CASE COMPETITION IN HEADLESS RELATIVES

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202..

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Contents

List of tables

List of figures

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
REL	relative marker
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, which are part of the derivation under different circumstances. The first possible light head derives the pattern correctly for for the situation in which cases match and the situation in which internal case is more complex than the external case. The second possible light head derives the pattern correctly for for the situation in which cases match and the situation in which 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 light heads and relative pronouns looks as shown in Figure 9.1.
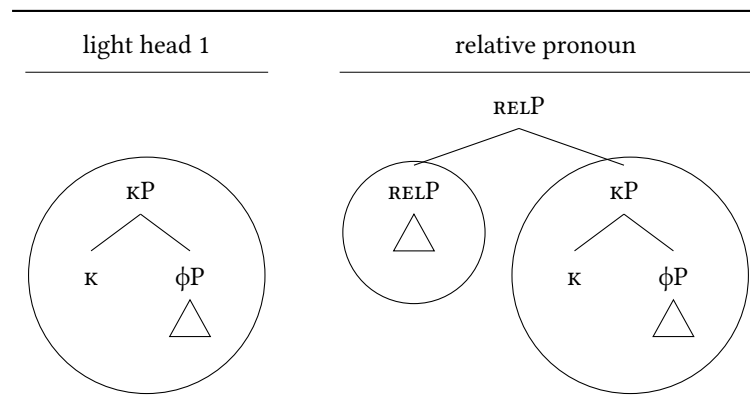
Figure 9.1: LH-1 and RP in the unrestricted type

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

Consider first the situation in which the internal and the external case match. The situation here is identical to the one in the internal-only type of language. The light

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

situation	lexical entries		containment	deleted	surfacing
	LH	RP			
$\kappa_{INT} = \kappa_{EXT}$	$[\kappa_1[\phi]]$	$[REL], [\kappa_1[\phi]]$	structure	LH	RP_{INT}
$\kappa_{INT} > \kappa_{EXT}$	$[\kappa_1[\phi]]$	$[REL], [\kappa_2[\kappa_1[\phi]]]$	structure	LH	RP_{INT}
$\kappa_{INT} < \kappa_{EXT}$	$[REL], [\kappa_1[\phi]]$	$[\kappa_2[\kappa_1[\phi]]]$	no	none	*

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 within 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 within 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. 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 within the other element. Therefore, none of the elements can be deleted, and there is no headless relative construction possible.

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 of type of structure described in Figure 9.1. I give a compact version of the structures in Figure 9.2.

Consider the first possible light head in Figure 9.2. These light heads (i.e. phi and case features) in Old High German are spelled out by a single morpheme, indicated by the circle around the structure. They are spelled out as *ër* or *ën*, depending on which case they realize. Consider the relative pronoun in Figure 9.2. Relative pronouns in
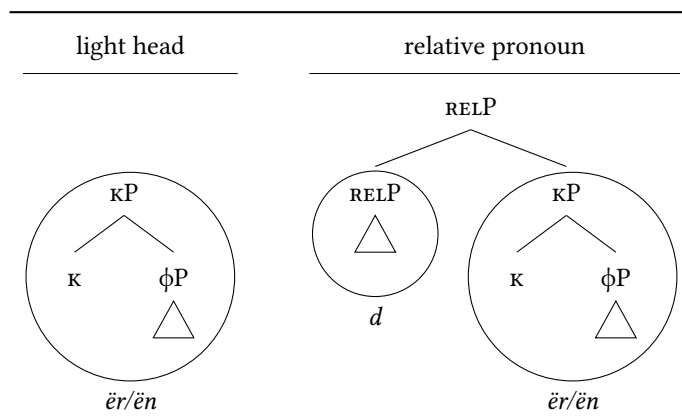
Figure 9.2: LH-1 and RP in Old High German

Old High German consist 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 light heads and relative pronouns, I give lexical entries for them, and I show how these lexical entries lead to the internal syntax of light heads and relative pronoun as shown in Figure 9.2.

The second possible light head differs from the first possible head in that it contains an additional feature X. The phi and case features are still spelled out by the phi and case portmanteau. The additional feature X is spelled out by its own lexical entry. The relative pronoun is spelled out by that same portmanteau plus a separate lexical entry that spells out the feature X and the feature REL. This means that the internal syntax of light heads and relative pronouns looks as shown in Figure 9.1.
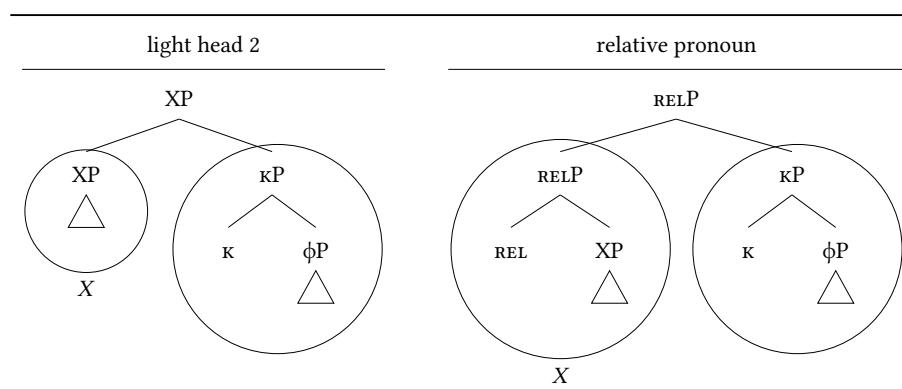
Figure 9.3: LH-2 and RP in the unrestricted type

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

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

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

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 the feature X, which corresponds to phonological form *X*. The relative pronoun consists of the same phi plus case feature morpheme and a morpheme that spells out the feature X and 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 are syncretic, so they both form formally contained within the other element. Therefore, the one of the elements can be deleted, and the other one surfaces, bearing the internal and external case.

Consider now the situation in the internal case wins the case competition. The light head consists of a phi and case feature portmanteau plus a morpheme that spells out the feature 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 X and 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 contained within 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 plus case feature morpheme and a morpheme that spells out the feature X and the feature REL, which corresponds to the phonological form *X*. Compared to the relative pronoun, the light head lacks the feature REL and only the feature X spells 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 is contained within 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 en-

tries create a syntactic structure such that the light head and the relative pronoun are syncretic, so the relative pronoun forms formally contained within the light head. Therefore, the relative pronoun can be deleted, and the light head remains, bearing external case. Then, the remaining complex 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 of type of structure described in Figure 9.3. The feature I so far called X is replaced here by D. I give a compact version of the structures in Figure 9.4.
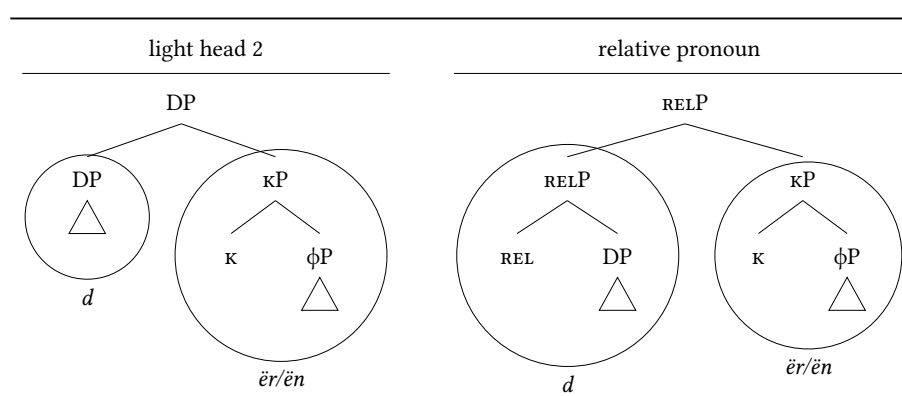
Figure 9.4: ʟʜ-2 and ʀᴘ in Old High German

Consider the first possible light head in Figure 9.4. Light heads (i.e. the phi and case features and the feature D) in Old High German are spelled out by two morphemes, which are both circled. The feature D is spelled out as *d* and the phi and case features are spelled out as *ër* or *ën*, depending on which case they realize. Consider the relative pronoun in Figure 9.4. Relative pronouns in Old High German consist of two morphemes: the constituent that spells out phi and case features and the constituent that spells out the feature D and the feature ʀᴇʟ, again indicated by the circles. The constituent that spells out phi and case features has the same spellout as in the light head (*ër* or *ën*), and the ʀᴇʟP is spelled out as the XP in the light head: as *d*. Throughout this chapter, I discuss 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 of light heads and relative pronoun as 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 9.2. Then I show which features each of the morphemes corresponds to. Then I discuss the two possible light heads. The first possible light head is one that does not surface as a light head in Old High German light-headed relatives, just as I argued for for Modern

German and Polish. I show that the light head corresponds to one of the morphemes of the relative pronoun (the κP in Figure 9.2). The features that form the Old High German light head and relative pronoun are largely the same ones that form the Modern German light head and relative pronoun. The only difference in features is the the wh operator feature from Modern German and Polish relative pronouns is replaced by the feature D in Old High German. The second difference between the two languages is how the features are spelled out. The second possible head does surface as a light head in a Old High German light-headed relatives. This light head corresponds the κP in the relative pronoun plus the additional feature D (see Figure 9.4). The feature D is the only feature that is different in Old High German light heads compared to light heads in Modern German and Polish. Next, I compare the internal syntax of the extra light head and the light head to that of the relative pronoun. I show that the first possible light head can be deleted when the internal case and external case match and when the internal case is more complex than the external case via structural containment. The second possible light head can be deleted 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 illustrate how this works, I need to make a few assumptions about the larger syntactic structure of headless relative clauses explicit. Finally, I return to the two different light heads and discuss differences in interpretation between the different sources of the headless relatives. I also discuss the larger syntactic structure of headless relatives in a bit more detail and I show that this also holds for Modern German and Polish.

9.1   The Old High German German relative pronoun

In the introduction of this chapter, I suggested in Figure 9.2 that the internal syntax of relative pronouns in Old High German looks as shown in (1).

(1)
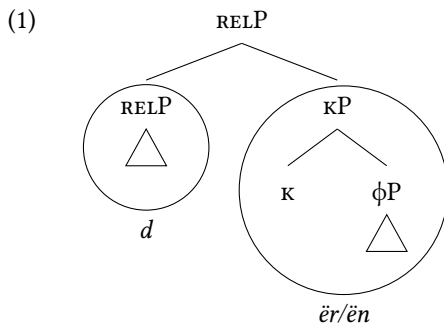
In Figure 9.2, I suggested that the internal syntax of relative pronouns in Old High German looks as shown in (2).

