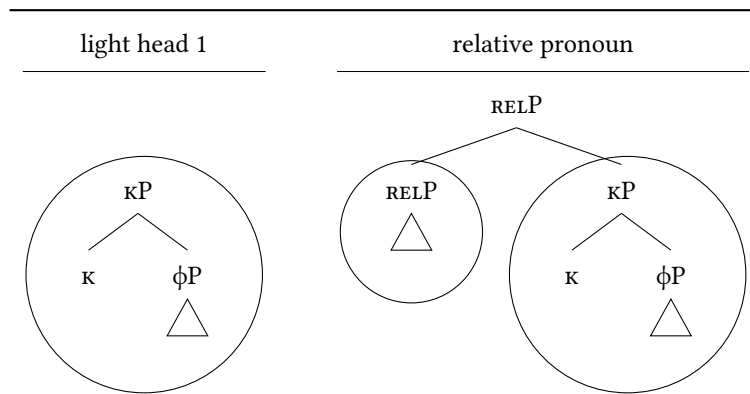


Figure 9.1: LH-1 and RP in the unrestricted type

situation here is identical to the one in the internal-only type of language. The light head consists of a phi and case feature portmanteau. The relative pronoun consists of the same morpheme plus an additional morpheme that spells out the feature REL. The lexical entries create a syntactic structure such that the light head is structurally contained in the relative pronoun. Therefore, the light head can be deleted, and the relative pronoun surfaces, bearing the internal case.

Consider now the situation in the internal case wins the case competition. Here the situation is identical to the one in the internal-only type of language too. The light head consists of a phi and case feature portmanteau. The relative pronoun consists of a phi and case feature portmanteau that contains at least one more case feature than the light head (κ_2 in Figure 9.1) plus an additional morpheme that spells out the feature REL. The lexical entries create a syntactic structure such that the light head is structurally contained in the relative pronoun. Therefore, the light head can be deleted, and the relative pronoun surfaces, bearing the internal case.

Consider now the situation in the external case wins the case competition. Also here the situation is identical to the one in the internal-only type of language. The relative pronoun consists of a phi and case feature portmanteau and an additional morpheme that spells out the feature REL. Compared to the relative pronoun, the light head lacks the morpheme that spells out REL, and it contains at least one more case feature (κ_2 in Figure 9.1). The lexical entries create a syntactic structure such that neither the light head nor the relative pronoun is structurally contained in the other element. Therefore, none of the elements can be deleted, and there is no headless relative construction possible.

However, in Chapter 4, I showed that Old High German is a language of the unrestricted type. In this chapter, I show that Old High German has light heads and relative pronouns with the type of internal syntax described in Figure 9.1. I give a compact version of the structures in Figure 9.2.

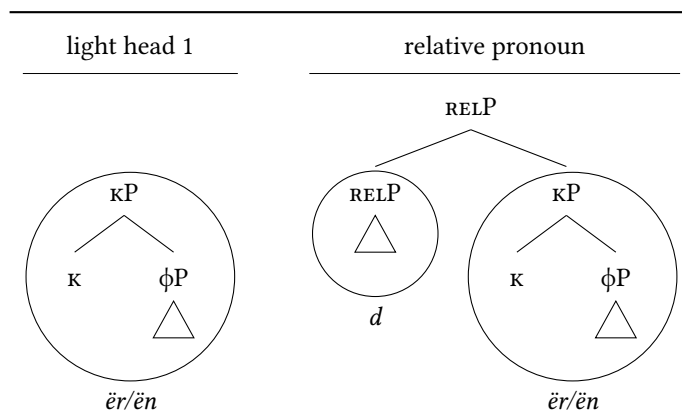


Figure 9.2: LH-1 and RP in Old High German

Consider the first possible light head in Figure 9.2. This light head (i.e. phi and case features) in Old High German is spelled out by a single morpheme, indicated by the circle around the structure. It is spelled out as *ër* or *ën*, depending on which case it realizes. Consider the relative pronoun in Figure 9.2. The relative pronoun in Old High German consists of two morphemes: the constituent that forms the light head (i.e. phi and case features) and the RELP, again indicated by the circles. The constituent that forms the light head has the same spellout as in the light head (*ën* or *m*), and the RELP is spelled out as *d*. Throughout this chapter, I discuss the exact feature content of the first possible light head and the relative pronoun, I give lexical entries for them, and I show how these lexical entries lead to the internal syntax shown in Figure 9.2.

The second possible light head differs from the first possible head in that it contains a feature more than the relative pronoun instead of a feature less. I call the additional feature X. The phi and case features are still spelled out by the phi and case portmanteau. The XP that contains the feature X and the feature REL is spelled out by its own lexical entry. The relative pronoun is spelled out by that same phi and case portmanteau plus a separate lexical entry that spells out the feature REL. Crucially, the morpheme that spells out the XP has the same spellout as the morpheme that spells out the feature REL (here X). This means that the internal syntax of the second possible light head and the relative pronoun looks as shown in Figure 9.1.

These lexical entries lead to the grammaticality pattern shown in Table 9.2.

Consider first the situation in which the internal and the external case match. The light head consists of a phi and case feature portmanteau plus a morpheme that spells out REL and X, which corresponds to phonological form X. The relative pronoun consists of the same phi and case feature morpheme and a morpheme that spells out the feature REL, which corresponds to the phonological form X too. The lexical entries create a syntactic structure such that the light head and the relative pronoun

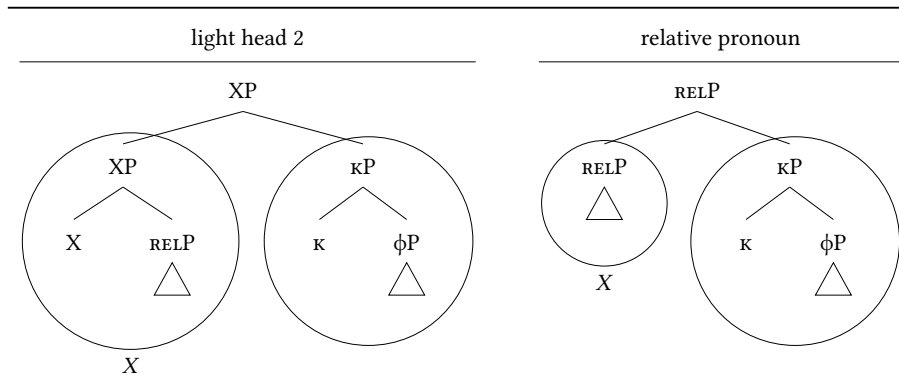


Figure 9.3: LH-2 and RP in the unrestricted type

Table 9.2: Grammaticality in the unrestricted type (part 2)

situation	lexical entries		containment	deleted	surfacing
	LH-2	RP			
$K_{INT} = K_{EXT}$	/X/, /Y/	/X/, /Y/	form	RP	LH_{EXT}
$K_{INT} > K_{EXT}$	/X/, /Y/	/X/, /Z/	no	none	*
$K_{INT} < K_{EXT}$	/X/, /Y/	/X/, /Y/	form	RP	LH_{EXT}

are syncretic, so the relative pronoun is formally contained in the light head. Therefore, the relative pronoun can be deleted, and the light head surfaces, bearing the external case.¹

Consider now the situation in which the internal case wins the case competition. The light head consists of a phi and case feature portmanteau plus a morpheme that spells out REL and X, which corresponds to phonological form X. The relative pronoun consists of a phi and case feature portmanteau that contains at least one more case feature than the light head (κ_2 in Figure 9.2) plus a morpheme that spells out the feature REL, which corresponds to the phonological form X too. The lexical entries create a syntactic structure such that neither the light head nor the relative pronoun is structurally or formally contained in the other element. Therefore, none of the elements can be deleted, and there is no headless relative construction possible.

Finally, consider the situation in which the external case wins the case competition. The relative pronoun consists of the same phi and case feature morpheme and a morpheme that spells out the feature REL, which corresponds to the phonological

¹The same holds the other way around: the light head is also formally contained in the relative pronoun, so the light head can be deleted too. Later in this section I come back to why it is the relative pronoun that is deleted here and not the light head.

form X . Compared to the relative pronoun, the light head has in addition the feature X , which is spelled out as X , and it contains at least one more case feature (κ_2 in Figure 7.1). The lexical entries create a syntactic structure such that neither the light head nor the relative pronoun is structurally or formally contained in the other element. Therefore, none of the elements can be deleted, and there is no headless relative construction possible. However, the derivation in which the external case is more complex than the internal one goes through a stage in which the internal and the external case match. Therefore, at that stage, these lexical entries create a syntactic structure such that the light head and the relative pronoun are syncretic, so the relative pronoun is formally contained in the light head. Therefore, the relative pronoun can be deleted, and the light head remains, bearing external case. Then, the remaining case features are merged to the light head, and the light head surfaces, bearing the more complex external case.

In Chapter 4, I showed that Old High German is a language of the unrestricted type. In this chapter, I show that Old High German has light heads and relative pronouns with the type of internal syntax described in Figure 9.3. I give a compact version of the structures in Figure 9.4.

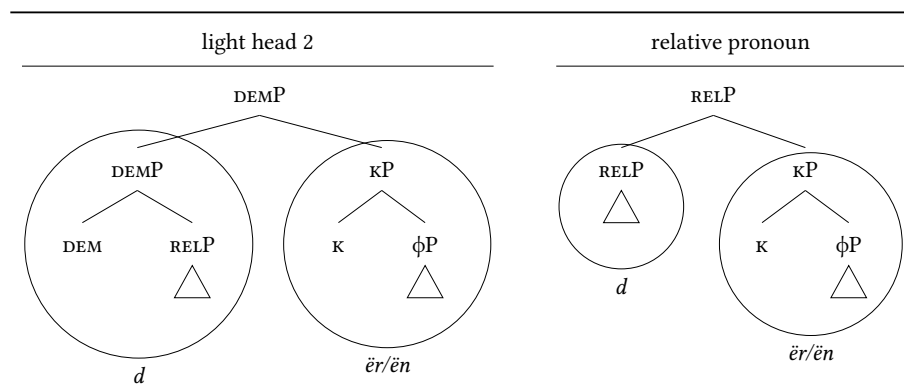


Figure 9.4: LH-2 and RP in Old High German

The phrase I so far called XP is replaced here by $DEM̄P$. I come back to this in Section 9.2.2. Consider the second possible light head in Figure 9.4. The light head (i.e. the ϕ and case features and $DEM̄P$) is spelled out by two morphemes, which are both circled. The $DEM̄P$ is spelled out as d and the ϕ and case features are spelled out as $ër$ or $ën$, depending on which case they realize. Consider the relative pronoun in Figure 9.4. The relative pronoun in Old High German consists of two morphemes: the constituent that spells out ϕ and case features and the constituent that spells out the feature REL , again indicated by the circles. The constituent that spells out ϕ and case features has the same spellout as in the light head ($ër$ or $ën$), and the $REL̄P$ is spelled out as d . Throughout this chapter, I discuss, just as I do for the first

possible light head, the exact feature content of light heads and relative pronouns, I give lexical entries for them, and I show how these lexical entries lead to the internal syntax shown in Figure 9.4.

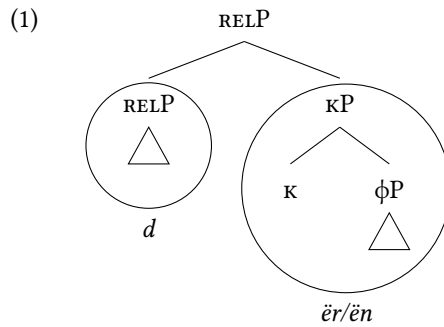
The chapter is structured as follows. First, I discuss the relative pronoun. I decompose it into the two morphemes I showed in Figure 9.2 and Figure 9.4. Then I show which features each of the morphemes corresponds to. Next, I discuss the two possible light heads. I argue that Old High German headless relatives can, unlike Modern German and Polish headless relatives, be derived from two different light-headed relatives. One of these light-headed relatives does not surface in the language, and the other one does. The light head in the light-headed relative that does not surface is the extra light head. The features that form the Old High German extra light head and relative pronoun are the same ones that form the Modern German and Polish extra light head and relative pronoun. I show that the Old High German extra light head has the same internal syntax as the Modern German extra light head: it corresponds to one of the morphemes of the relative pronoun (the *κP* in Figure 9.2).

The second light-headed relative that headless relatives can be derived from is one headed by a demonstrative. Remember that Modern German and Polish also have this light-headed relative in their language, but headless relatives cannot be derived from them. Crucially, headless relatives in Old High German can be derived from light-headed relatives headed by a demonstrative because the demonstrative and the relative pronoun are syncretic in the language. Both of them start with a *d*, followed by a phi and case feature morpheme. This syncretism leads Old High German to be an unrestricted type of language.