(2)

RELP
├── RELP
│   ├── REL
│   └── DP △
│   (d)
└── κP
    ├── κ
    └── φP △
    (ër/ën)
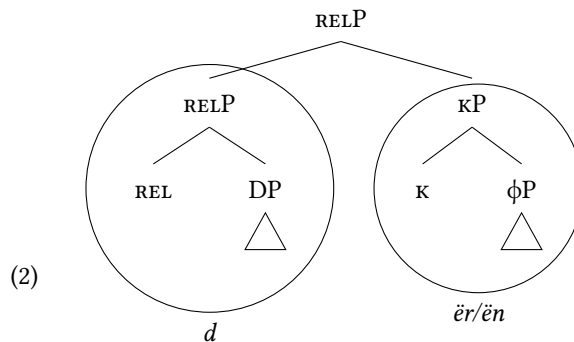
In this chapter, I show that both structures show the internal syntax of Old High German relative pronouns. The structure in (2) is just a bit more detailed version of (1). As I also showed in Chapter 7 for Modern German and in Chapter 8 for Polish, relative pronouns contain more features than only REL, φ and κ. In this section, I show that Old High German relative pronouns consist of the same features, except for that the operator feature WH is replaced by the feature D. Still, 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 the first light head does not contain. I show the complete structure that I work towards in this section in (3).

(3)

RELP
├── RELP
│   ├── REL
│   └── DP
│   ├── D
│   └── INDP
│   ├── IND
│   └── AN
│   (d)
└── κP
    ├── κ
    └── INDP
        ├── IND
        └── ANP
            ├── AN
            └── CLP
                ├── CL
                └── REF
    (ër/ën)
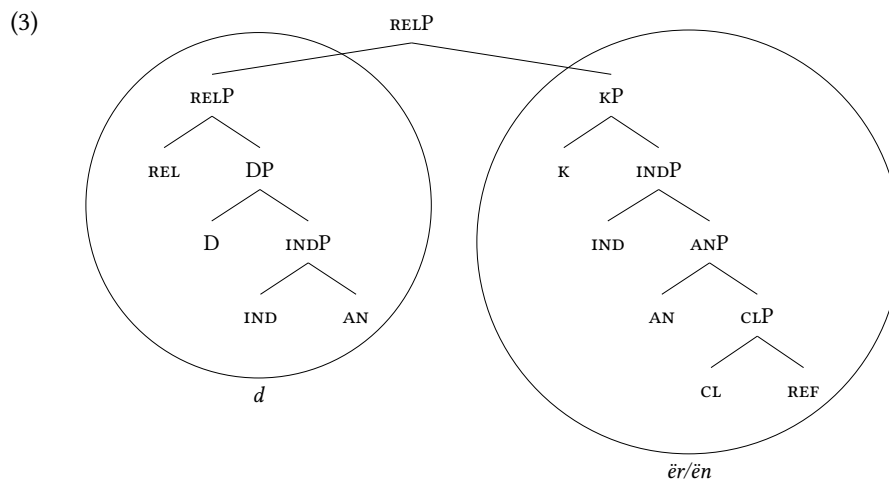
I discuss two relative pronouns: the animate nominative and the animate accusative. These are the two forms that I compare the internal syntax of in Section 9.3. I show them in (4).

(4)   a.   d-ër
          'RP.AN.NOM'

b.   d-ën

      'RP.AN.ACC'

I decompose the relative pronouns into two morphemes: the *d* and the final conso-
nant (*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 final
consonants 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.[1]

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

	N.SG	M.SG	F.SG
NOM	d-az̧	d-ër	d-iu
ACC	d-az̧	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 nomi-
nal 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.

Besides gender, number and case features, I assume that the suffix also contains
pronominal features. I do so not only because the suffix is called pronominal in-
flection (*Pronominalflexion*) in the literature (Braune 2018: 338), but also because

---

[1]*d* can also be written as *dh* and *th*, *ë* 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-aʐ	jung, jung-ēr	jung, jung-iu
ACC	jung, jung-aʐ	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

it appears in other pronominal forms too, such as possessives (Braune 2018: 337-338), demonstratives with the *dës*-stem (Braune 2018: 342) interrogatives (Braune 2018: 345).

I give the lexical entries for *ër* and *ën* in (5a) and (5b). The *ër* is the nominative masculine singular, so it spells out the features REF, CL, AN, IND and F1. The *ën* is the accusative masculine singular, so it spells out the features that the *ën* spells out plus F2.

(5)   a.   NOMP ⟺ *ër*

b.　　　ACCP ⟺ *ën*
```
         ACCP ⟺ ën
        /    \
       F2    NOMP
            /    \
           F1    INDP
                /    \
              IND    ANP
                    /    \
                   AN    CLP
                        /    \
                       CL    REF
```
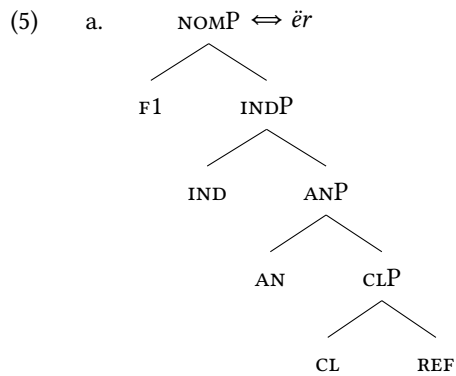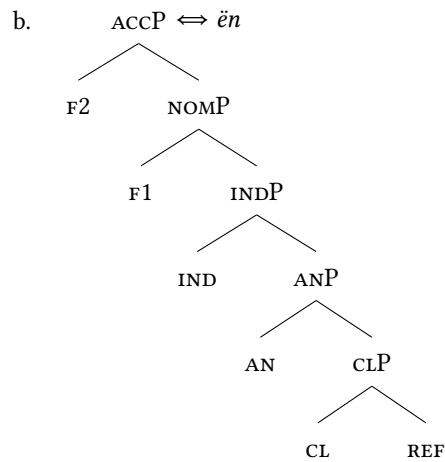
I continue with the morpheme *d*. This morpheme corresponds to what I called the REL-feature in Chapter 6 and in the introduction to this chapter. I argue that this morpheme actually spells out the feature REL, the feature D and number and gender features. Notice here that Old High German relative pronouns differ from Modern German and Polish relative pronouns in that they do not contain the operator feature WH. Instead, Old High German relative pronouns contain the feature D.

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 contains the features IND. For this I do not have any independent support. I make this assumption to allow myself to build a complex specifier.

In sum, the morpheme *d* corresponds to the features D, REL and IND as shown in (6).

(6)　　　RELP ⟺ *d*
```
        RELP ⟺ d
       /    \
     REL    DP
           /    \
          D    IND
```
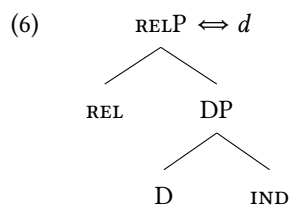
In what follows, I show how the Old High German relative pronouns are constructed. I follow the same functional sequence as I did for Modern German and Polish, except for substituting the feature WH by the feature D. I give the functional sequence in (7).

(7)

```
              ĸP
            /    \
           ĸ      RELP
                 /    \
               REL    WHP
                     /    \
                    WH    INDP
                         /    \
                       IND    ANP
                             /    \
                            AN    CLP
                                 /    \
                                CL    REF
```
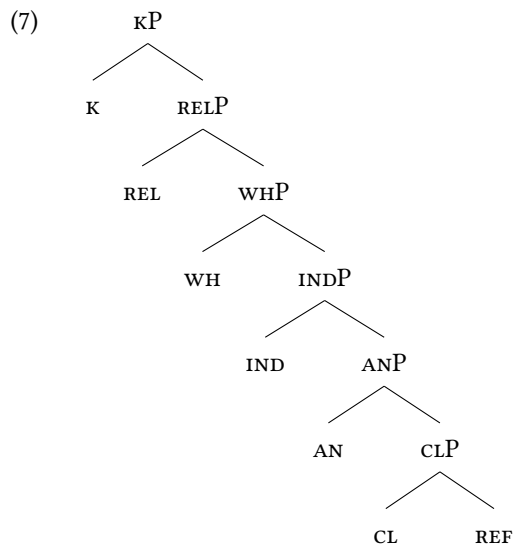
Of course, the spellout procedure is identical. The outcome is different because of the different lexical entries Old High German has. I repeat the available lexical entries in (8).

(8) a.

NOMP ⟺ *ër*

```
              NOMP
            /    \
          F1      INDP
                 /    \
               IND    ANP
                     /    \
                    AN    CLP
                         /    \
                        CL    REF
```

  b.

ACCP ⟺ *ën*

```
              ACCP
            /    \
          F2      NOMP
                 /    \
               F1      INDP
                      /    \
                    IND    ANP
                          /    \
                         AN    CLP
                              /    \
                             CL    REF
```

c.   RELP $\Longleftrightarrow d$

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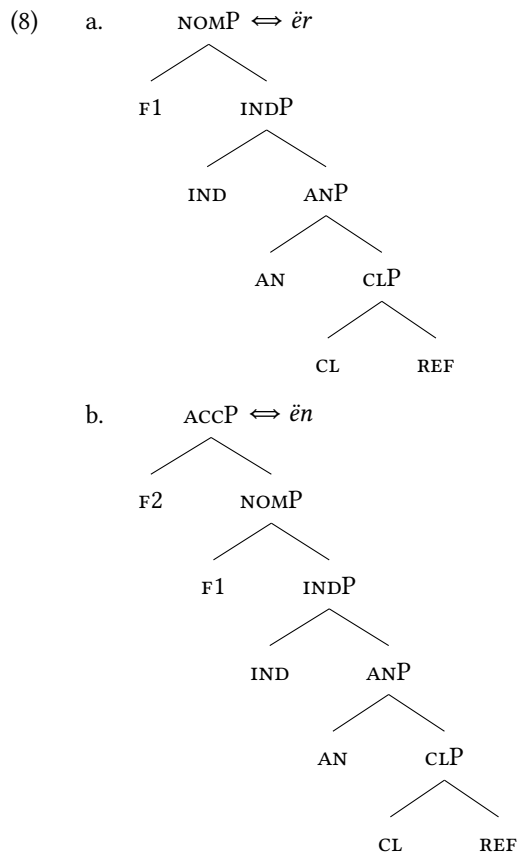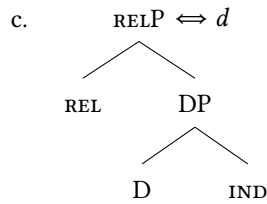
Starting from the bottom, the first two features that are merged are REF and CL, creating a CLP. The syntactic structure forms a constituent in the lexical tree in (8a), which corresponds to *r*. Therefore, the CLP is spelled out as *ër*, which I do not show here. Then, the feature AN is merged, and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

(9)

```
        INDP
        /\
     IND   ANP
           /\
         AN   CLP
              /\
            CL   REF
```
ër
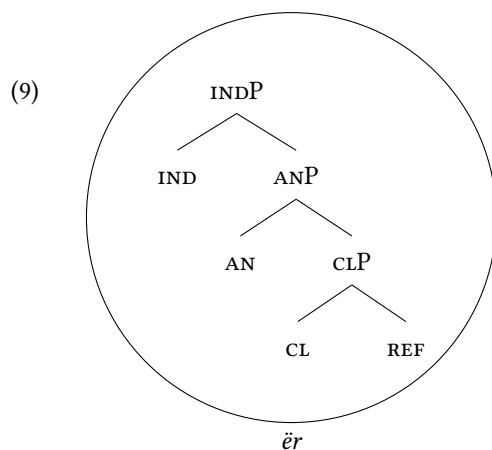
Next, the feature D is merged. The derivation for this feature resembles the derivation of WH in Modern German and Polish. The feature is merged with the existing syntactic structure, creating a DP. This structure does not form a constituent in any of the lexical trees in the language's lexicon, and neither of the spellout driven movements leads to a successful spellout. Therefore, in a second workspace, the feature D is merged with the feature IND (the previous syntactic feature on the functional sequence) into a DP. This syntactic structure forms a constituent in the lexical tree in (8c), which corresponds to the *d*. Therefore, the DP 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 (10).

(10)

```
                              DP
              DP                        INDP
         D         IND            IND         ANP
                    d                      AN        CLP
                                                 CL        REF
                                                       ër
```
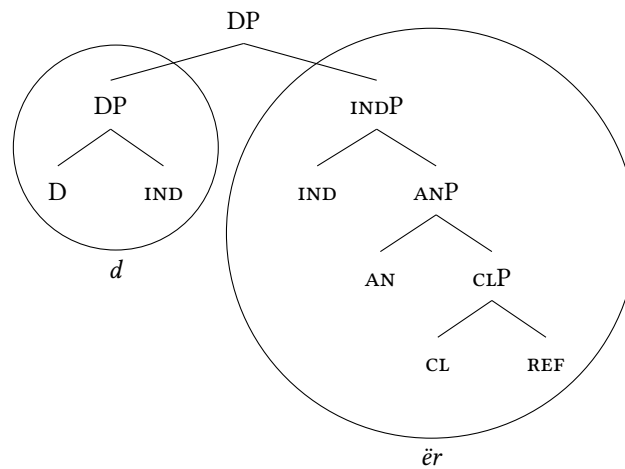
The next feature in the functional sequence is the feature REL. The derivation for this feature resembles the derivation of REL in Modern German and Polish. The feature is merged with the existing syntactic structure, creating a RELP. This structure does not form a constituent in any of the lexical trees in the language's lexicon, and neither of the spellout driven movements leads to a successful spellout. Backtracking leads to splitting up the DP from the INDP. The feature REL is merged in both workspaces, so with DP and and with INDP. The spellout of REL is successful when it is combined with the DP. It namely forms a constituent in the lexical tree in (8c), which corresponds to the *d*. The RELP 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 (8a), 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 RELP from the INDP. The feature F1 is merged in both workspaces, so with the RELP 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 (8a), 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 (11).

(11)

RELP

RELP

REL   DP

D   IND

d

NOMP

F1   INDP

IND   ANP

AN   CLP

CL   REF

ër
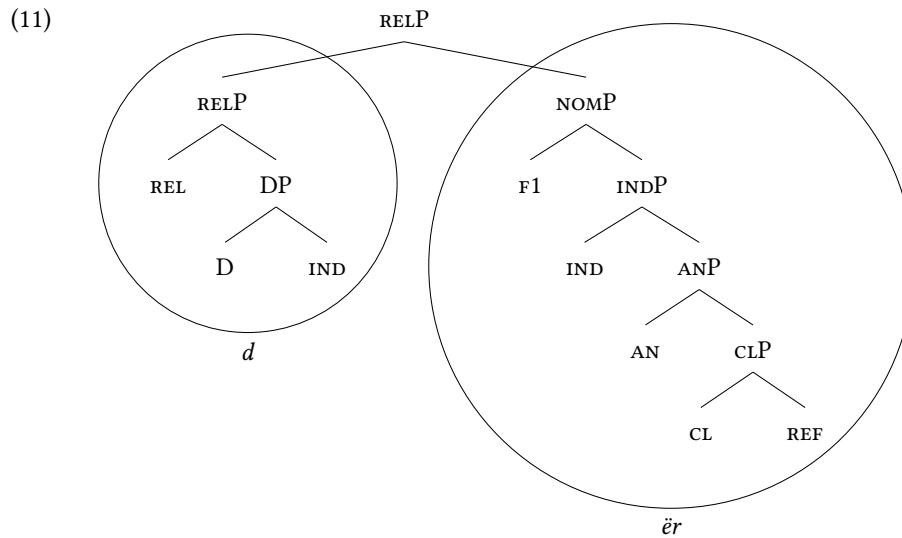
For the accusative relative pronoun, the last feature is merged: the F2. The deriva-
tion for F2 resembles the derivation of F1. The feature is merged with the existing
syntactic structure, creating a ACCP. This structure does not form a constituent in
any of the lexical trees in the language's lexicon, 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 (8b), 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 (12).

(12)

RELP

RELP

REL   DP

D   IND

d

ACCP

F2   NOMP

F1   INDP

IND   ANP

AN   CLP

CL   REF

ën
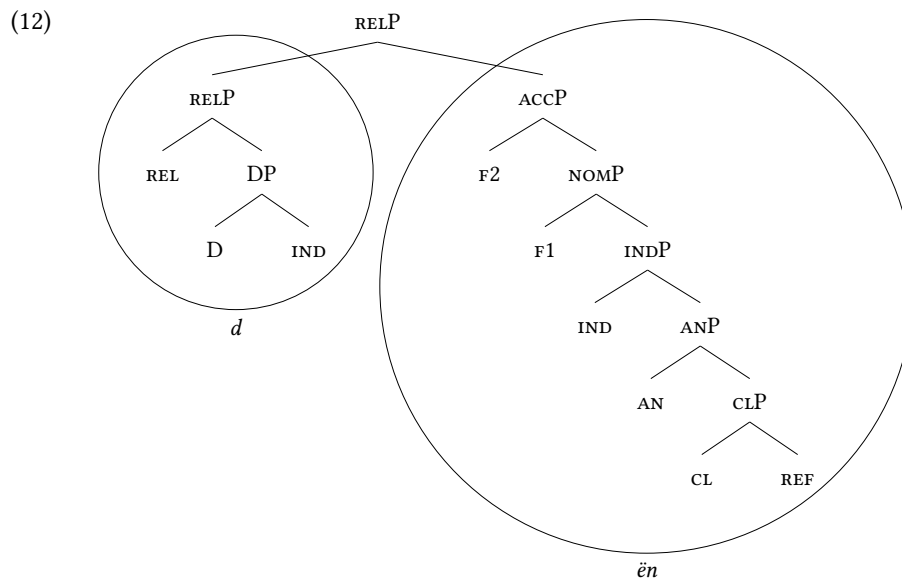
To summarize, I decomposed the relative pronoun into the two morphemes: *d* and the suffix (*ër* and *ën*). I showed which features each of the morphemes spells out and what the internal syntax looks like that they are combined into. It is this internal syntax that determines whether the light head can 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 structurally contained within the other one. In the introduction of this chapter, I claimed that Old High German has two possible light heads. Therefore I will also claim that there are two types of light-headed relatives that are the source of the headless relative.

For Modern German and Polish, I considered two kinds of headless relatives as the potential source of the headless relative. The first possible scenario is that the deletion is optional and that the headless relative is derived from an existing light headed relative. The second possible scenario is that the deletion of the light head is obligatory and that the headless relative is derived from a light-headed relative that does not surface. 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 types of light-headed relatives.

In Section 9.2.1, I introduce the extra light head as the first possible light head. In Section 9.2.2, I introduce the light head as the second possible light head.

9.2.1 The extra light head

In the introduction of this chapter, I claimed that the internal syntax of the first possible light head is as shown in (13).

(13)
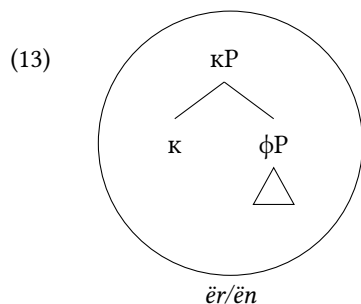
In Chapter 6, I suggested that the first possible light head in the unrestricted type of language consist of at least two features: ϕ and κ. In this section, I determine the exact feature content of the light head. Like I suggested in Chapter 7 for Modern German and Polish, I end up claiming that the phi and case features of the relative

pronoun is the light head in headless relatives. I show the complete structure that I work towards in this section in (29).
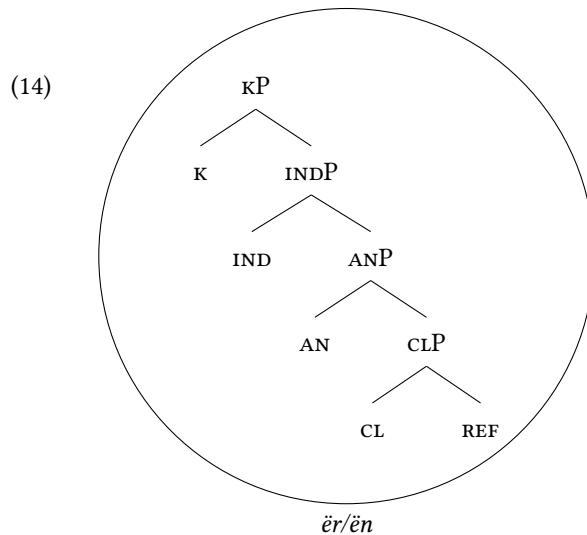
(14)

ёr/ёn

As I mentioned in the introduction of this section, headless relatives in Old High German can be derived from two different light-headed relative constructions: one that surfaces in the language and one that does not surface in the language. In this section I discuss the second one, the light-headed relative that does not surface in the language. This light-headed relative has the extra light head as light head, just like the ones that are attested in Modern German and Polish.[2]

In the remainder of this section, I discuss the two extra light heads that I compare the internal syntax of in Section 9.3. The are the nominative masculine and the accusative masculine, shown in (15).

(15)   a.   ёr
              ELH.M.NOM

        b.   ёn
              ELH.M.ACC

Just as in Modern German and Polish, the functional sequence for the extra light head is as shown in (16).

---

[2]In 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 that for For Old High German, as I do not have this information for the extinct language. In Section 9.4 I briefly touch upon different interpretations of headless relatives, based on contexts in which they appear. I relate the different interpretations to the different light-headed relatives that the headless relatives are derived from.

(16)

```
              ĸP
          ┌────┴────┐
          ĸ        INDP
              ┌──────┴──────┐
             IND           ANP
                       ┌─────┴─────┐
                      AN          CLP
                              ┌────┴────┐
                             CL        REF
```

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

I introduced the lexical entries that are required to spell out these features in Section 9.1. I repeat them in (17).