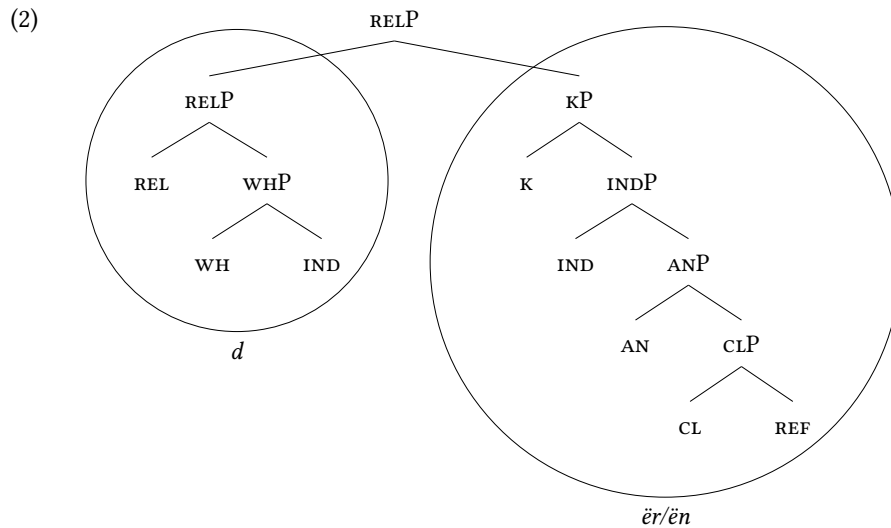
Next, I compare the internal syntax of the extra light head and the demonstrative to that of the relative pronoun. I show that the extra light head can be deleted via structural containment when the internal case and external case match and when the internal case is more complex than the external case. The relative pronoun can be deleted via formal containment when the internal case and external case match and when the internal case is more complex than the external case via formal containment. In order to account for the more complex external case surfacing, I show the larger syntactic structure of light-headed and headless relatives. Finally, I reflect on the assumption that two different light-headed relatives can be the source of Old High German headless relatives. I investigate whether there is support for this assumption coming from their interpretation and the larger syntactic structure.

9.1 The Old High German German relative pronoun

In the introduction of this chapter, I suggested that the internal syntax of relative pronouns in Old High German looks as shown in (1).



As I also showed in Chapter 7 for Modern German and in Chapter 8 for Polish, relative pronouns contain more features than only REL, ϕ and κ . In this section, I show that Old High German relative pronouns consist of the same features. The crucial claim I made in Chapter 6 remains unchanged: unrestricted languages (of which Old High German is an example) have a portmanteau for the features that correspond to phi and case features and a morpheme that spells out the features that the first light head does not contain. I show the complete structure that I work towards in this section in (2).



I discuss two relative pronouns: the masculine singular nominative and the masculine singular accusative. These are the two forms that I compare the internal syntax of in Section 9.3.² I show them in (3).

²For reasons of space, I do not discuss the animate nominative *dēmu/dēmo* 'RP.M.SG.DAT'. I assume its analysis is identical to the one I propose for *dēr* and *dēn*, except that *dēmu/dēmo* spells out more case features. I work out the proposal for *dēr* and *dēn*, because I have not found an example in which the internal dative case wins over the external accusative case.

- (3) a. d-ër
 ‘RP.M.SG.NOM’
 b. d-ën
 ‘RP.M.SG.ACC’

I decompose the relative pronouns into two morphemes: the *d* and the suffix (*ër* or *ën*). For each morpheme, I discuss which features they spell out, I give their lexical entries, and I show how I construct the relative pronouns by combining the separate morphemes.

I start with the suffixes: *ër* and *ën*. These two morphemes correspond to what I called the phi and case feature portmanteau in Chapter 6 and the introduction to this chapter. I argue that the phi features actually correspond to gender features, number features and pronominal features. Adding this all up, I claim that the suffixes correspond to number features, gender features, pronominal features and case features. Consider Table 9.3, which shows Old High German relative pronouns in two numbers, three genders and three cases.³

Table 9.3: Relative pronouns in Old High German (Braune 2018: 339)

	N.SG	M.SG	F.SG
NOM	d-az	d-ër	d-iu
ACC	d-az	d-ën	d-ea/d-ia
DAT	d-ëmu/d-ëmo	d-ëmu/d-ëmo	d-ëru/d-ëro
	N.PL	M.PL	F.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 in Table 9.3 change depending on number, gender and case. These different suffixes can be observed in several contexts besides relative pronouns. Table 9.4 gives an overview of the adjective *jung* ‘young’ in Old High German.

For some forms, the table gives two different forms, the first one being nominal inflection and the second one being pronominal inflection (Braune, 2018). The pronominal endings are the same as can be observed in the Table 9.3. Note here that the situation in Old High German is slightly from the one in Modern German, in which only the final consonant expresses gender, number and case features.

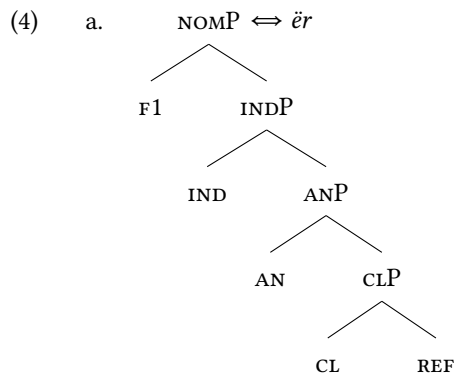
³ *d* can also be written as *dh* and *th*, *ē* and *ē* can also be *e* and *é* (Braune 2018: 339).

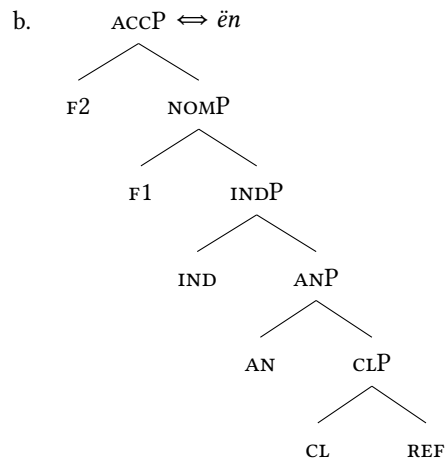
Table 9.4: Adjectives on *-a/-ō-* in Old High German Braune 2018: 300

	N.SG	M.SG	F.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	F.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

Besides gender, number and case features, I assume that the suffix also contains pronominal features. I do not only do so because the suffix is called pronominal inflection (*Pronominalflexion*) in the literature (Braune 2018: 338), but also because it appears in other pronominal forms too, such as possessives (Braune 2018: 337–338), demonstratives with the *dēs*-stem (Braune 2018: 342) and interrogatives (Braune 2018: 345).

I give the lexical entries for *ēr* and *ēn* in (4a) and (4b). The *ēr* is the nominative masculine singular, so it spells out the features REF, CL, AN, IND and F1. The *ēn* is the accusative masculine singular, so it spells out the features that the *ēr* spells out plus F2.

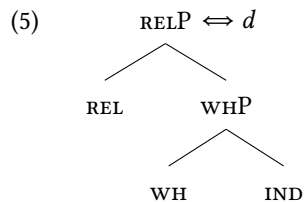




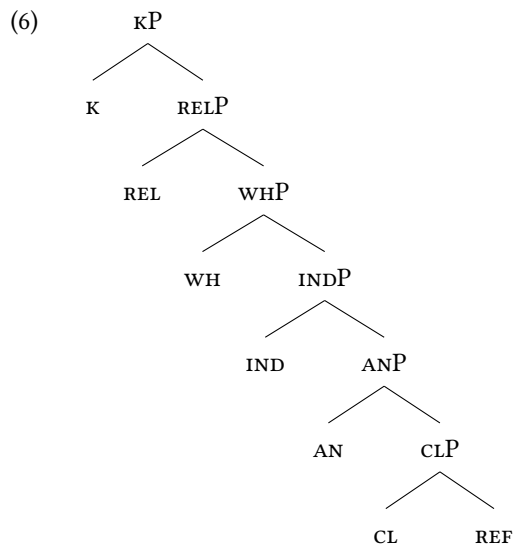
I continue with the morpheme *d*. This morpheme corresponds to what I called the REL-feature in Chapter 6 and in the introduction to this chapter. I argue that this morpheme actually spells out the feature REL, the feature WH and a number feature.

Relative and demonstrative pronouns are syncretic in Old High German (Braune 2018: 338). They contain the morpheme *d*, which is responsible for establishing a definite reference. The feature REL is present to establish a relation. I assume that *d* also spells out the feature IND. This is a theory-internal assumption that is required by the spellout algorithm. The feature IND is copied from the first workspace when I build a complex specifier.

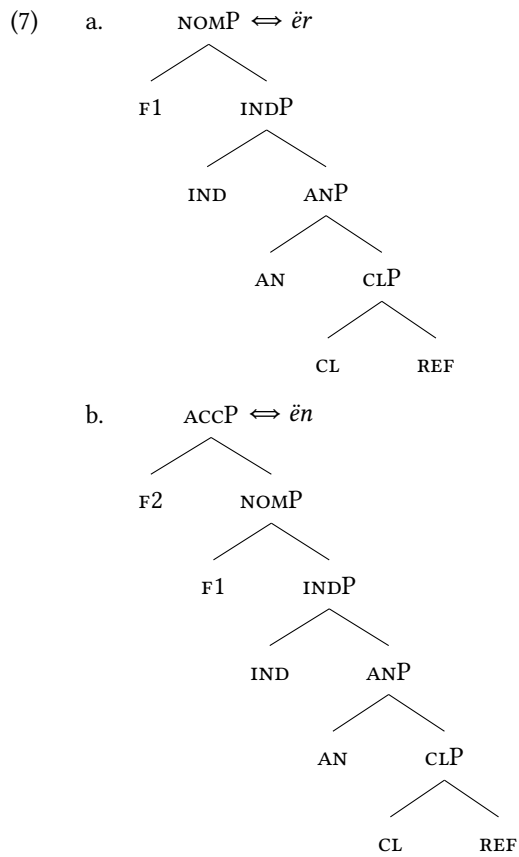
In sum, the morpheme *d* corresponds to the features REL, WH and IND as shown in (5).

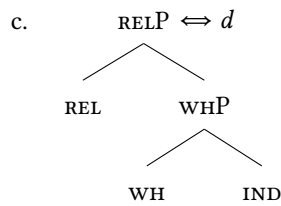


In what follows, I show how the Old High German relative pronouns are constructed. I follow the same functional sequence as I did for Modern German and Polish. I give the functional sequence in (6).

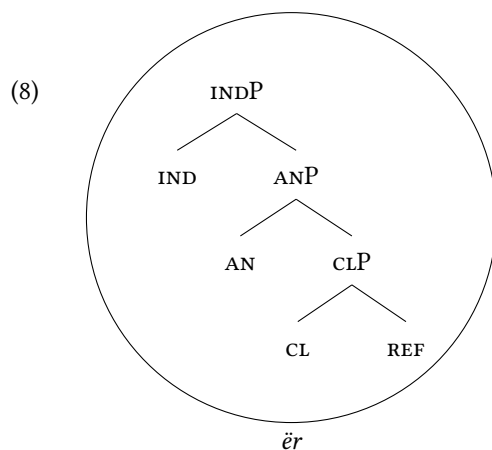


Of course, the spellout procedure remains the same. The outcome is different because of the different lexical entries Old High German has. I repeat the available lexical entries in (7).

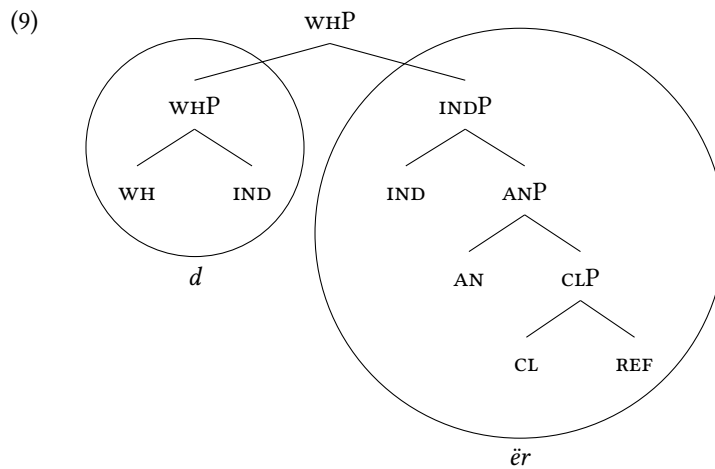




Starting from the bottom, the first two features that are merged are REF and CL, creating a CLP. The syntactic structure forms a constituent in the lexical tree in (7a), which corresponds to *ër*. Therefore, the CLP is spelled out as *ër*, which I do not show here. Then, the feature AN is merged, and a ANP is created. The syntactic structure forms a constituent in the lexical tree in (7a). Therefore, the ANP is spelled out as *ër*, which I do not show here either. Then, the feature IND is merged, and a INDP is created. The syntactic structure forms a constituent in the lexical tree in (7a). Therefore, the INDP is spelled out as *ër*, which I show in (8).

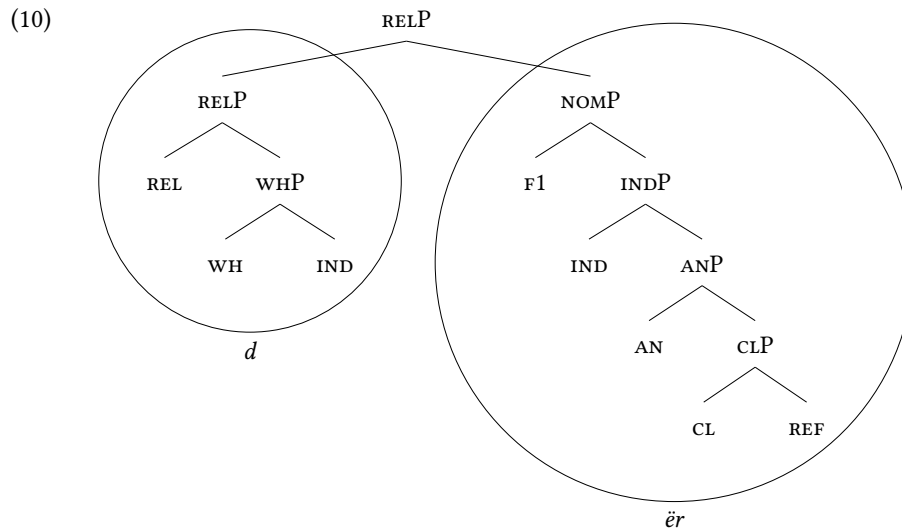


Next, the feature WH is merged. The derivation for this feature resembles the derivation of WH in Modern German and Polish. The feature is merged with the existing syntactic structure, creating a WHP. This structure does not form a constituent in any of the lexical trees in the language's lexicon, and neither of the spellout driven movements leads to a successful spellout. Therefore, in a second workspace, the feature WH is merged with the feature IND (the previous syntactic feature on the functional sequence) into a WHP. This syntactic structure forms a constituent in the lexical tree in (7c), which corresponds to the *d*. Therefore, the WHP is spelled out as *d*. The newly created phrase is merged as a whole with the already existing structure, and projects to the top node, as shown in (9).