(17)   a.

```
              NOMP ⟺ ër
          ┌────┴────┐
          F1       INDP
              ┌──────┴──────┐
             IND           ANP
                       ┌─────┴─────┐
                      AN          CLP
                              ┌────┴────┐
                             CL        REF
```

        b.

```
              ACCP ⟺ ën
          ┌────┴────┐
          F2       NOMP
              ┌──────┴──────┐
             F1            INDP
                       ┌─────┴─────┐
                      IND          ANP
                              ┌─────┴─────┐
                             AN          CLP
                                     ┌────┴────┐
                                    CL        REF
```

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 (18).

(18)

```
            INDP
           /    \
        IND      ANP
                /   \
              AN     CLP
                    /   \
                  CL     REF
                      ër
```

The last feature that is merged for the nominative extra light head is the F1. It is merged, and the NOMP is created. The syntactic structure forms a constituent in the lexical tree in (17a). Therefore, the NOMP is spelled out as *ër*, as shown in (19).

(19)

```
            NOMP
           /    \
         F1      INDP
                /    \
             IND      ANP
                     /   \
                   AN     CLP
                         /   \
                       CL     REF
                           ër
```
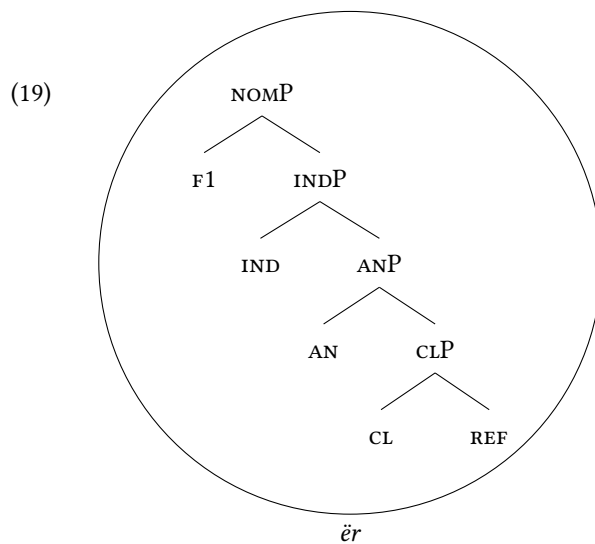
For the accusative extra light head, one more feature is merged: the F2. It is merged, and the ACCP is created. The syntactic structure forms a constituent in the lexical tree in (17b). Therefore, the ACCP is spelled out as *ën*, as shown in (20).

(20)

```
              AccP
             /    \
           F2     NomP
                 /    \
                F1    IndP
                     /    \
                   IND    AnP
                         /   \
                        AN   ClP
                            /   \
                          CL    REF
```
ën

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

9.2.2 The light head

In the introduction of this chapter, I claimed that the internal syntax of the second possible light head is as shown in (21).

(21)

```
              DP
            /    \
          DP      кP
          △      /   \
          d     к    φP
                     △
              ër/ën
```
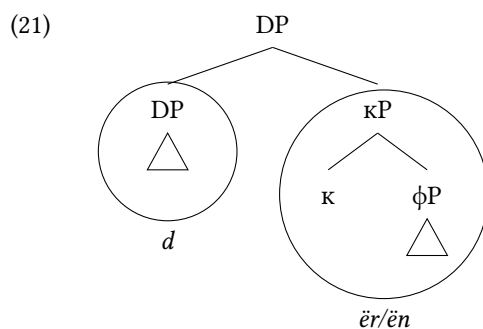
In Chapter 6, I suggested that the second possible light head in the unrestricted type of language consist of at least three features: D, φ and к. In this section, I determine the exact feature content of the light head.

Like I suggested in Chapter 6, I end up claiming that the feature D and the phi

and case features of the relative pronoun is the light head in headless relatives. I show the complete structure that I work towards in this section in (22).
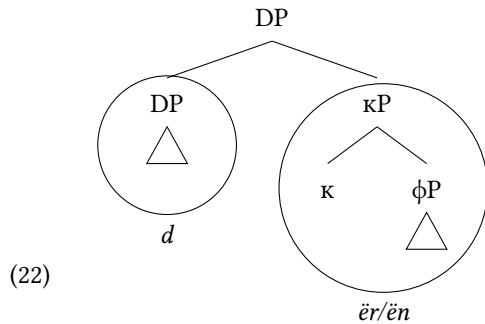
(22)

As I mentioned in the introduction of this section, headless relatives in Old High German can be derived from two different light-headed relative constructions: one that surfaces in the language and one that does not surface in the language. In this section I discuss the first one, the light-headed relative that also surfaces in the language. This light-headed relative has the light head that functions as the light head. This light-headed relative is never the source of a headless relative in Modern German or Polish.

I give an example of a Old High German light-headed relative in (23) *Thér* 'DEM.SG.M.NOM' is the light head that is the head of the relative clause. *Then* 'RP.SG.M.ACC' is the relative pronoun in the relative clause.[3]

(23)   eno nist   thiz   thér   then   ir
       now not be.3SG DEM.SG.ËN.NOM DEM.SG.M.NOM RP.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?'

As (23) shows and 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 morpheme. Crucially, this syn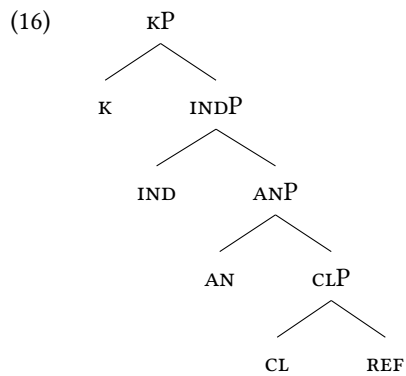cretism leads Old High German to be an unrestricted type of language. In Modern German and in Polish, relative pronouns and demonstratives are not syncretic.[4] Therefore, the relative pronoun cannot be deleted via formal containment.

---

[3]I assume that whether both or only one of the elements surfaces is determined by information structure. In (23), the light head *thér* 'DEM.SG.M.NOM' is the candidate to be absent, as it bears a less complex case than the relative pronoun. However, it seems plausible that the light head is emphasized in this sentence and that it, therefore, cannot be absent.

[4]An 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.

In the remainder of this section, I discuss the two light heads that I compare the internal syntax of in Section 9.3. The are the nominative masculine and the accusative masculine, shown in (24).

(24)   a.   d-ër
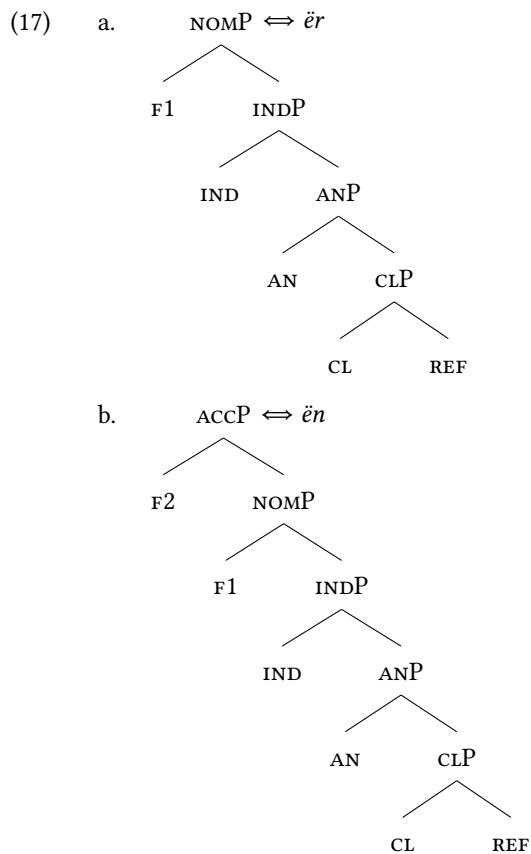   LH.M.NOM

        b.   d-ën
              LH.M.ACC

The functional sequence for the light head is as shown in (25).
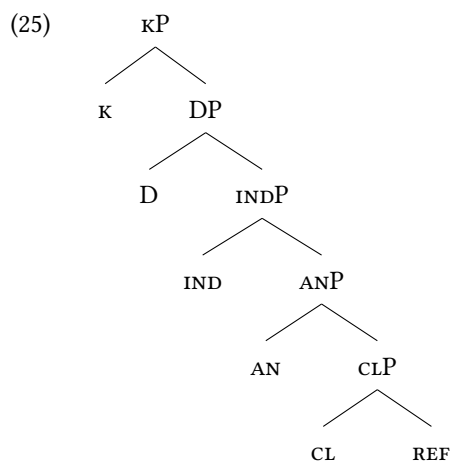
(25)

```
            кP
           /  \
          к    DP
              /  \
             D   INDP
                /   \
              IND    ANP
                    /   \
                  AN    CLP
                       /   \
                     CL    REF
```
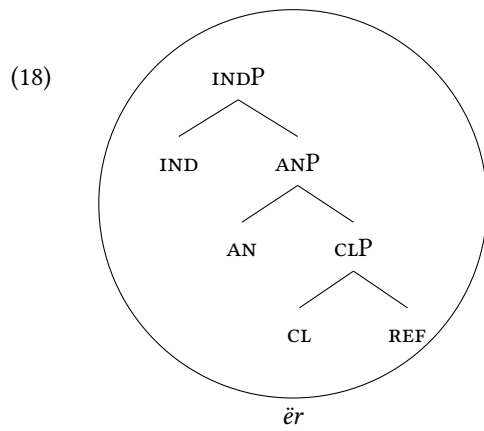
The functional sequence contains the pronominal feature REF, the gender features CL and AN, the number feature IND, the definite feature D and case features к.

I introduced the lexical entries that are required to spell out these features in Section 9.1. I repeat them in (26).

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.