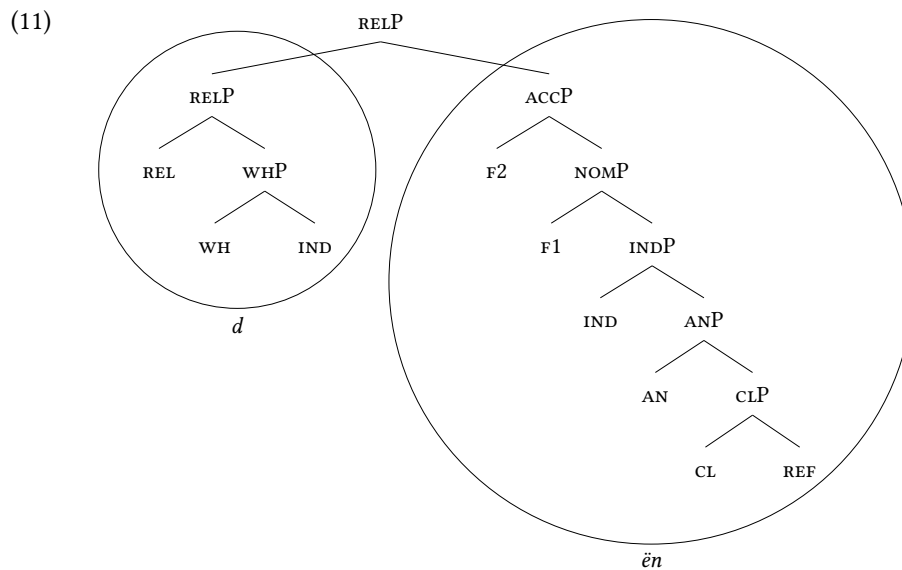


The next feature in the functional sequence is the feature *REL*. The derivation for this feature resembles the derivation of *REL* in Modern German and Polish. The feature is merged with the existing syntactic structure, creating a *REL*P. This structure does not form a constituent in any of the lexical trees in the language's lexicon, and neither of the spellout driven movements leads to a successful spellout. Backtracking leads to splitting up the *whP* from the *INDP*. The feature *REL* is merged in both workspaces, so with *whP* and and with *INDP*. The spellout of *REL* is successful when it is combined with the *whP*. It namely forms a constituent in the lexical tree in (7c), which corresponds to the *d*. The *REL*P is spelled out as *d*, and it is merged back to the existing syntactic structure.

For the nominative relative pronoun, the last feature is merged: the *F1*. This feature should somehow end up merging with *INDP*, because it forms a constituent in the lexical tree in (7a), which corresponds to the *ër*. This is achieved via Backtracking in which phrases are split up and going through the Spellout Algorithm. I go through the derivation step by step. The feature *F1* is merged with the existing syntactic structure, creating a *NOMP*. This structure does not form a constituent in any of the lexical trees in the language's lexicon, and neither of the spellout driven movements leads to a successful spellout. Backtracking leads to splitting up the *REL*P from the *INDP*. The feature *F1* is merged in both workspaces, so with the *REL*P and and with the *INDP*. The spellout of *F1* is successful when it is combined with the *INDP*. It namely forms a constituent in the lexical tree in (7a), which corresponds to the *ër*. The *NOMP* is spelled out as *ër*, and all constituents are merged back into the existing syntactic structure, as shown in (30).



For the accusative relative pronoun, the last feature is merged: the F2. The derivation for F2 resembles the derivation of F1. The feature is merged with the existing syntactic structure, creating a ACCP. This structure does not form a constituent in any of the lexical trees in the language's lexicon, and neither of the spellout driven movements leads to a successful spellout. Backtracking leads to splitting up the RELP from the NOMP. The feature F2 is merged in both workspaces, so with the RELP and and with the NOMP. The spellout of F2 is successful when it is combined with the NOMP. It namely forms a constituent in the lexical tree in (7b), which corresponds to the *ën*. The ACCP is spelled out as *ën*, and all constituents are merged back into the existing syntactic structure, as shown in (31).



To summarize, I decomposed the relative pronoun into the two morphemes: *d* and the suffix (*ēr* and *ēn*). I showed which features each of the morphemes spells out and what the internal syntax looks like that they are combined into. It is this internal syntax that determines whether the light head or the relative pronoun can be deleted or not.

9.2 The Old High German light heads

I have suggested that headless relatives are derived from light-headed relatives. The light head or the relative pronoun can be deleted when either of them is contained in the other one. In Chapter 6 and in the introduction of this chapter, I suggested that Old High German has two possible light heads: the extra light head and the demonstrative. That means that there are also two different light-headed relatives that can be the source of the headless relative.

For Modern German and Polish, I considered two kinds of light-headed relatives as the potential source of the headless relative. The first possible scenario would be that the headless relative is derived from an existing light-headed relative, in which case the deletion of the light head would have to be optional. The second possible scenario would be that the headless relative is derived from a light-headed relative that does not surface, in which case the deletion of the light head would have to be obligatory. I concluded for Modern German and Polish that the second scenario is the one that is attested in the languages. For Old High German I assume that headless relatives can be derived from both kinds of light-headed relatives.

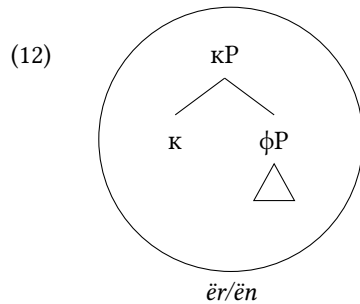
In Section 9.2.1, I introduce the extra light head that does not surface in the language in a light-headed relative as the first possible light head. In Section 9.2.2, I introduce the demonstrative that does surface in the language in a light-headed relative as the second possible light head.

9.2.1 The extra light head

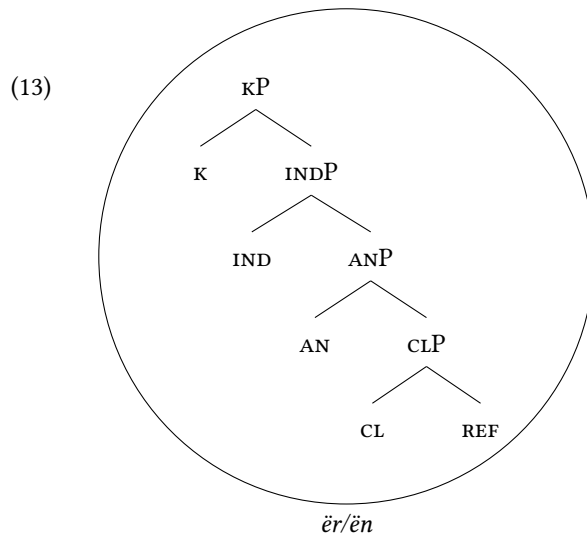
As I mentioned in the introduction of this section, headless relatives in Old High German can be derived from two different light-headed relatives: one that does not surface in the language and one that does surface in the language. In this section I discuss the first one, the light-headed relative that does not surface in the language. This light-headed relative is headed by the extra light head, just as the ones that are attested in Modern German and Polish.⁴

⁴In the sections on extra light heads in Modern German and Polish I discussed the possible interpretations of headless relatives in these languages. In this section I do not do so for Old High German. I come back to this in Section 9.4.

In the introduction of this chapter, I suggested that the extra light head (or the first possible light head as I called it there) in the unrestricted type of language consist of at least two features: ϕ and κ . I claimed that the internal syntax of the extra light head is as shown in (12).



In this section, I determine the exact feature content of the extra light head. I end up claiming that the extra light head corresponds to the phi and case feature morpheme of the relative pronoun, just as it does in Modern German and Polish. I show the complete structure that I work towards in this section in (13).

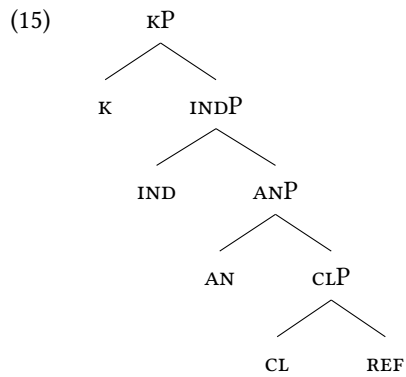


The internal syntax of the Old High German extra light head is identical to the internal syntax of the Modern German extra light head. They both form a single phi and case feature portmanteau.

In the remainder of this section, I discuss the two extra light heads that I compare the internal syntax of in Section 9.3. As I noted before, these forms do not surface as light heads in a light-headed relative. They do also not surface anywhere else in the language. They are the nominative masculine singular and the accusative masculine singular, shown in (14).

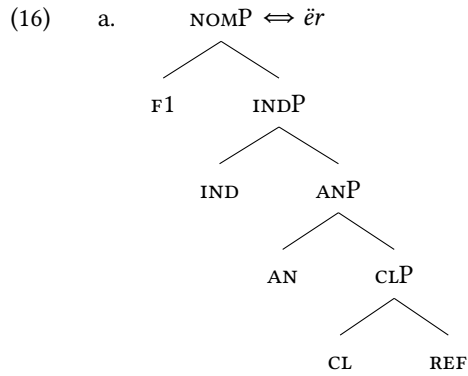
- (14) a. *ër*
ELH.M.SG.NOM
- b. *ën*
ELH.M.SG.ACC

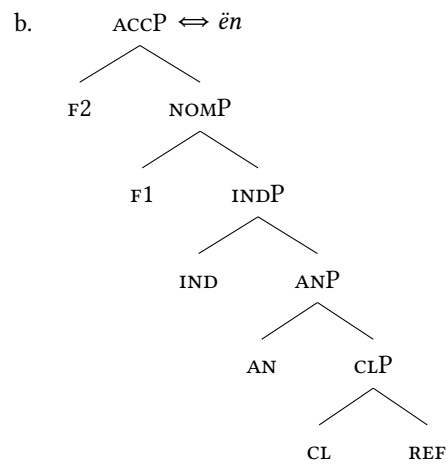
Just as in Modern German and Polish, the functional sequence for the extra light head is as shown in (15).



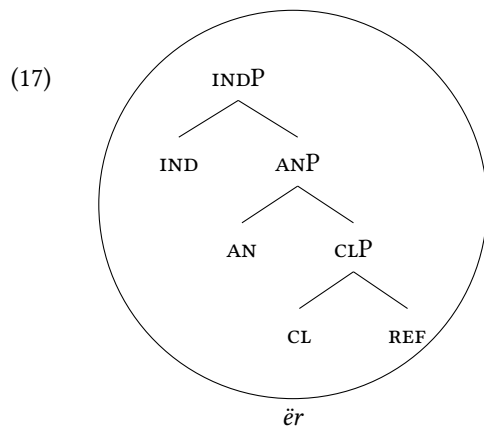
The functional sequence contains the pronominal feature REF, the gender features CL and AN, the number feature IND and case features κ.

I introduced the lexical entries that are required to spell out these features in Section 9.1. I repeat them in (16).

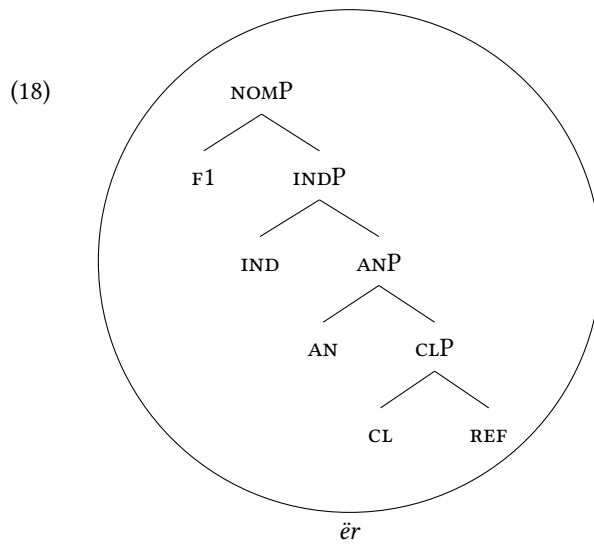




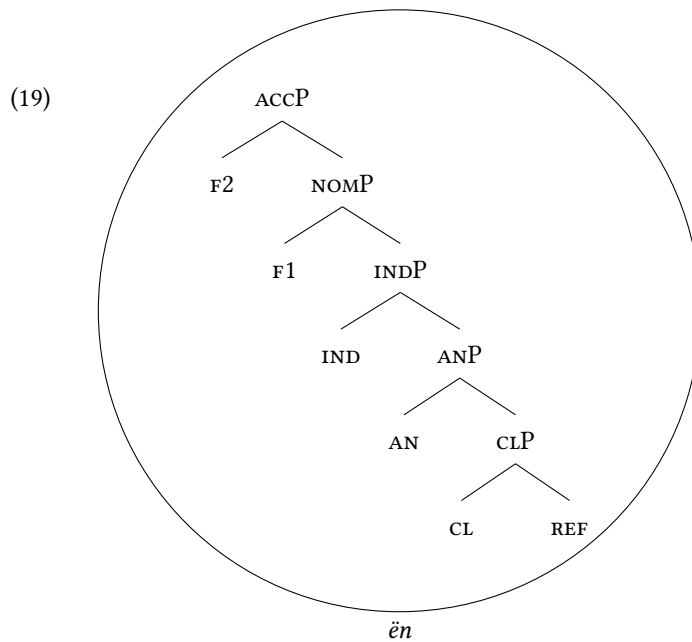
In what follows, I construct the Old High German extra light heads. Until the feature **IND**, the derivation is identical to the one of the relative pronoun. I give the syntactic structure at that point in (17).