(26)   a.   NOMP ⟺ *ër*

             F1   INDP

                  IND   ANP

                       AN   CLP

                            CL   REF

        b.   ACCP ⟺ *ën*

             F2   NOMP

                  F1   INDP

                       IND   ANP

                            AN   CLP

                                 CL   REF

        c.   RELP ⟺ *d*

             REL   DP

                   D   IND
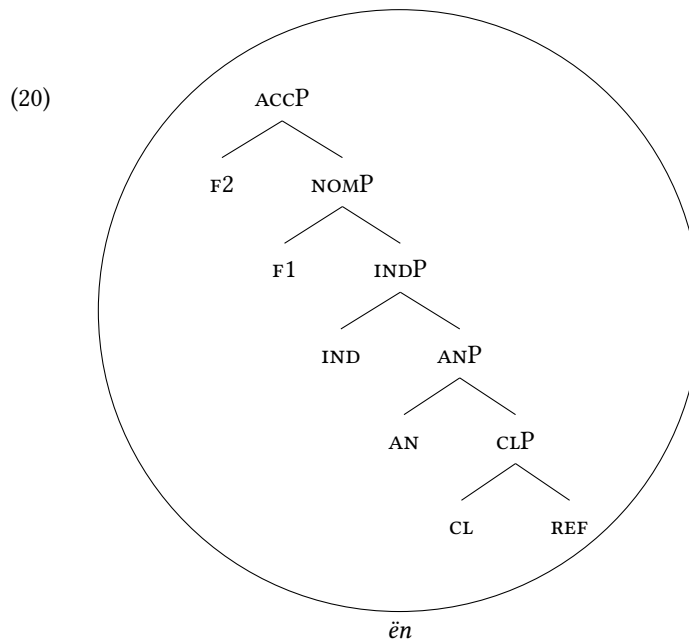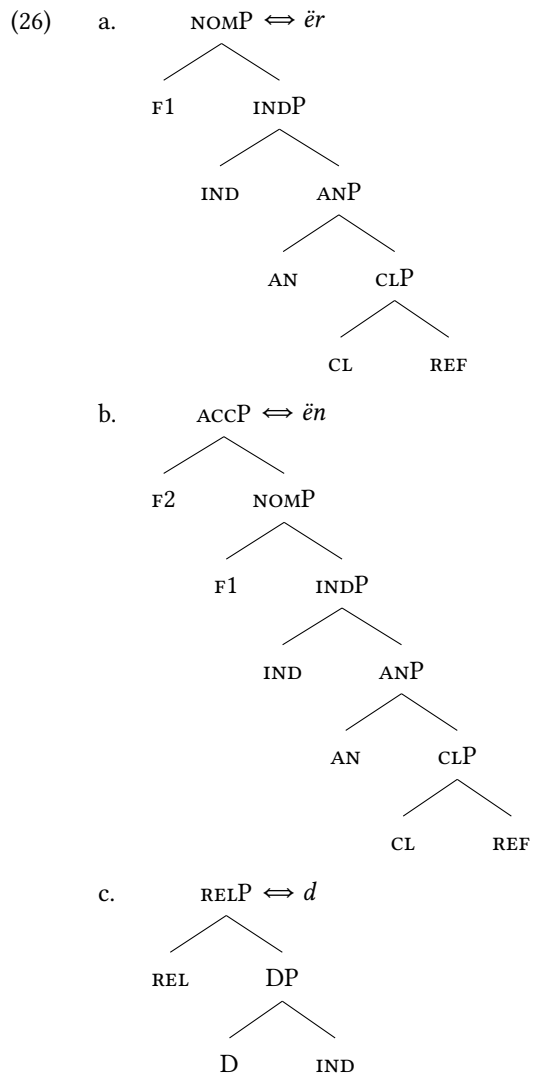
In what follows, I construct the Old High German light heads. Until the feature D, the derivation is identical to the one of the relative pronoun. I give the syntactic structure at that point in (27).

(27)

```
                              DP
              _____/          _____
             /                                  \
          DP                                   INDP
         /  \                                 /    \
        /    \                              IND     ANP
       D     IND                                   /   \
                                                 AN     CLP
                                                        /  \
                                                      CL    REF
        d                                         ër
```
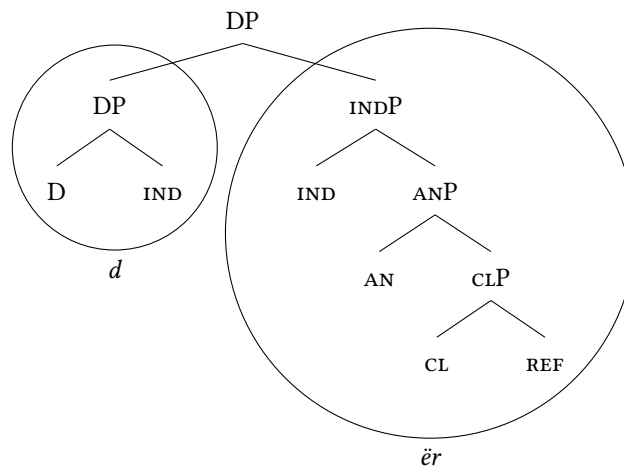
For the nominative light head, the last feature is merged: the F1. This feature should somehow end up merging with INDP, because it forms a constituent in the lexical tree in (26a), which corresponds to the *ër*. This is achieved via Backtracking in which phrases are split up and going through the Spellout 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 DP from the INDP. The feature F1 is merged in both workspaces, so with the DP 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 (26a), 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 (28).

(28)

```
                          DP
              ⎛─────────⎞   ⎛──────────────────────────⎞
              |   DP    |   |        NOMP              |
              |  ╱  ╲   |   |       ╱    ╲             |
              | D   IND |   |      F1    INDP          |
              ⎝─────────⎠   |           ╱   ╲          |
                   d        |         IND   ANP        |
                            |              ╱   ╲       |
                            |            AN    CLP     |
                            |                 ╱   ╲    |
                            |               CL    REF  |
                            ⎝──────────────────────────⎠
                                        ër
```

For the accusative light head 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 DP from the NOMP. The feature F2 is merged in both workspaces, so with the DP 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 (26b), 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 (29).
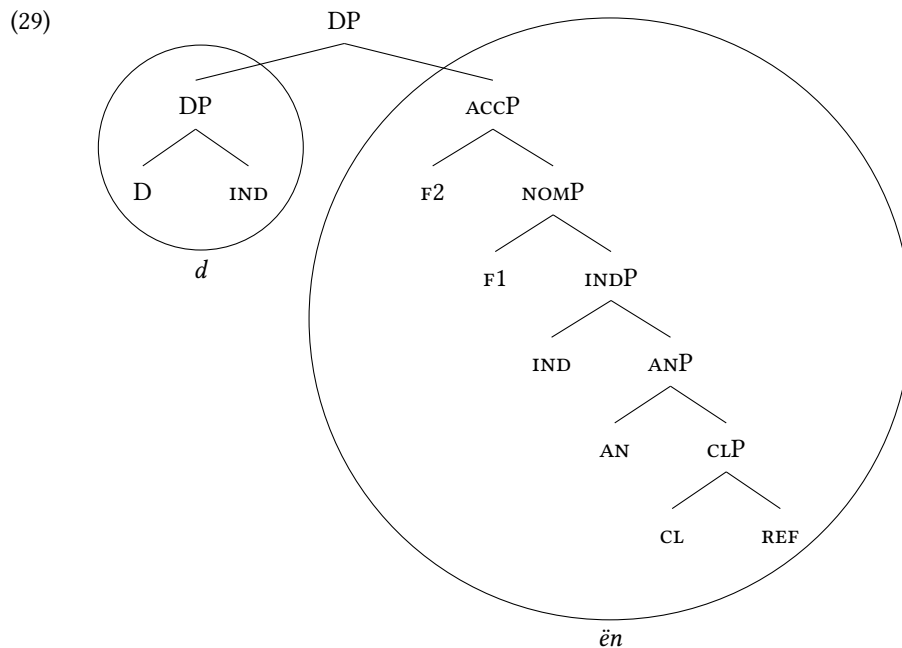
(29)

In sum, Old High German headless relatives can be derived from a light-headed relative with a light head. This light head is spelled out by a morpheme that spells out the definite feature and a phi and case feature portmanteau. The lexical entries used to spell this light head out are also used to spell out the relative pronoun, as the light head 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 light heads 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 extra light head or by taking the light head as being part of the light-headed relative that the headless relative is derived from. 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 head as being part of the light-headed relative that the headless relative is derived from and not the extra light head. Before I can properly do that, I take a necessary short 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 extra light head as being part of the light-headed relative that the headless relative is derived from and not the light head.

I start with the situation in which the cases match. Consider the example in (30), in which the internal nominative case competes against the external nominative case. The relative clause is marked in bold. (30a) shows the example with the extra light head and (30b) shows the example with the light head. The internal case is nominative, as the predicate *senten* 'to send' takes nominative subjects. In both examples, the relative pronoun *dher* 'REL.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 (30a), 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 (30b), 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.

(30)   a.   quham   [er]   **dher**   **chisendit**
              come.PST.3SG[NOM]   ELH.SG.M.NOM   REL.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   REL.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 (30) can be the source that the headless relative is derived from. First I show the comparison of the internal syntax of the extra light head and relative pronoun in (30a). Then I show the comparison of the internal syntax of the light head and the relative pronoun in (30b).

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 relative pronoun consists of two morphemes: *dh* and *er*. The extra light head consists of a single morpheme: *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
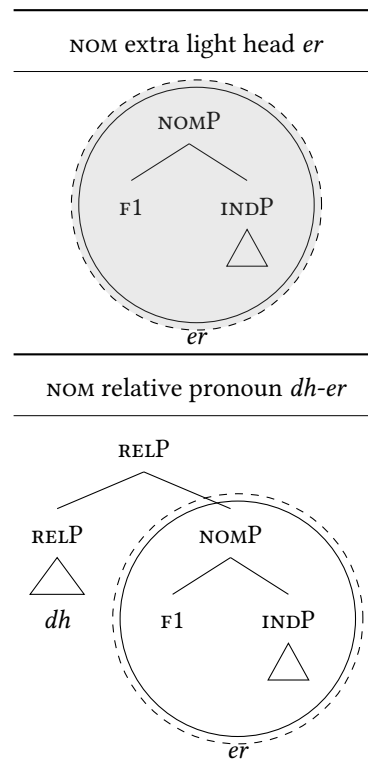
Figure 9.5: Old High German EXT$_{\text{NOM}}$ VS. INT$_{\text{NOM}}$ $\rightarrow$ *dher* (ELH)

and the relative pronoun.

The extra light head consists of a single morpheme: the NOMP. This NOMP is structurally contained within 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.

The relative pronoun consists of two morphemes: *dh* and *er*. The light head 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 within the light head (the DP 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.