The last feature that is merged for the nominative extra light head is the **r1**. It is merged, and the **NOMP** is created. The syntactic structure forms a constituent in the lexical tree in (16a). Therefore, the **NOMP** is spelled out as *ër*, as shown in (18).



For the accusative extra light head, one more feature is merged: the F2. It is merged, and the ACCP is created. The syntactic structure forms a constituent in the lexical tree in (16b). Therefore, the ACCP is spelled out as *ēn*, as shown in (19).

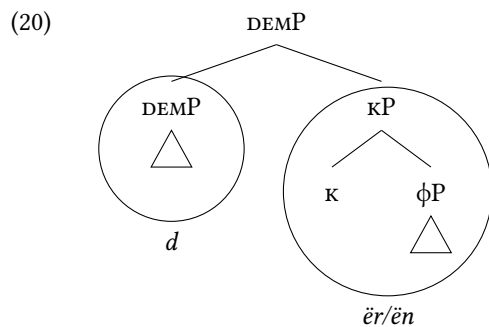


In sum, Old High German headless relatives can be derived from a light-headed relative headed by an extra light head, just as in Modern German and Polish. This extra light head is spelled out by a single phi and case feature portmanteau, just as in Modern German. The lexical entries used to spell out this extra light head are also used to spell out a morpheme of the internal syntax of the relative pronoun.

9.2.2 The demonstrative

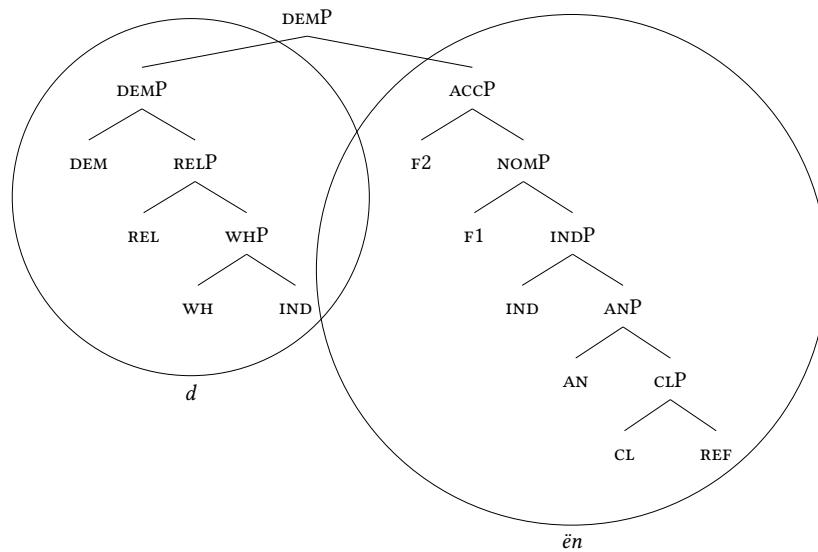
As I mentioned in the introduction of this section, headless relatives in Old High German can be derived from two different light-headed relatives: one that does not surface in the language and one that does surface in the language. In this section I discuss the second one, the light-headed relative that also surfaces in the language. This light-headed relative is headed by a demonstrative. This light-headed relative cannot be the source of a headless relative in Modern German or Polish, but it can Old High German. In Old High German, the demonstrative is namely syncretic with the relative pronoun.

In the introduction of this chapter, I suggested that the internal syntax of the demonstrative is as shown in (20).



Also in the introduction of this chapter, I suggested that the demonstrative in the unrestricted type of language consist of at least three features: D, ϕ and κ . The demonstrative is spelled out by the same lexical entries as the relative pronoun. This raises the question of how the features D and REL are connected. This is what I discuss in this section, in which I determine the exact feature content of the demonstrative. I show the complete structure that I work towards in this section in (21).

(21)



I give an example of a light-headed in Old High German relative headed by a demonstrative in (22). The *ther* ‘DEM.SG.M.NOM’ not marked in bold is the demonstrative that is the head of the relative clause. The *Ther* ‘RP.SG.M.NOM’ marked in bold is the relative pronoun in the relative clause.⁵

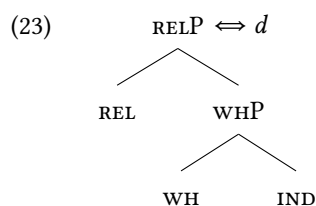
- (22) Crist, uuer ist ther **ther** **dih** slehit?
 Christ who.AN.NOM be.3SG DEM.SG.M.NOM RP.SG.M.NOM 2SG.ACC hit.3SG
 ‘Christ, who is the one that hit you?’ (Old High German, Tatian 192:2)

As (22) shows and as I mentioned earlier in this chapter, relative pronouns and demonstrative pronouns are syncretic in Old High German. Both of them start with a *d*, followed by a phi and case feature portmanteau. I already discussed the phi and case feature morpheme in Section 9.1. In what follows, I discuss how the two *ds* are related.

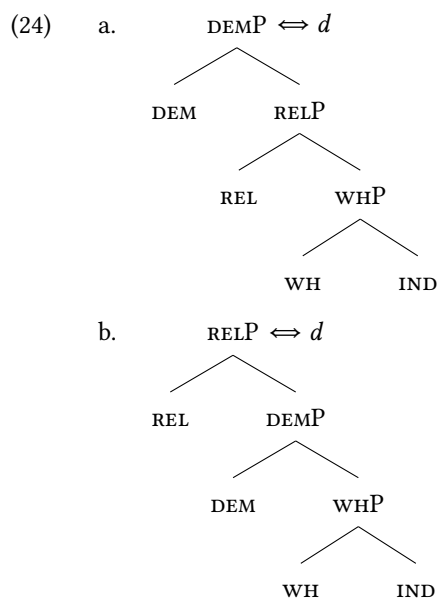
As I mentioned, both relative pronouns and demonstratives start with a *d*. As I discussed throughout this dissertation (especially in Chapter 3), a syncretism can be described by letting the two forms correspond to the same lexical entry.⁶ The lexical entry for *d* I gave so far is the one in (23).

⁵I assume that whether both the light head and the relative pronoun or only one of them surfaces is determined by information structure. In (22), it seems plausible that the one that hit Christ is emphasized, and that therefore no deletion takes place.

⁶It is also possible to argue that they are accidentally syncretic. As the syncretism between relative pronouns and demonstratives is attested in multiple (albeit mostly Germanic) language (Baunaz and Lander, 2018), I do not discuss that option.



Logically speaking, the syncretism can be derived by either putting the DEM feature above the feature REL or below it. I show the two options in (24).



With both lexical entries, the *d* is inserted for the RELP and the DEMP (because of the Superset Principle). The feature DEM could not be put below WH, as Old High German uses pronouns starting with *(h)w* for interrogatives. If the feature DEM was below WH, it would be the *(h)w* that would be inserted and not the *d* (because of the Elsewhere Condition).

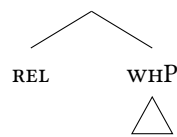
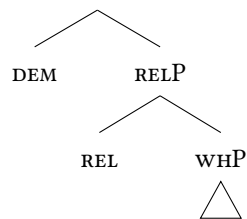
If you also consider the syncretisms in Modern German and in Polish, then only the ordering in (24a) can derive the patterns. These languages namely have a syncretism between the interrogative and the relative pronoun to the exclusion of the demonstrative. I give an overview of the syncretism patterns in the different languages I discussed in Table 9.5.

I give the lexical entries for Modern German and Polish that derive this pattern in (25).⁷

⁷As I also noted in Chapter 7, Modern German has two relative pronouns: one starting with *d* and one starting with *w*. To capture that, I assume that the REL-head should actually consist of two heads, say REL₁ and REL₂. Up to REL₁, the structure is spelled out as *we* and from REL₂ on the structure is spelled out

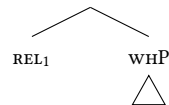
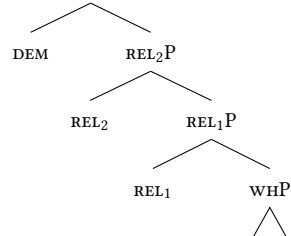
Table 9.5: Syncretisms between DEM, REL and WH

language	DEM	REL	WH
Old High German	d	d	(h)w
Modern German	d	w	w
Polish	t	k	k

(25) a. RELP \Leftrightarrow *we/k*b. DEMP \Leftrightarrow *de/t*

Crucially, the syncretism between the demonstrative and the relative pronoun makes

as *de*. I give the lexical entries that derive this result in (i).

(i) a. REL₁P \Leftrightarrow *we*b. DEMP \Leftrightarrow *de*

Splitting the REL head in two heads does not make a difference for Old High German and Polish. Old High German would only let *h(w)* spell out the WHP, and Polish would let *k* spell out the WHP and both RELPs.

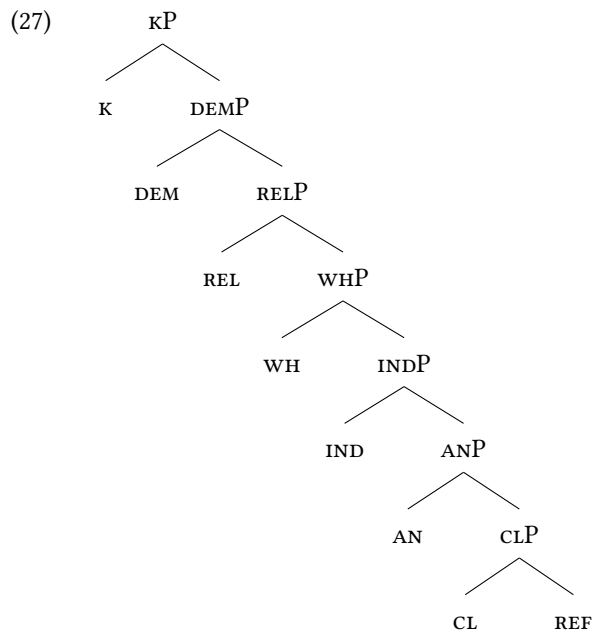
Old High German an unrestricted type of language. The relative pronoun can be deleted via formal containment. In Modern German and in Polish, relative pronouns and demonstratives are not syncretic (see Section 7.3 and Section 8.2). Therefore, the relative pronoun cannot be deleted via formal containment.

This hierarchy has also been proposed by Baunaz and Lander (2018), who in addition include a complementizer and an indefinite (which is not what I call the extra light head). They provide evidence from crosslinguistic patterns of syncretism and morphological containment.⁸

In the remainder of this section, I discuss the two demonstratives that I compare the internal syntax of in Section 9.3. These are the nominative masculine singular and the accusative masculine singular, shown in (26).

- (26) a. d-ër
DEM.M.SG.NOM
- b. d-ën
DEM.M.SG.ACC

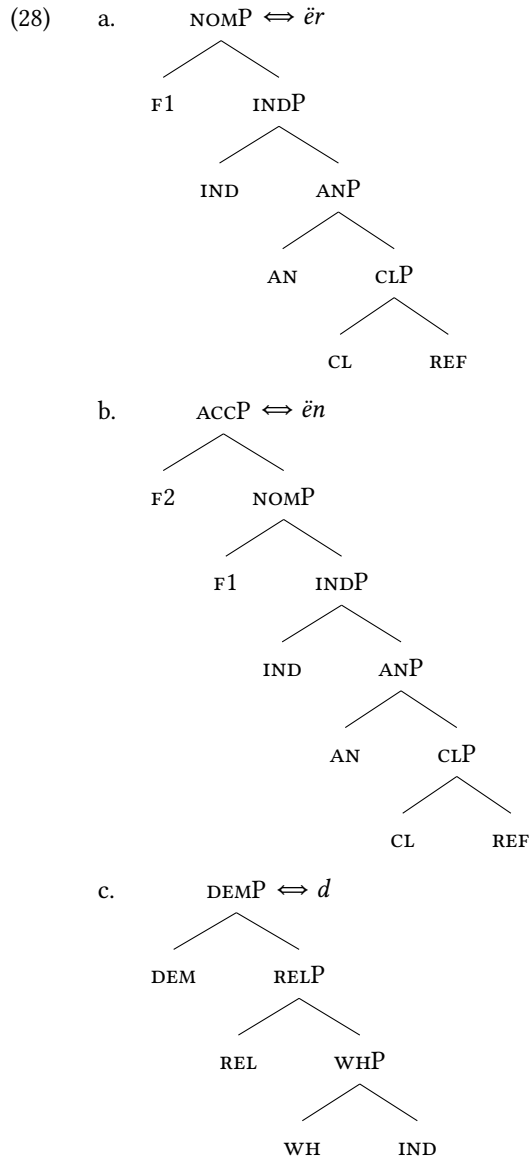
The functional sequence for the light head is as shown in (27).



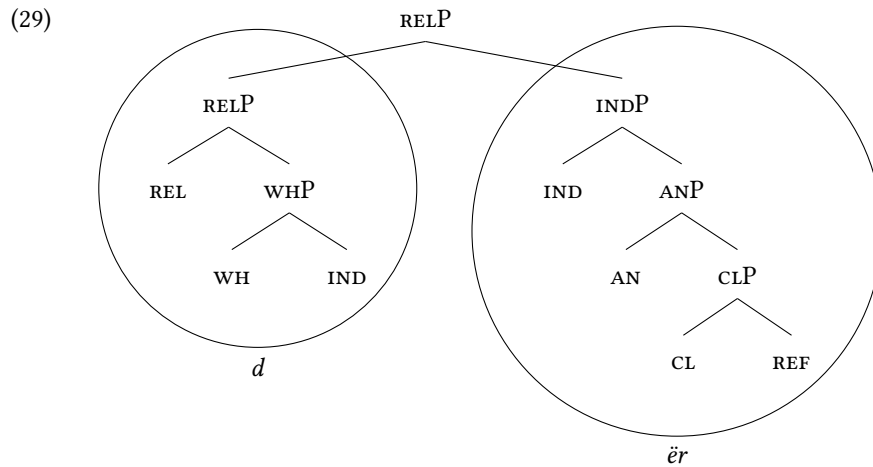
The functional sequence contains the pronominal feature REF, the gender features CL and AN, the number feature IND, the operator features WH, REL and DEM and case features K.

⁸Semantically, this functional sequence can be interpreted as follows:

I introduced the lexical entries that are required to spell out these features in Section 9.1 and earlier in this section. I repeat them in (28).



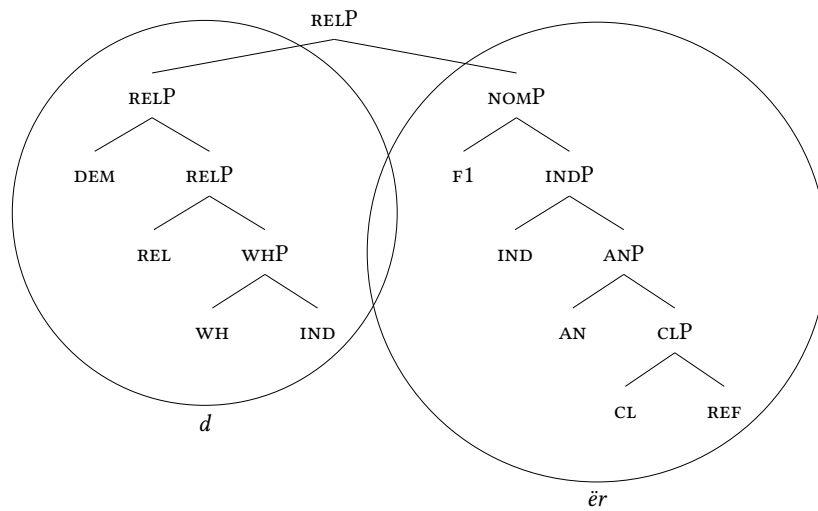
In what follows, I construct the Old High German demonstratives. Until the feature `REL`, the derivation is identical to the one of the relative pronoun. I give the syntactic structure at that point in (29).



The next feature that is merged is the feature **DEM**. The derivation for this feature resembles the derivation of **REL**. The feature is merged with the existing syntactic structure, creating a **DEMP**. This structure does not form a constituent in any of the lexical trees in the language's lexicon, and neither of the spellout driven movements leads to a successful spellout. Backtracking leads to splitting up the **RELP** from the **INDP**. The feature **DEM** is merged in both workspaces, so with **RELP** and with **INDP**. The spellout of **REL** is successful when it is combined with the **RELP**. It namely forms a constituent in the lexical tree in (28c), which corresponds to the *d*. The **DEMP** is spelled out as *d*, and it is merged back to the existing syntactic structure.

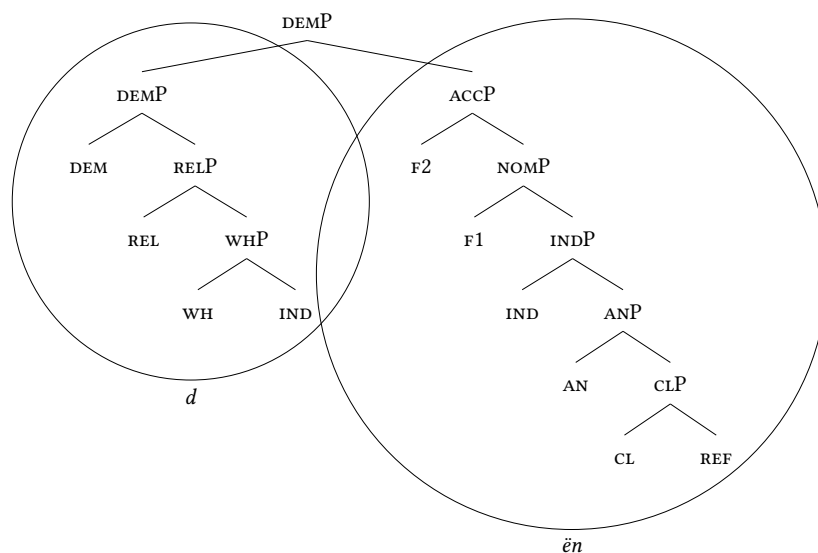
For the nominative relative pronoun, the last feature is merged: the **F1**. This feature should somehow end up merging with **INDP**, because it forms a constituent in the lexical tree in (7a), which corresponds to the *ër*. This is achieved via Backtracking in which phrases are split up and going through the Spellout Algorithm. I go through the derivation step by step. The feature **F1** is merged with the existing syntactic structure, creating a **NOMP**. This structure does not form a constituent in any of the lexical trees in the language's lexicon, and neither of the spellout driven movements leads to a successful spellout. Backtracking leads to splitting up the **DEMP** from the **INDP**. The feature **F1** is merged in both workspaces, so with the **DEMP** and with the **INDP**. The spellout of **F1** is successful when it is combined with the **INDP**. It namely forms a constituent in the lexical tree in (7a), which corresponds to the *ër*. The **NOMP** is spelled out as *ër*, and all constituents are merged back into the existing syntactic structure, as shown in (30).

(30)



For the accusative relative pronoun, the last feature is merged: the f_2 . The derivation for f_2 resembles the derivation of f_1 . The feature is merged with the existing syntactic structure, creating a ACC_P . This structure does not form a constituent in any of the lexical trees in the language's lexicon, and neither of the spellout driven movements leads to a successful spellout. Backtracking leads to splitting up the $DEMP$ from the $NOMP$. The feature f_2 is merged in both workspaces, so with the $DEMP$ and with the $NOMP$. The spellout of f_2 is successful when it is combined with the $NOMP$. It namely forms a constituent in the lexical tree in (7b), which corresponds to the $\ddot{e}n$. The ACC_P is spelled out as $\ddot{e}n$, and all constituents are merged back into the existing syntactic structure, as shown in (31).

(31)



In sum, Old High German headless relatives can be derived from a light-headed

relative headed by a demonstrative. This demonstrative is spelled out by a morpheme that spells out amongst others the feature DEM and by a phi and case feature portmanteau. The lexical entries used to spell out the demonstrative are also used to spell out the relative pronoun, as the demonstrative and the relative pronoun are syncretic.

9.3 Comparing light heads and relative pronouns

In this section, I compare the internal syntax of extra light heads and demonstratives to the internal syntax of relative pronouns in Old High German. This is the worked out version of the comparisons in Section 6.2.3. What is different here is that I show the comparison for Old High German specifically, and that the content of the internal syntax that is being compared is motivated earlier in this chapter.

I give three examples, in which the internal and external case vary. I start with an example with matching cases, in which the internal and the external case are both nominative. I show that the grammaticality of the example can be derived by either taking the light-headed relative headed by the extra light head or the light-headed relative headed by the light head as the source of the headless relative. Then I give an example in which the external accusative case is more complex than the internal nominative case. I show that the grammaticality of this example can only be derived by taking the light-headed relative headed by the light head as the source of the headless relative and not the light-headed relative headed by the extra light head. Before I can properly do that, I take a necessary but brief detour into the larger syntactic structure of headless relatives. I end with an example in which the internal accusative case is more complex than the external nominative case. I show that the grammaticality of this example can only be derived by taking the light-headed relative headed by the extra light head as the source of the headless relative and not the light-headed relative headed by the light head.⁹

I start with the situation in which the cases match. Consider the example in (32), in which the internal nominative case competes against the external nominative case. The relative clause is marked in bold. (32a) shows the example with the extra light head, and (32b) shows the example with the light head. The internal case

⁹In this section I discuss two different light heads (the extra light head and the demonstrative) and two different types of containment (structural containment and formal containment). That means that I could make four comparisons per headless relative: (1) one with the extra light head and structural containment, (2) one with the extra light head and formal containment, (3) one with the demonstrative and structural containment, and (4) one with the demonstrative and formal containment. I do not do this. Instead, I only discuss the first and the last option, namely whether there is structural containment with the extra light head and whether there is formal containment with the demonstrative. The other two comparisons (extra light head and formal containment and demonstrative and structural containment) namely never lead to a deletion, because the containment never holds.

is nominative, as the predicate *senten* ‘to send’ takes nominative subjects. In both examples, the relative pronoun *dher* ‘RP.SG.M.NOM’ appears in the nominative case. The external case is nominative as well, as the predicate *queman* ‘to come’ also takes nominative subjects. In (32a), the extra light head *er* ‘ELH.SG.M.NOM’ appears in the nominative case. It is placed between square brackets because it does not surface. In (32b), the light head *dher* ‘DEM.SG.M.NOM’ appears in the nominative case. Here the relative pronoun is placed between square brackets because it does not surface.

- (32) a. quham [er] **dher** **chisendit**
 come.PST.3SG_[NOM] ELH.SG.M.NOM RP.SG.M.NOM send.PST.PTCP_[NOM]
scolda **uuerdhan**
 should.PST.3SG become.INF
 ‘the one, who should have been sent, came’
 (Old High German, Isid. 35:5)
- b. quham **dher** [**dher**] **chisendit**
 come.PST.3SG_[NOM] DEM.SG.M.NOM RP.SG.M.NOM send.PST.PTCP_[NOM]
scolda **uuerdhan**
 should.PST.3SG become.INF
 ‘the one, who should have been sent, came’
 (Old High German, Isid. 35:5)

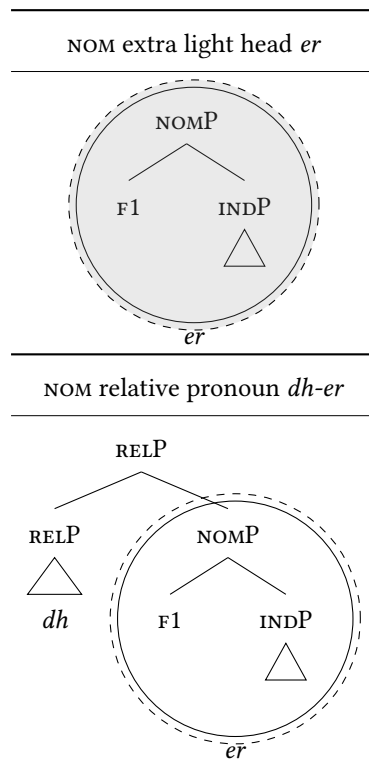
Both examples in (32) can be the source of the headless relative. First I show the comparison of the internal syntax of the extra light head and relative pronoun in (32a). Then I show the comparison of the internal syntax of the light head and the relative pronoun in (32b).

In Figure 9.5, I give the syntactic structure of the extra light head at the top and the syntactic structure of the relative pronoun at the bottom.

The extra light head consists of a single morpheme: *er*. The relative pronoun consists of two morphemes: *dh* and *er*. As usual, I circle the part of the structure that corresponds to a particular lexical entry, or I reduce the structure to a triangle, and I place the corresponding phonology below it. I draw a dashed circle around the biggest possible element that is structurally contained in both the extra light head and the relative pronoun.

The extra light head consists of a single morpheme: the NOMP. This NOMP is structurally contained in the relative pronoun. Therefore, the extra light head can be deleted. I signal the deletion of the extra light head by marking the content of its circle gray. The surface pronoun is the relative pronoun that bears the internal case: *dher*.

In Figure 9.6, I give the syntactic structure of the light head at the top and the syntactic structure of the relative pronoun at the bottom.

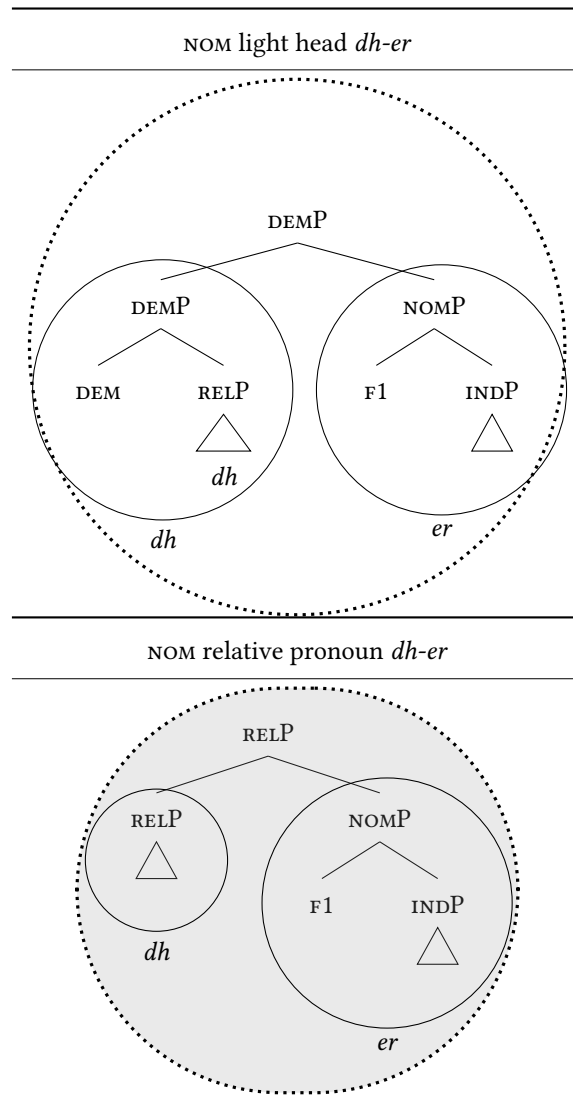
Figure 9.5: Old High German EXT_{NOM} vs. $\text{INT}_{\text{NOM}} \rightarrow dher$ (ELH)

The light head consists of two morphemes: *dh* and *er*. The relative pronoun also consists of two morphemes: *dh* and *er*. Again, I circle the part of the structure that corresponds to a particular lexical entry, or I reduce the structure to a triangle, and I place the corresponding phonology below it. I draw a dotted circle around the biggest possible element that formally contained in both the light head and the relative pronoun.