NOM light head *dh-er*

NOM relative pronoun *dh-er*
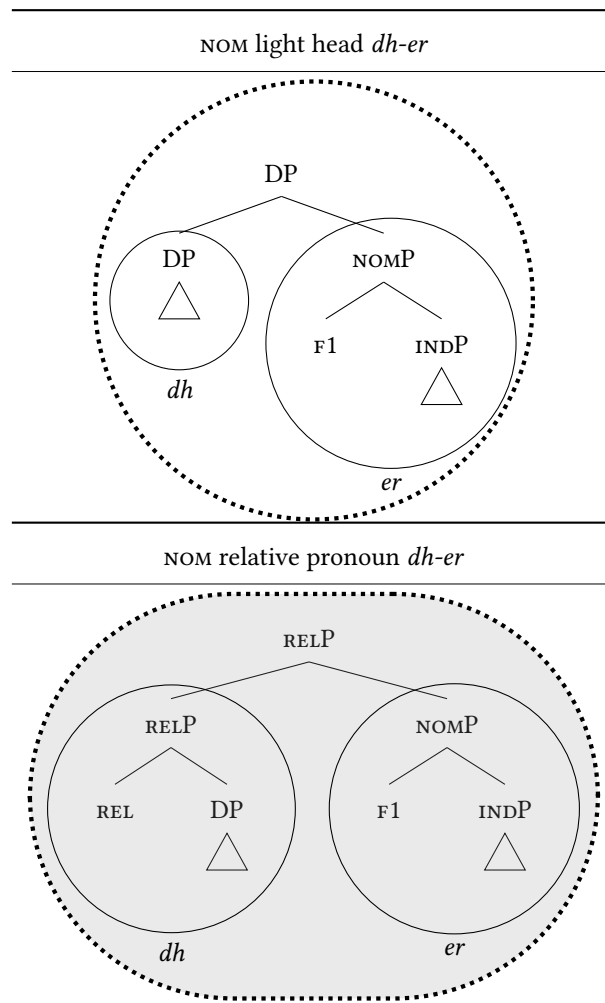
Figure 9.6: Old High German EXT$_{\text{NOM}}$ vs. INT$_{\text{NOM}}$ → *dher* (LH)

The surface pronoun is the light head that bears the external case: *dher*.[5]

I continue with the situation in which the external case is the more complex one. Consider the examples in (31), in which the internal nominative case competes against the external accusative case. The relative clause is marked in bold. (31a) shows the example with the extra light head and (31b) shows the example with the light head. The internal case is nominative, as the predicate *gisizzen* 'to possess' takes nominative subjects. In both examples, the relative pronoun *dher*

---

[5]The same holds the other way around: the light head (the DP realized by *dher*) is formally contained within 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.

'REL.SG.M.NOM' appears in the nominative case. The external case is accusative, as the predicate *bibringan* 'to create' takes accusative objects. In (31a), the extra light head *ën* 'ELH.SG.M.ACC' appears in the accusative case. It is placed between square brackets because it does not surface. In (31b), 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.

(31)   a.   *ih   bibringu   fona iacobes   samin   endi fona
             1SG.NOM create.PRES.1SG[ACC] of   Jakob.GEN seed.SG.DAT and of

             iuda   [en]   **dher**   **mina**   **berga**
             Judah.DAT ELH.SG.M.ACC RP.SG.M.NOM 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)

   b.   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

             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)

Only (31b) can be the source that the headless relative is derived from. First I show that no headless relative can be derived from the (31a). Then I show the comparison of the two internal syntax of the two forms in (31b), which does derive a grammatical result.

In Figure 9.7, 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 relative pronoun consists of two morphemes: *dh* and *en*. The extra light head consists of a single morpheme: *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 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 within 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

ACC extra light head *en*

AccP
F2   AccP
F1   INDP

en

NOM relative pronoun *dh-er*

RELP
RELP   AccP
dh   F1   INDP

er̄
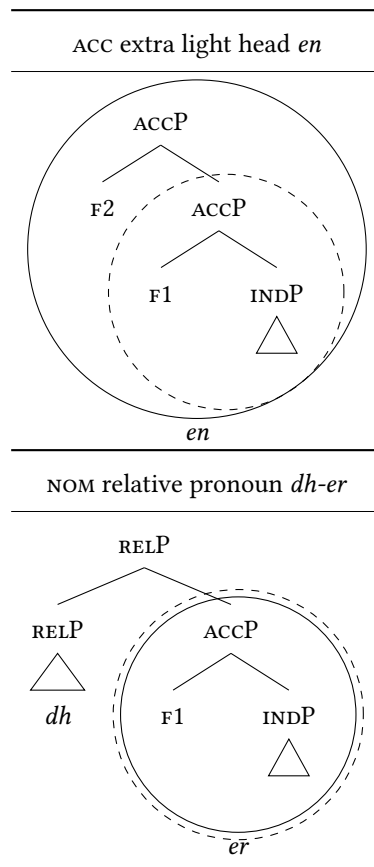
Figure 9.7: Old High German EXT$_{\text{ACC}}$ vs. INT$_{\text{NOM}}$ $\nrightarrow$ *en/dher* (ELH)

weaker feature containment requirement is not met, the stronger constituent containment requirement cannot be met either.

The relative pronoun is not structurally contained within the light head. It namely lacks the complete constituent and RELP. Therefore, the extra light cannot be deleted, and the relative pronoun cannot be deleted either. As a result, the light-headed relative with 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.

The relative pronoun consists of two morphemes: *dh* and *er*. The light head also 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 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*.

ACC light head *dh-en*

DP

DP
△

AccP

dh

F2   NOMP

F1   INDP
△

en

NOM relative pronoun *dh-er*

RELP

RELP

REL   DP
△

NOMP

F1   INDP
△
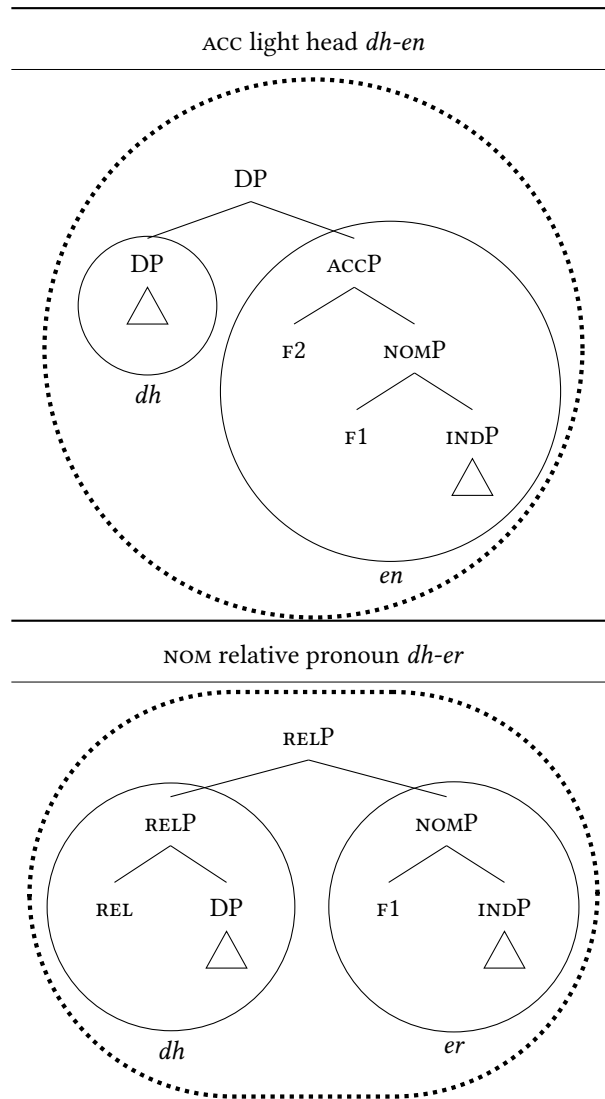
dh   *er*

Figure 9.8: Old High German EXT$_{ACC}$ vs. INT$_{NOM}$ $\nrightarrow$ *dhën/dhër* (LH)

The light head is not formally contained within the relative pronoun, and the relative pronoun is not formally contained within 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 with 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 (31b) in (32).

(32) 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

      chisitzit
      possess.PRES.3SG_[NOM]
      'I create of the seed of Jacob and of Judah the one, who possess my moun-
      tains'

                                               (Old High German, Isid. 34:3)

Consider the syntactic structure in (33) that represents part of the sentence in (32).

(33)
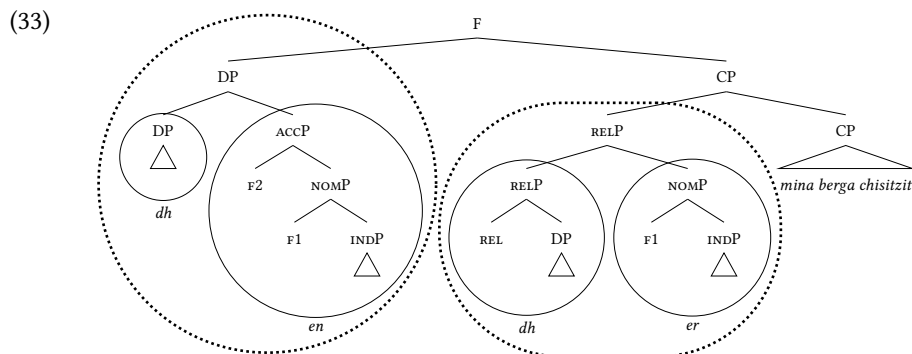
The DP in the left (that spells out as *dhen*) is the light head from 9.8. The RELP in the middle (that spells out as *dher*) is the relative pronoun from 9.8. The CP on the right represents the relative clause without the relative pronoun. I do not show its internal structure, as it is not relevant 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. This structure has come into being by merging features one by one. The last feature that has been merged is F2, which created the relative pronoun an ACCP. Remember from the functional

sequence in (25) that case features are the highest features, so they are the last ones to be merged.[6] Before the feature F2 was merged, the syntactic structure looked as in (34).

(34)
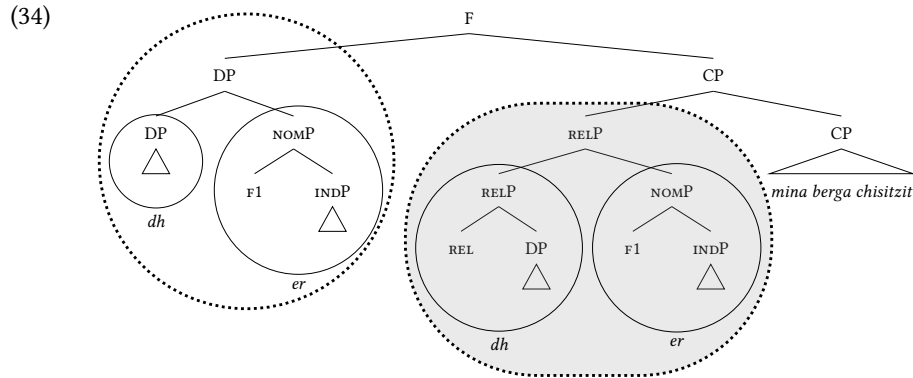
The DP in the left (that spells out as *dher*) is the light head from 9.6. The RELP in the middle (that spells out as *dher*) is the relative pronoun from 9.6. At this point in the derivation, the relative pronoun is formally contained within the light head. Therefore, the relative pronoun can be deleted. I signal the deletion of the relative pronoun by marking the content of its circle gray in (34). 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 (35).