The relative pronoun (the RELP realized by *dher*) is formally contained in the light head (the DEMP realized by *dher*). Therefore, the relative pronoun can be deleted. I signal the deletion of the relative pronoun by marking the content of its circle gray. The surface pronoun is the light head that bears the external case: *dher*.¹⁰

For reasons of space I do not show the comparisons of the other matching situations. These are situations in which both the internal and external case are accusative or both the internal and external case are dative. The same logic as I showed in Figure

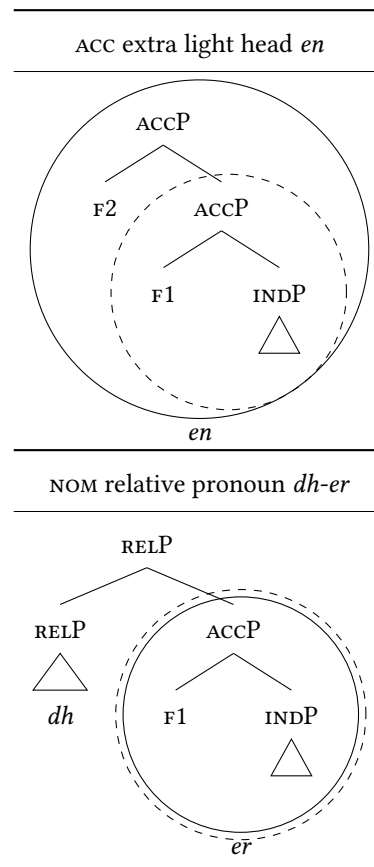
¹⁰The same holds the other way around: the light head (the DEMP realized by *dher*) is formally contained in the relative pronoun (the RELP realized by *dher*). Therefore, with the information I have given so far, it could also be that the light head is deleted. In Section 9.4 I discuss the larger syntactic structure of headless relatives and I show in this case only the relative pronoun can be deleted because of c-command relations.

Figure 9.6: Old High German EXT_{NOM} VS. $\text{INT}_{\text{NOM}} \rightarrow \text{dher}$ (DEM)

I continue with the situation in which the external case is the more complex one. Consider the examples in (33), in which the internal nominative case competes against the external accusative case. The relative clause is marked in bold. (33a) shows the example with the extra light head, and (33b) shows the example with the light head. The internal case is nominative, as the predicate *gisizzən* ‘to possess’ takes nominative subjects. In both examples, the relative pronoun *dher* ‘RP.SG.M.NOM’ appears in the nominative case. The external case is accusative, as the predicate *bibringan* ‘to create’ takes accusative objects. In (33a), the extra light head *ən* ‘ELH.SG.M.ACC’ appears in the accusative case. It is placed between square brackets because it does not surface. In (33b), the light head *dhen* ‘DEM.SG.M.ACC’ appears in the accusative case. Here the relative pronoun is placed between square brackets because it does not surface.

- Only (33b) can be the source of the headless relative. First I show the comparison of the internal syntax of the extra light head and relative pronoun in (33a), which does not lead to a grammatical headless relative. Then I show the comparison of the internal syntax of the light head and the relative pronoun in (33b), which does derive a grammatical headless relative.

The extra light head consists of a single morpheme: *er*. The relative pronoun

Figure 9.7: Old High German EXT_{ACC} VS. $\text{INT}_{\text{NOM}} \rightarrow en/dher$ (ELH)

consists of two morphemes: *dh* and *en*. Again, I circle the part of the structure that corresponds to a particular lexical entry, or I reduce the structure to a triangle, and I place the corresponding phonology below it. I draw a dashed circle around the biggest possible element that is structurally contained in both the extra light head and the relative pronoun.

In this case, the light head is not structurally contained in the relative pronoun. The extra light head consists of a single morpheme: the ACCP. The relative pronoun only contains the NOMP, and it lacks the *F2* that makes a ACCP. Since the weaker feature containment requirement is not met, the stronger constituent containment requirement cannot be met either. The relative pronoun is not structurally contained in the light head. It namely lacks the complete constituent RELP. The extra light cannot be deleted, and the relative pronoun cannot be deleted either. As a result, the light-headed relative headed by the extra light head cannot be the source of the headless relative.

In Figure 9.8, I give the syntactic structure of the light head at the top and the

syntactic structure of the relative pronoun at the bottom.

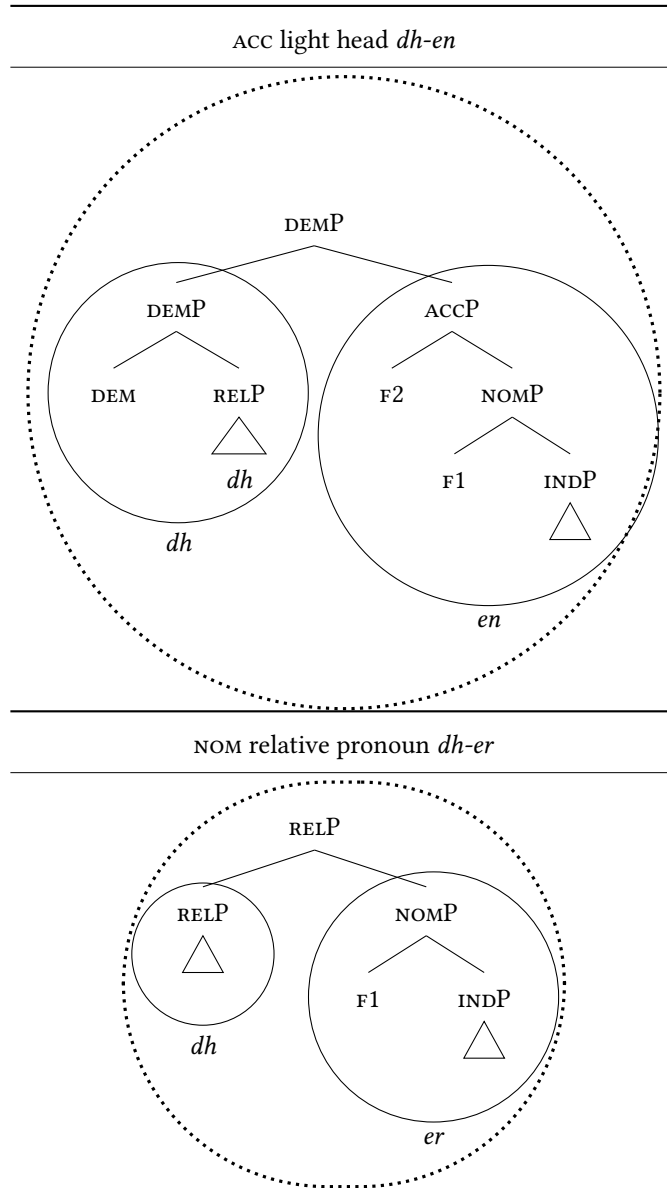


Figure 9.8: Old High German EXT_{ACC} VS. $\text{INT}_{\text{NOM}} \rightarrow \text{dh}\ddot{\text{e}}\text{n}/\text{dh}\ddot{\text{e}}\text{r}$ (DEM)

The light head consists of two morphemes: *dh* and *en*. The relative pronoun also consists of two morphemes: *dh* and *er*. Again, I circle the part of the structure that corresponds to a particular lexical entry, or I reduce the structure to a triangle, and I place the corresponding phonology below it. I draw a dotted circle around the biggest possible element that is formally contained in both the light head and the relative pronoun.

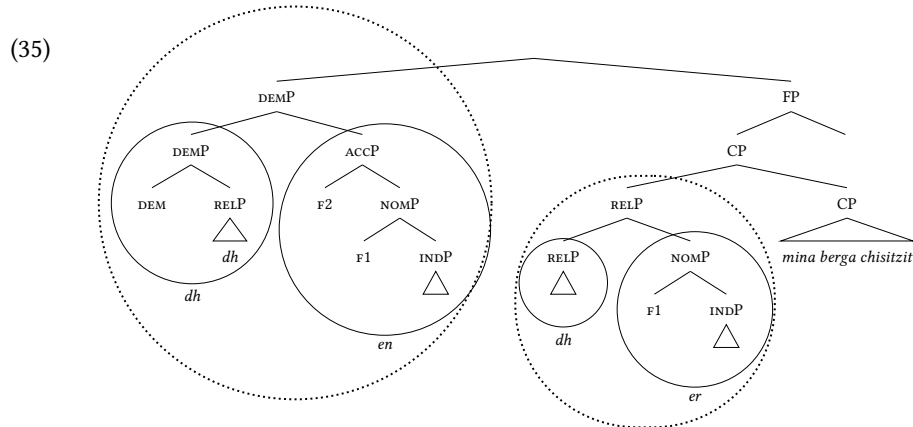
The light head is realized as *dhen*, and the relative pronoun is realized as *dher*. The light head is not formally contained in the relative pronoun, and the relative pronoun is not formally contained in the light head. Therefore, the extra light cannot be deleted, and the relative pronoun cannot be deleted either. The inevitable result seems to be that the light-headed relative headed by the light head cannot be the source of the headless relative. This is not what the data suggests, however, as a more complex external case is allowed to surface in Old High German.

To understand how a grammatical headless relative with a more complex external case gets to surface, the larger syntactic structure needs to be considered. I repeat light-headed relative that is the source of the example from (33b) in (34).

- (34) *ih bibringu fona iacobes samin endi fona*
 1SG.NOM create.PRES.1SG_[ACC] of Jakob.GEN seed.SG.DAT and of
iuda dhen [dher] mina berga
 Judah.DAT DEM.SG.M.ACC RP.SG.M.NOM my.ACC.M.PL mountain.ACC.PL
chisitit
 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)

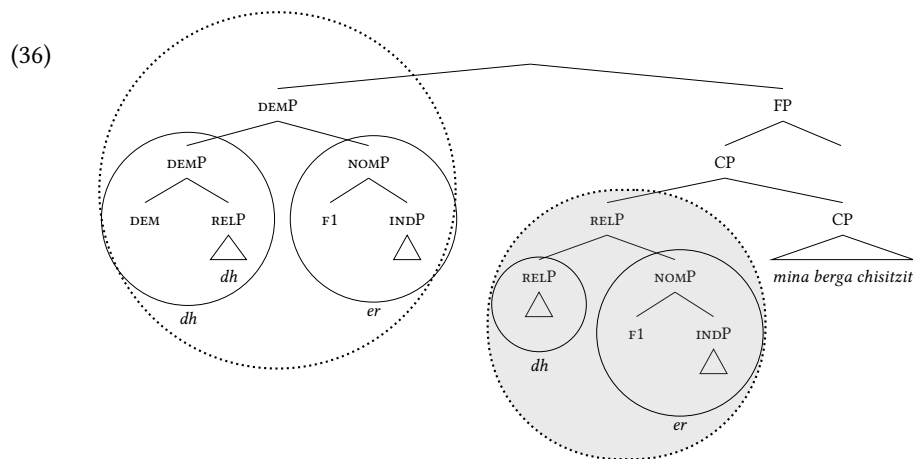
Consider the syntactic structure in (35) that represents part of the sentence in (34).



The DEMP on the left (that spells out as *dhen*) is the light head from Figure 9.8. The RELP in the middle (that spells out as *dher*) is the relative pronoun from Figure 9.8. The CP on the right represents the relative clause without the relative pronoun. I do not show its internal structure, as it is not relevant for the discussion. The remainder of the main clause is also not part of the syntactic structure. This is because at this point in the derivation the features that spell out *ih bibringu fona iacobes samin endi*

fona iuda ‘I bring of the seed of Jacob and of Judah’ have not been merged yet.

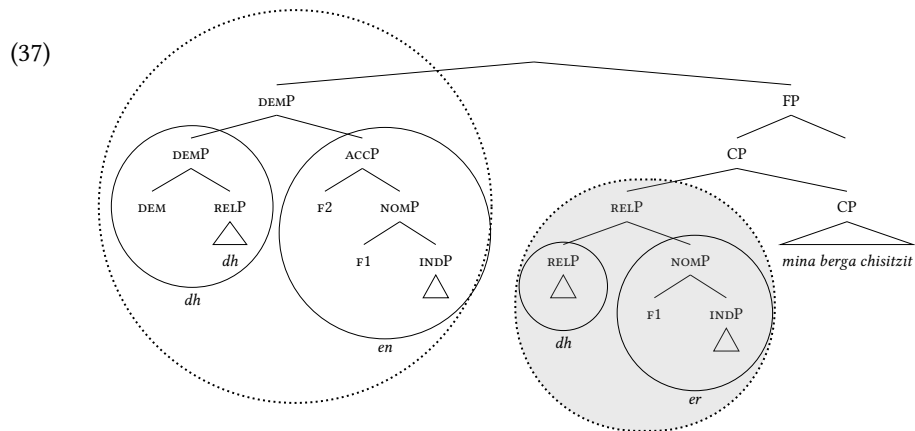
The structure in (35) has come into being by merging features one by one. The last feature that has been merged is F2, which created the ACCP within the DEMP. Remember from the functional sequence in (27) that case features are the highest features, so they are the last ones to be merged. Before the feature F2 was merged, the syntactic structure looked as in (36).¹¹



The DEMP on the left (that spells out as *dher*) is the light head from Figure 9.6. The RELP in the middle (that spells out as *dher*) is the relative pronoun from Figure 9.6. At this point in the derivation, the relative pronoun is formally contained in the light head. Therefore, the relative pronoun can be deleted. I signal the deletion of the relative pronoun by marking the content of its circle gray in (36). The surface pronoun is the light head that bears the external case: *dher*.

Then the feature F2 is merged, and the light head is spelled out as *dhen*, as shown in (37).

¹¹ The feature F2 ends up in its position via several steps of Backtracking in which different workspaces are split up and features are merged in both workspaces, as explained in Chapter 7. First, the DEMP and the FP are split up and F2 is merged in both workspaces. None of them leads to a successful spellout, so both workspaces are split up further, giving three workspaces: the DEMP, the NOMP and the lowest CP. Now F2 can be spelled out with the NOMP. All workspaces are merged back together and the result is the structure in 9.8.



The relative pronoun has been deleted in the previous stage of the derivation, so it is still absent. However, it is no longer the case that the light head formally contains the relative pronoun. This example shows that it is crucial to not only consider the endpoint of a derivation, but also the steps in between.

For Modern German and Polish these steps in between do not make a difference. The reason for that is that it is only relevant when the external case is more complex than the internal one. Only then a previous step in the derivation is one in which the cases match. When the cases match, the endpoint of the derivation is already the relevant step in the derivation. At the end of this section, I explain why the cases never match when the internal case is more complex. In the situation in which the external case is more complex Modern German and Polish are not helped, as there is no syncretism between light heads and relative pronouns. Therefore, there is never any formal containment that can lead to a deletion.

For reasons of space I do not show the comparisons of the other situations in which the external case is more complex. These are situations in which the internal case is nominative and the external case is dative and in which the internal case is accusative and the external case is dative. The same logic as I showed in Figure 9.7 and (37) works for these situations too.

I end with the situation in which the internal case is the more complex one. Consider the examples in (38), in which the internal accusative case competes against the external nominative case. The relative clause is marked in bold. (38a) shows the example with the extra light head, and (38b) shows the example with the light head. The internal case is accusative, as the predicate *zellen* 'to tell' takes accusative objects. In both examples, the relative pronoun *then* 'RP.SG.M.ACC' appears in the accusative case. In (38a), the extra light head *ër* 'ELH.SG.M.NOM' appears in the nominative case. It is placed between square brackets because it does not surface. In (38b), the light head *dher* 'DEM.SG.M.NOM' appears in the nominative case. Here the relative pronoun is placed between square brackets because it does not surface.

- (38) a. Thíz ist [er] **then** **sie**
 DEM.SG.N.NOM be.PRES.3SG_[NOM] ELH.SG.M.NOM RP.SG.M.ACC 3PL.M.NOM
zéllent
 tell.PRES.3PL_[ACC]
 ‘this is the one whom they talk about’
 (Old High German, Otfrid III 16:50)
- b. *Thíz ist ther [**then**] **sie**
 DEM.SG.N.NOM be.PRES.3SG_[NOM] DEM.SG.M.NOM RP.SG.M.ACC 3PL.M.NOM
zéllent
 tell.PRES.3PL_[ACC]
 ‘this is the one whom they talk about’
 (Old High German, Otfrid III 16:50)

Only (38b) can be the source of the headless relative. First I show the comparison of the internal syntax of the extra light head and relative pronoun in (38a), which leads to a grammatical headless relative. Then I show the comparison of the internal syntax of the light head and the relative pronoun in (38b), which does not derive a grammatical headless relative.

In Figure 9.9, I give the syntactic structure of the extra light head at the top and the syntactic structure of the relative pronoun at the bottom.

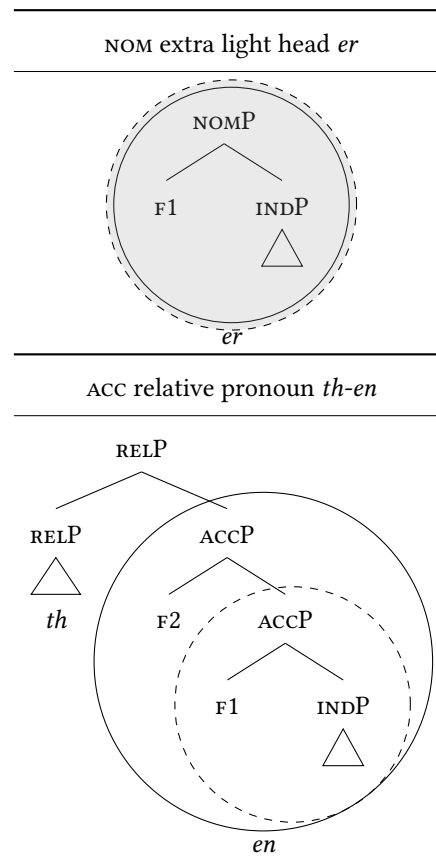
The extra light head consists of a single morpheme: *er*. The relative pronoun consists of two morphemes: *th* and *en*. Again, I circle the part of the structure that corresponds to a particular lexical entry, or I reduce the structure to a triangle, and I place the corresponding phonology below it. I draw a dashed circle around the biggest possible element that is structurally a constituent in both the extra light head and the relative pronoun.

The extra light head consists of a single morpheme: the NOMP. This NOMP is structurally contained in the relative pronoun. Therefore, the extra light can be deleted. I signal the deletion of the extra light head by marking the content of its circle gray. The surface pronoun is the relative pronoun that bears the internal case: *then*.

In Figure 9.10, I give the syntactic structure of the light head at the top and the syntactic structure of the relative pronoun at the bottom.

The light head consists of two morphemes: *th* and *er*. The relative pronoun also consists of two morphemes: *th* and *en*. Again, I circle the part of the structure that corresponds to a particular lexical entry, or I reduce the structure to a triangle, and I place the corresponding phonology below it. I draw a dotted circle around the biggest possible element that formally contained in both the light head and the relative pronoun.

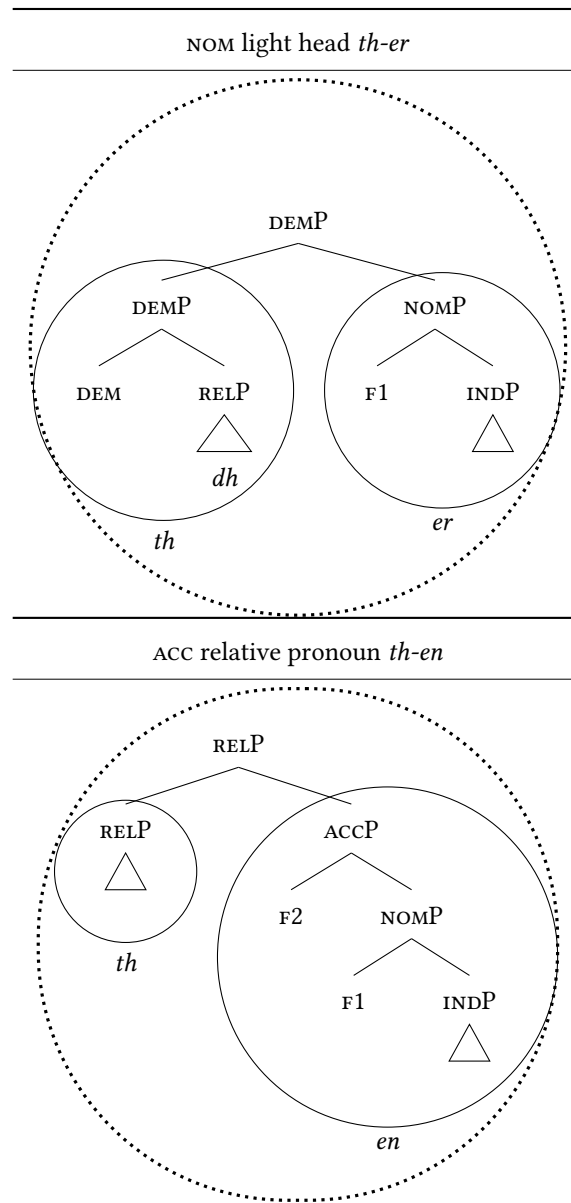
The light head is realized as *ther*, and the relative pronoun is realized as *then*.

Figure 9.9: Old High German EXT_{NOM} vs. $\text{INT}_{\text{ACC}} \rightarrow \text{then}$ (ELH)

The light head is not formally contained in the relative pronoun, and the relative pronoun is not formally contained in the light head. Therefore, the extra light cannot be deleted, and the relative pronoun cannot be deleted either. As a result, the light-headed relative headed by the extra light head cannot be the source of the headless relative.

In this situation, when the internal case is more complex than the external one, it does not make a difference to look at previous steps in the derivation. The last case feature was merged on the relative pronoun before the first case feature was merged on the light head. Going back in the derivation removes case features from the light head (so external case features) and not those from the relative pronoun. As long as the internal case is more complex, there is no step in the derivation in which the cases match.

For reasons of space I do not show the comparisons of the other situations in which the internal case is more complex. These are situations in which the internal case is dative and the external case is nominative and in which the internal case

Figure 9.10: Old High German EXT_{NOM} vs. $\text{INT}_{\text{ACC}} \rightarrow \text{ther/then}$ (DEM)

9.4 Coming back to the light heads

9.4.1 The interpretation of Old High German headless relatives

Keeping that in mind, 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 (cf. Fuß, n.d.). This is confirmed by my data. In (39) I give an example, repeated from Chapter 4.

- In this example, the author refers to the specific things that the I-person said, and not to whatever the I-person said.

Table 9.6: Grammaticality in Old High German with ELH

Table 9.7: Grammaticality in Old High German with LH

(40) a. gihortut ir [iu] **thiu** **ih** **iu**
listen.PST.2PL_[ACC] 2PL.NOM ELH.PL.N.NOM RP.PL.N.ACC 1SG.NOM 2PL.DAT
quad
speak.PST.1SG_[ACC]
'you listened to those things, that I said to you'
(Old High German, Tatian 165:6)

b. gihortut ir thiū [**thiu**] **ih**
listen.PST.2PL_[ACC] 2PL.ACC DEM.PL.N.NOM RP.PL.N.NOM 1SG.NOM

iu quad

2PL.DAT speak.PST.1SG_[ACC]

‘you listened to those things, that I said to you’

(Old High German, Tatian 165:6)

When the internal and external case do not match, only one of the light-headed relatives can be the source of the headless relative. Table 9.6 and 9.7 show that headless relative with a more complex internal case needs to be derived from a light-headed relative headed by an extra light head. The light-headed relative headed by a demonstrative does not generate a grammatical example. On the other hand, the tables show that headless relative with a more complex external case needs to be derived from a light-headed relative headed by a demonstrative. The light-headed relative headed by an extra light head does not generate a grammatical example.

This situation allows me to investigate whether headless relatives in which an extra light head is deleted have a different interpretation from headless relatives in which the relative pronoun is deleted. As I already mentioned in the introduction, I do not find such support. All headless relatives have a definite interpretation.

In (41) I give an example, in which the external case is more complex than the internal case, repeated from Chapter 4.

- (41) enti aer ant uurta demo **zaimo**
and 3SG.M.NOM reply.PST.3SG_[DAT] RP.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 Pittner 1995: 199)

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. This example can only be derived from a light-headed relative headed by a demonstrative, as shown in (42).

- (42) enti aer ant uurta demo **[der]** **zaimo**
and 3SG.M.NOM reply.PST.3SG_[DAT] RP.SG.M.DAT DEM.SG.M.NOM to 3SG.M.DAT

sprah

speak.PST.3SG_[NOM]

‘and he replied to the one who spoke to him’

(Old High German, Mons. 7:24, adapted from Pittner 1995: 199)

The interpretation is a definite one.

In (43) I give an example, in which the internal case is more complex than the

external case, repeated from Chapter 4.

- (43) Thíz ist **then** **sie** **zélent**
 DEM.SG.N.NOM be.PRES.3SG_[NOM] RP.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)

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. This example can only be derived from a light-headed relative headed by an extra light head, as shown in (44).

- (44) Thíz ist [er] **then** **sie**
 DEM.SG.N.NOM be.PRES.3SG_[NOM] ELH.SG.M.NOM RP.SG.M.ACC 3PL.M.NOM
zélent
 tell.PRES.3PL_[ACC]
 ‘this is the one whom they talk about’ (Old High German, Otfrid III 16:50)

The interpretation is still a definite one. This seems to be the surprising example. In Chapter 7 and 8, I suggested that Modern German and Polish have this extra light head in their light-headed relatives because this allows for a universal interpretation. A possible reason for why Old High German does not show this interpretation is the form of its relative pronoun: different from Modern German and Polish, relative pronouns in Old High German start with the definite *d* and not with a *wh*.