(35)

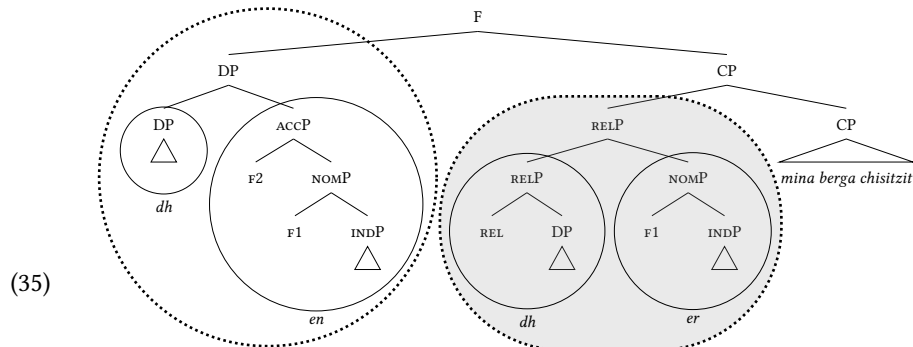The relative pronoun has been deleted in the previous stage of the derivation, so it is still absent. However, it is no longer the case that the light head formally contains

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[6] These features end up in their 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 DP and the highest CP 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 four workspaces: a DP, an NOMP, a RELP and the lowest CP. Now F2 can be spelled out with the NOMP. All worskpaces are merged back together and the result is the structure in 9.8.

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.[7]

I end with the situation in which the internal case is the more complex one. Consider the examples in (42), in which the internal accusative case competes against the external nominative case. The relative clause is marked in bold. (36) shows the example with the extra light head and (31b) 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* 'REL.SG.M.ACC' appears in the accusative case. In (36), 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 (37), 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.

(36)   Thíz   ist   [er]   **then**   **sie**

      DEM.SG.N.NOM be.PRES.3SG$_{[NOM]}$ DEM.SG.M.NOM REL.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)

(37)   *Thíz   ist   ther   **[then]**

      DEM.SG.N.NOM be.PRES.3SG$_{[NOM]}$ DEM.SG.M.NOM REL.SG.M.ACC

      sie   **zéllent**

      3PL.M.NOM tell.PRES.3PL$_{[ACC]}$

      'this is the one whom they talk about'

                                               (Old High German, Otfrid III 16:50)

Only (37) can be the source that the headless relative is derived from. First I show the comparison of the two internal syntax of the two forms in (37), which does derive a grammatical result. Then I show that no headless relative can be derived from the (31a). 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 relative pronoun consists of two morphemes: *th* and *en.* The extra light head consists of a single morpheme: *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 dashed circle around the

---

[7]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. When the cases match, the endpoint of the derivation is the step in between that might be relevant, and I explain in what follows 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, there is no syncretism between light heads and relative pronouns. Therefore, there is never any formal containment that can lead to a deletion.
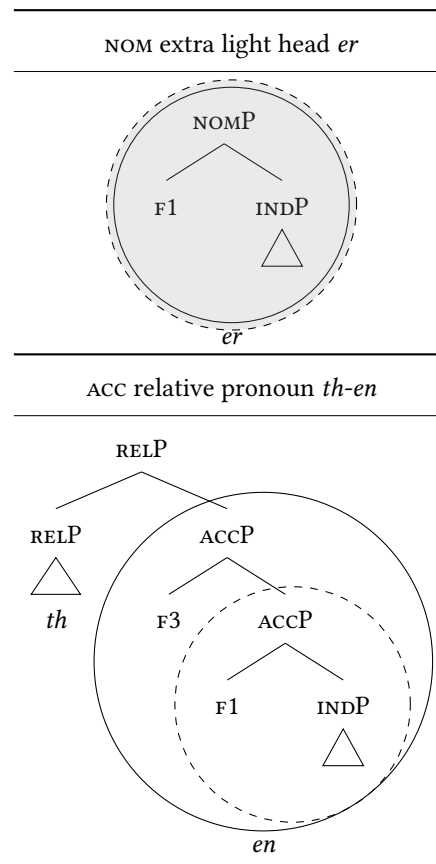
Figure 9.9: Old High German EXT$_{NOM}$ vs. INT$_{ACC}$ → *then*

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 within 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 relative pronoun consists of two morphemes: *dh* and *en*. The light head 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.

NOM light head *th-er*

DP

DP
△
th

NOMP

F1   INDP
△
er

ACC relative pronoun *dh-en*

RELP

RELP

REL   DP
△
th

ACCP

F2   NOMP

F1   INDP
△
er
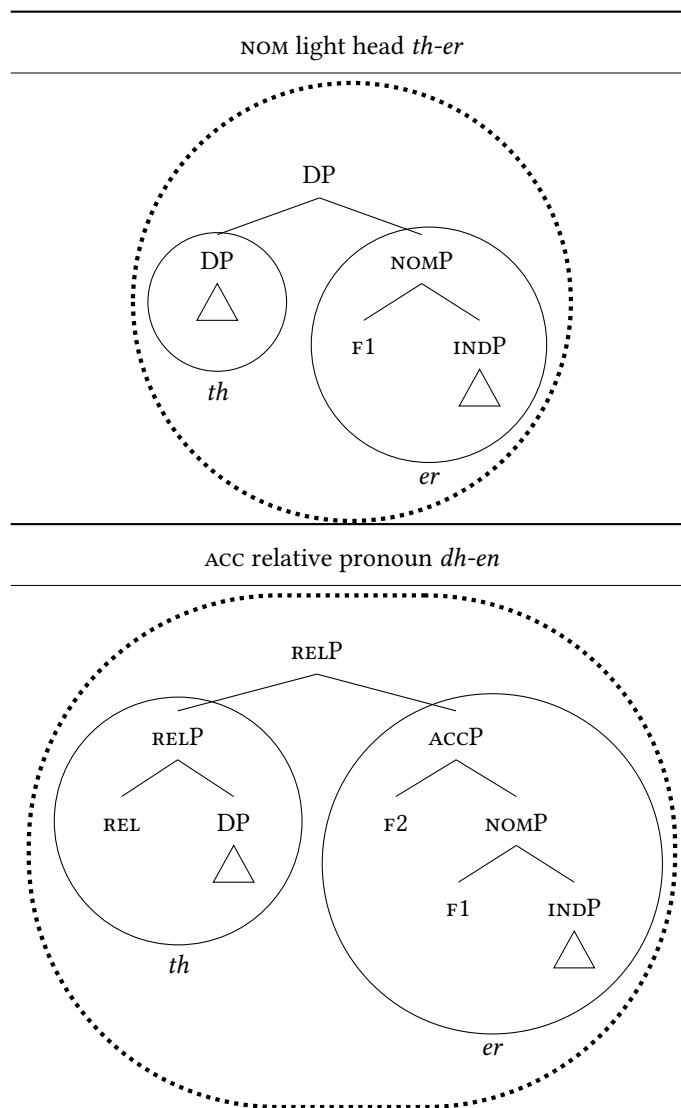
Figure 9.10: Old High German EXT_NOM VS. INT_ACC $\not\rightarrow$ *ther/then* (LH)

The light head is realized as *dher*, and the relative pronoun is realized as *dhen*. The light head is not formally contained within the relative pronoun, and the relative pronoun is not formally contained within 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 with 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. Going back in the derivation removes case features from the light head (so external case features) and not those from the relative pronoun. The last case feature was merged on the relative pronoun before the first case feature was merged on the light head. As long as the internal case is more complex, there is no step in the derivation in which the cases match.

9.4 Coming back to the light heads

In this chapter I have suggested that headless relatives in Old High German can be derived from two different light-headed relatives: one headed by an extra light head and one headed by a light head. In Section 9.2 I did not provide any motivation why there should be two different sources for headless relative in the language. In this section I consider whether there is any support that suggests that headless relatives are derived from two different light-headed relatives. First, I consider headless relatives in which an extra light head is deleted have a different interpretation from headless relatives in which the relative pronoun is deleted. I do not find such evidence. Then, I place the light heads and the relative pronoun into a larger syntactic structure. If I place the different light heads in the syntactic structure in such a way that deletion always takes place under c-command, there seems to be a resemblance with what other researchers have suggested.

9.4.1 The interpretation of Old High German headless relatives

Before I start the discussion on the interpretation of headless relatives in Old High German, I would like to make a more general note on studying meaning in extinct languages. First of all, the intended meaning can only be derived from the context. Second, although a particular interpretation of a construction is not attested, it does not mean it would be be grammatical.

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 (38) I give an example, repeated from Chapter 4.

(38)   gihortut   ir   **thiu**   **ih**   **íu**   **quad**
        listen.PST.2PL[ACC] 2PL.NOM RP.PL.N.ACC 1SG.NOM 2PL.DAT speak.PST.1SG[ACC]
        'you listened to those things, that I said to you'
        not: 'you listened to whatever I said to you'

<div align="right">(Old High German, Tatian 165:6)</div>

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

Now consider Table 9.5, that gives the grammaticality pattern for headless rela-
tives derived from light-headed relatives with an extra light head in Old High Ger-
man.

<div align="center">Table 9.5: Grammaticality in Old High German with ELH</div>

situation	lexical entries		containment	deleted	surfacing
	ELH	RP			
$K_{INT} = K_{EXT}$	$[\kappa_1[\phi]]$	$[REL], [\kappa_1[\phi]]$	structure	LH	RP_{INT}
$K_{INT} > K_{EXT}$	$[\kappa_1[\phi]]$	$[REL], [\kappa_2[\kappa_1[\phi]]]$	structure	LH	RP_{INT}
$K_{INT} < K_{EXT}$	$[REL], [\kappa_1[\phi]]$	$[\kappa_2[\kappa_1[\phi]]]$	no	none	*

Consider also Table 9.6, that gives the grammaticality pattern for headless rela-
tives derived from light-headed relatives with a light head in Old High German.

<div align="center">Table 9.6: Grammaticality in Old High German with LH</div>

situation	lexical entries		containment	deleted	surfacing
	LH	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}

As can be seen in the tables, examples in which the internal and external case
match can be derived from both types of light-headed relatives. The example in (38)
is one in which the internal and the external case match. Therefore, this example
can be derived from the two different light-headed relatives: one with an extra light
head, as shown in (39a), and one with a light head, as shown in (39b).

(39)   a.   gihortut   ir   [iu]   **thiu**   **ih**   **íu**
              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'

<div align="right">(Old High German, Tatian 165:6)</div>

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

íu   quad
2PL.DAT speak.PST.1SG[ACC]
'you listened to those things, that I said to you'

<div align="right">(Old High German, Tatian 165:6)</div>

When the internal and external case do not match, only one of the light-headed relative can be the source for the headless relative. Table 9.5 and 9.6 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 light head 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 light head. 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 evidence. All headless relatives have a definite interpretation.

In (40) I give an example, in which the external case is more complex than the internal case, repeated from Chapter 4.

(40)   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'

<div align="right">(Old High German, Mons. 7:24, adapted from Pittner 1995: 199)</div>

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 light head, as shown in (41).