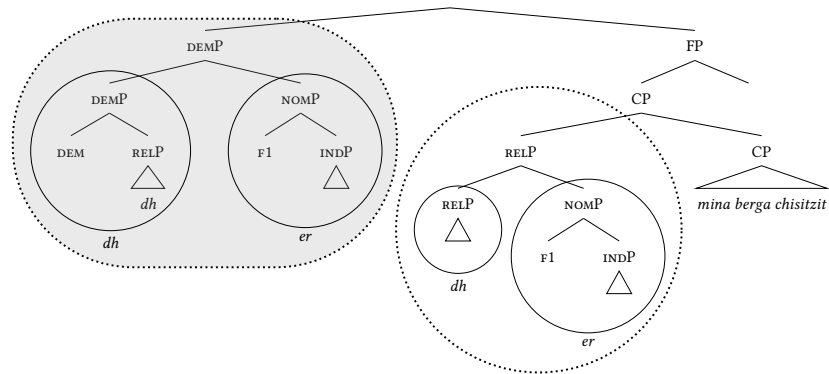
In conclusion, all headless relatives in Old High German have a definite interpretation. This means that there is no independent support coming from the interpretation that motivates the claim that Old High German has two different light-headed relative structures that are the source of the different headless relatives.

9.4.2 The larger syntactic structure and deletion operation

In this section, I place the different light heads and the relative pronoun in Old High German in larger syntactic structure. I show that deletion always takes place under c-command.

Consider the syntactic structure with the light head and the relative pronoun both appearing in nominative case in (45), repeated from (36).

(45)

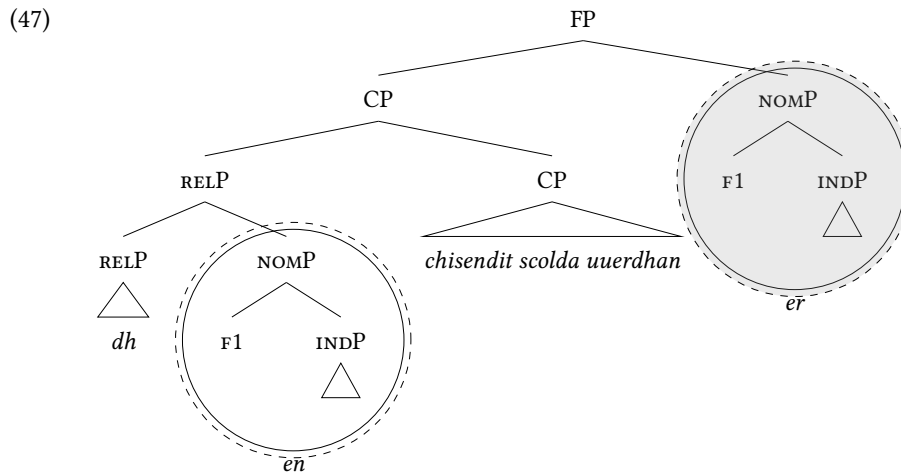


As I pointed out in Section 9.3, the relative pronoun is deleted in this situation. Notice here that the light head *c*-commands the relative pronoun. The DEMP on the left *c*-commands the RELP, as the DEMP is in the specifier of the FP, which dominates the RELP. From there the reasoning goes as follows. The relative pronoun (the RELP realized by *dher*) is formally contained in the light head (the DEMP realized by *dher*). Therefore, the relative pronoun can be deleted, which is signaled by the gray marking of the circle. The surface pronoun is the light head that bears the external case: *dher*.

Now imagine a situation in which the light-headed relative is headed by an extra light head. Here it is not the relative pronoun that is deleted, but the extra light head. Consider such an example in (46).

- (46) quham [er] **dher** **chisendit**
 come.PST.3SG_[NOM] ELH.SG.M.NOM RP.SG.M.NOM send.PST.PTCP_[NOM]
 scolda **uuerdhan**
 should.PST.3SG become.INF
 ‘the one, who should have been sent, came’ (Old High German, Isid. 35:5)

When *c*-command is a requirement for deletion, then the relative pronoun should *c*-command the extra light head. I suggest that the syntactic structure of the sentence in (46) looks as shown in (47).



Here the **RELP** on the left c-commands the **NOMP** on the right, according to Kayne's (1994) definition of c-command. The **RELP** is namely in the specifier of **CP**, which is the specifier of **FP**, which dominates **NOMP**. The **RELP** is not contained in the **CP** or in the **FP**. From there the reasoning goes as follows. This **NOMP** is structurally contained in the relative pronoun. Therefore, the extra light head can be deleted, which is signaled by the gray marking of the circle. The surface pronoun is the relative pronoun that bears the internal case: *dher*.

The two syntactic structures in (45) and in (47) are all that is needed for all instances in which I compared the internal syntax of the light heads and the relative pronouns. The structure in (45) represents the situation in which the source structure contains a light head. In these cases, the relative pronoun can be deleted via formal containment. This applies when the internal and external case match, as in (45), but also when the external case is more complex. In that case, the derivation namely also goes through the stage shown in (45) (see Section 9.3). There is no successful deletion possible when the internal case is more complex, because in that situation the light head does not formally contain the relative pronoun at any point in the derivation.

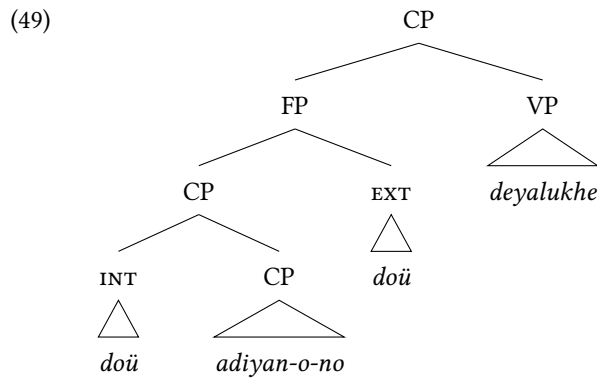
The structure in (47) represent the situation in which the source structure contains an extra light head. In these cases, the extra light head can be deleted via structural containment. This applies when the internal and external case match, as in (47), but also when the internal case is more complex. In that case, the relative pronoun that bears the more complex case still structurally contains the extra light head that bears the less complex case. There is no successful deletion possible when the external case is more complex, because in that is situation the relative pronoun does not structurally contain the extra light head at any point in the derivation.

I am not the only one to place a light head and an extra light head in such a way in a structure that they either c-command or are c-commanded by the relative pronoun. Cinque (2020) suggests the same, but then more generally for relative

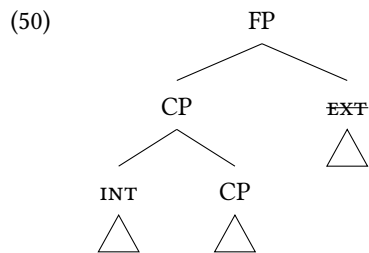
clauses. He suggests every type of relative clause in every language is underlyingly double-headed. Support for this claim comes from languages that show this morphologically. An example from Kombai is given in (48). The head of the relative clause is *doü* ‘sago’, and it appears inside the relative clause and outside of it, which make them respectively the internal and the external head.

- (48) [**doü** adian-o-no] **doü** deyalukhe
 sago give.3PL.NONFUT-tr-CONN sago finished.ADJ
 ‘The sago that they gave is finished.’ (Kombai, Vries 1993: 78)

(49) shows the syntactic structure of the sentence in (48).

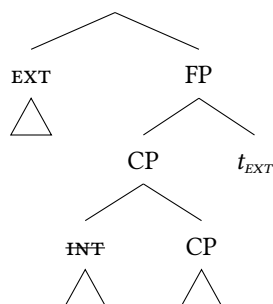


In most languages one of the two heads is deleted throughout the derivation. According to Cinque (2020), the internal element can delete the external element, because the internal element c-commands the external element, as shown in (50).



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, as shown in (51).

(51)



Crucially, Cinque (2020) notes that the internal and external heads are indefinite. Only after the external head has been moved over the relative clause, it has access to a definite feature. Notice that this is exactly what I described for the extra light head and the light head. The extra light head is indefinite and lives in a structurally low position, as in (50). The light head is definite and lives in a structurally high position, as in (51).¹²

Finally, notice that the larger syntactic structures I proposed for Old High German in this section also hold for Modern German and Polish. In these languages, grammatical headless relatives are only derived from light-headed relatives headed by extra light heads. These extra light heads are indefinite and low in the structure (see (47) and (50)). From this position, the relative pronoun always c-commands these extra light heads, and the extra light heads can be deleted when they are structurally contained in the relative pronouns.

9.5 Summary

Old High German is an example of an unrestricted type of language. This means that headless relatives are grammatical in the language when the internal and external

¹²At this point, two questions remain. The first one is how case features end up on the extra light head, if it is low in the structure, since they are only merged after the relative clause attaches. On the surface, it looks like the case features percolate down to the extra light head. The mechanism behind this the same as what I described for how case features end up on the light head in footnote 11: Backtracking. First, the CP and the extra light head are split up and the case feature is merged in both workspaces. If it is a language such as Modern German that has a phi and case feature portmanteau, the case feature can be spelled out with the rest of the structure. Then, the two workspaces are merged back together.

The second question that remains is what triggers the movement of the external head over the relative clause. Generally speaking, there are two options: the movement can be driven by features or by spellout. I would not know by what feature the movement could be driven. It could be that the movement is driven by spellout. It seems that the movement of the extra light head coincides with the element becoming definite. In terms of spellout, becoming definite means that a complex spec is merged to existing syntactic structure. It seems that once the complex spec is merged, it attracts the existing syntactic structure that it copied a feature from to form its complex spec (IND in the case of Old High German).

case match, when the internal case is more complex and when the external case is more complex.

I derive this from the internal syntax of two light heads and the internal syntax of the relative pronoun in Old High German. The features of the first possible light head are spelled out by a single lexical entry, which spells out phi and case features. The features of the relative pronoun are spelled out by the same lexical entry plus one which amongst other spells out a relative feature. The internal syntax of the extra light head and the relative pronoun in Old High German are shown in Figure 9.11.

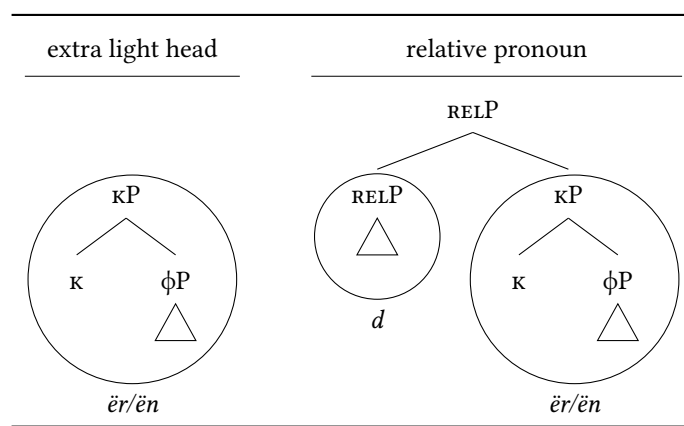


Figure 9.11: ELH and RP in Old High German (repeated)

The features of the second possible light head are spelled out by two lexical entries, one which spells out phi and case features and one which spells out the additional feature D. The features of the relative pronoun are spelled out by the same two lexical entries. The internal syntax of the light head and the relative pronoun in Old High German are shown in Figure 9.12.

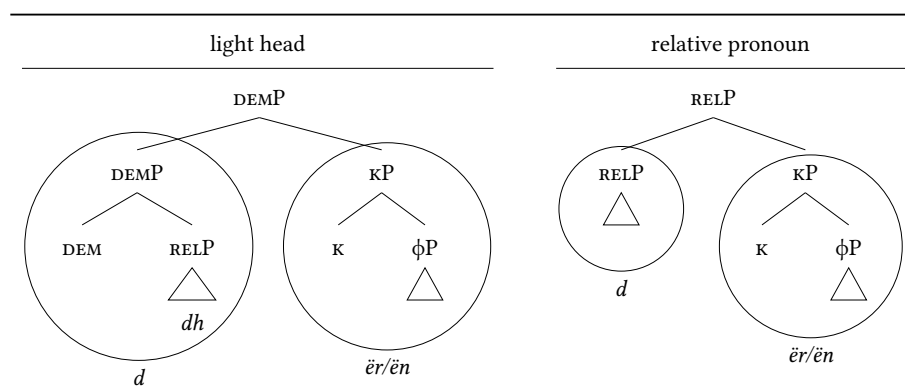


Figure 9.12: LH and RP in Old High German (repeated)

A crucial characteristic of unrestricted languages such as Old High German is that there is a syncretism between one of the light heads and the relative pronoun. Therefore, the relative pronoun is formally contained in the light head, and the relative pronoun can be deleted. This can lead to a more complex external case surfacing. The other light head is crucial for allowing for a more internal case to surface, since for that it is required that the extra light head is structurally contained in the relative pronoun.

The deletion that takes place to change a light-headed relative into a headless relative occurs under containment and under c-command. The extra light head lives low in the structure, such that the relative pronoun c-commands it and it can be deleted when it is structurally contained in the relative pronoun. The light head lives higher in the structure, such that it c-commands the relative pronoun and the relative pronoun can be deleted when it is structurally contained in the light head.

Modern German actually also had *dd* light-headed relatives. I would expect that German *ds* allow for matching *ds* to delete one of them and allow for the external one to win. I would think that the *d* is not compatible with the extra light head because the *wh* is a better match there but it does it does not allow for deletions with them I do not have an explanation for that.

It could be that there is some kind of competition at play between different relative pronouns. The change from *ohg* to *mg* of not being an unrestricted type of language anymore seems to be related to the pronouns. In *mhg* the *wh* pronoun started to be used as relative pronoun (see footnote X). At that point, the unrestricted pattern disappeared.

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¹³An exception is..

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 ‘unrestricted’ 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.

Primary texts

Isid.	Der althochdeutsche Isidor
Mons.	The Monsee fragments
Otfrid	Otfrid's Evangelienbuch
Tatian	Tatian

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