(41)   enti aer   ant uurta   demo   [**der**]
and 3SG.M.NOM reply.PST.3SG[DAT] REL.SG.M.DAT to 3SG.M.DAT

zaimo   **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 (42) I give an example, in which the internal case is more complex than the external case, repeated from Chapter 4.

(42)   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)

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 (43).

(43)   Thíz   ist   [er]   **then**   **sie**

DEM.SG.N.NOM be.PRES.3SG[NOM] ELH.SG.M.NOM REL.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)

The interpretation is still a definite one. This seems to be the most 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 Old High German not showing 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 evidence 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 (44), repeated from (34).
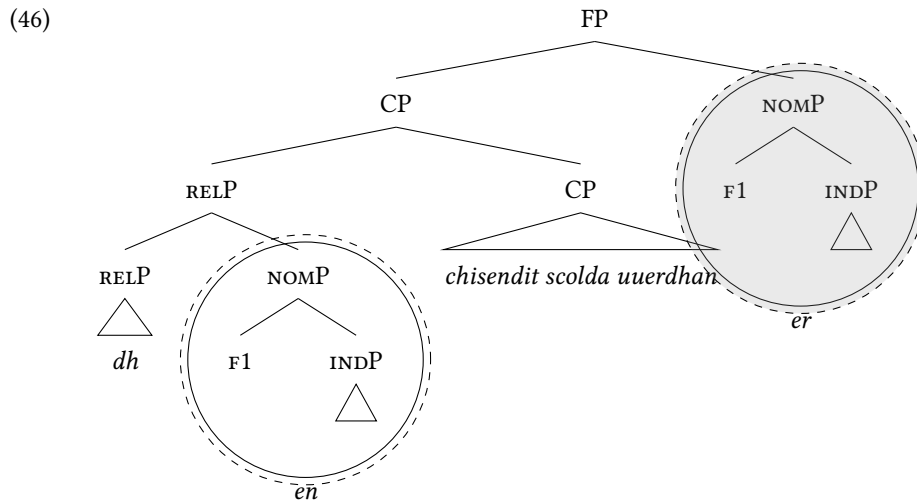
(44)
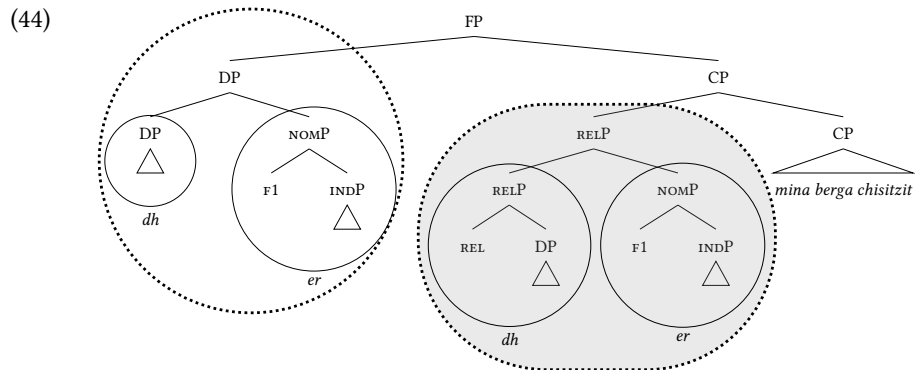
As I suggested in Section 9.3, the relative pronoun is deleted in this situation. Notice here that the light head c-commands the relative pronoun. The DP on the left c-commands the RELP, as the DP is in the specifier of the FP, which dominates the RELP. From there the reasoning goes as follows. The relative pronoun (the RELP realized by *dher*) is formally contained within the light head (the DP 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 (45).

(45) quham   [er]   **dher**   **chisendit**
      come.PST.3SG[NOM] ELH.SG.M.NOM REL.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 (45) looks as shown in (46).

(46)

```
                                      FP
                         ┌────────────┴──────────────┐
                        CP                          NOMP
              ┌──────────┴──────────┐           ┌────┴────┐
            RELP                   CP          F1       INDP
        ┌────┴────┐          ┌──────┴──────┐             △
      RELP      NOMP      chisendit scolda uuerdhan
       △      ┌──┴──┐                              er
      dh    F1    INDP
            F1    INDP
                   △
                  eñ
```

Here the RELP on the left c-commands the NOMP on the right, according to Kayne, Kayne, et al.'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 within 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 (46) and in (44) 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 (44) 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 (44), but also when the external case is more complex. In that case, the derivation namely also goes through the stage shown in (44) (see Section 9.3). There is no successful deletion possible when the internal case is more complex, because at no point in the derivation the light head formally contains the relative pronoun.
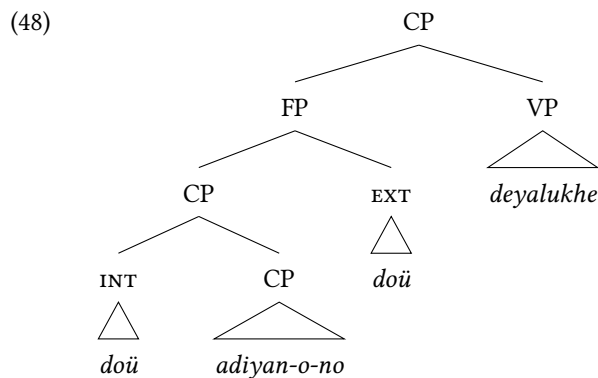
The structure in (46) represent the situation in which the source structure contains an extra light head. In these cases, the extra light head can be deleted via structural containment. This applies when the internal and external case match, as in (46), but also when the internal case is more complex. 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 at no point in the derivation the relative pronoun structurally contains the extra light head.

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 pro-

noun. 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. Evidence for this claim comes from languages that show this morphologically. An example from Kombai is given in (47). 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.

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

(48) shows the syntactic structure of the sentence in (47).

(48)

```
                         CP
                _____/  _____
             FP                      VP
         ___/  \___                 /\
       CP          EXT            deyalukhe
    __/  \__        /\
  INT      CP      doü
   /\     /  \
 doü   adiyan-o-no
```
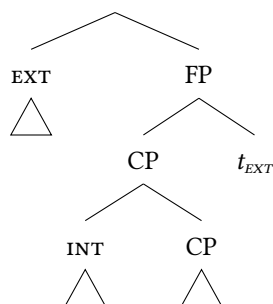
In most languages one of the two heads is deleted throughout the derivation. According to Cinque 2020, the internal element can delete the external element, because the internal element c-commands the external element.

(49)

```
                FP
           ____/  \____
         CP            EXT
      __/  \__          /\
    INT      CP
    /\       /\
```
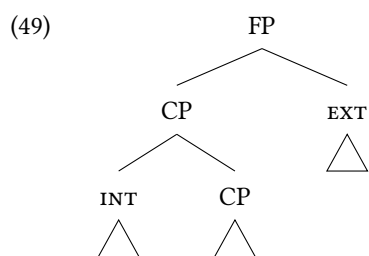
In order for the internal element to be able to delete the external element, a movement needs to take place. The external element moves over the relative clause.

(50)

```
              ╱╲
          EXT       FP
          ╱╲       ╱╲
         ╱__╲    CP      t_EXT
                ╱╲
             INT    CP
             ╱╲    ╱╲
            ╱__╲  ╱__╲
```

Crucially, Cinque (2020) notes that the 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 (49). The light head is definite and lives in a structurally high position, as in (50).[8]

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 always indefinite and always low in the structure (see (46) and (49)). 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 a unrestricted type of language. This means that headless relatives are grammatical in the language when the internal and external

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[8] At 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 feature 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 6: 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. The two workspaces are merged back together.

The second one 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 spellout is driven by spellout. It seems that the movement of the extra light head coincides with the element becoming definite. In terms of spellout, this means that a complex spec is merged to existing syntactic structure. It seems that once the complex spec is merged, the existing syntactic structure moves over the relative clause. I leave it for future research to investigate what is exactly happening.

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 types of light heads and relative pronouns 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 light head and the relative pronoun in Old High German are shown in Figure 9.11.
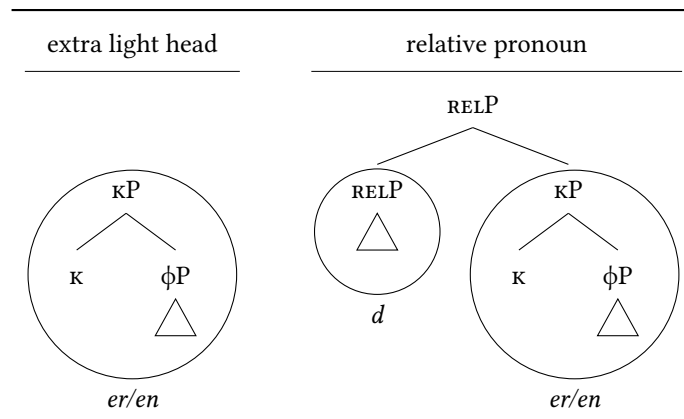

Figure 9.11: ᴇʟʜ and ʀᴘ in Old High German (repeated)

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.
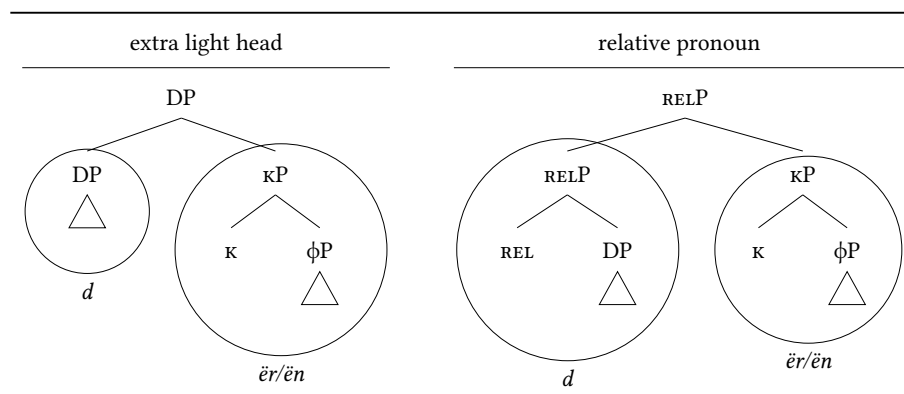

Figure 9.12: ʟʜ and ʀᴘ in Old High German (repeated)

A crucial characteristic of unrestricted languages such as Old High German that

there is a syncretism between one of the light heads and the relative pronoun. Therefore, the relative pronoun is formally contained within 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 then the extra light head is structurally contained in the relative pronoun.

The deletion that takes place to changes a light-headed relative into a headless one 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.

Primary texts

Isid.   Der althochdeutsche Isidor

Mons.   The Monsee fragments

Otfrid   Otfrid's Evangelienbuch

Tatian Tatian

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