CASE COMPETITION IN HEADLESS RELATIVES

Inauguraldissertation

zur Erlangung des Grades eines Doktors der Philosophie

im Fachbereich Neuere Philologien

der Johann Wolfgang Goethe-Universität

zu Frankfurt am Main

vorgelegt von

Fenna Bergsma

aus

Boarnsterhim, Niederlande

202..

Acknowledgements

thanks

Contents

Contents ii

List of tables v

List of figures viii

List of abbreviations xi

1 Introduction 1

1.1 Decomposing the title . . . 1

1.2 The content of this dissertation . . . 5

1.2.1 Case attraction . . . 8

1.2.2 The genitive . . . 9

I Case competition 11

2 A recurring pattern 13

2.1 In headless relatives . . . 13

2.2 In syntax . . . 21

2.2.1 Agreement . . . 21

2.2.2 Relativization . . . 28

2.3 In morphology . . . 35

2.3.1 Syncretism . . . 36

2.3.2 Morphological case containment . . . 36

2.4 Summary . . . 38

3 Case decomposition 39

3.1 The basic idea . . . 40

3.2 Deriving syncretism . . . 40

3.3 Deriving morphological case containment . . . 57

3.4 The intuition for headless relatives . . . 62

3.5 Summary 64

II The typology **67**

4 Languages with case competition **69**
4.1 Four possible patterns 70
4.2 Internal and external case allowed 74
4.3 Only internal case allowed 81
4.4 Only external case allowed 89
4.5 Only matching allowed 92
4.6 Summary 96

5 Aside: languages without case competition **101**
5.1 Always external case 102
5.2 A typology of headless relatives 109

III Deriving the typology **115**

6 The source of variation **117**
6.1 Underlying assumptions 118
6.2 The three language types 123
6.2.1 The internal-only type 124
6.2.2 The matching type 126
6.2.3 The unrestricted type 132
6.3 Summary 141

7 Deriving the internal-only type **145**
7.1 The Modern German relative pronoun 147
7.2 Combining morphemes in Nanosyntax 155
7.3 The Modern German (extra) light head 167
7.4 Comparing light heads and relative pronouns 175
7.5 Summary 180

8 Deriving the matching type **183**
8.1 The Polish relative pronoun 186
8.2 The Polish extra light head 202
8.3 Comparing light heads and relative pronouns 208
8.4 Summary 213

9 Deriving the unrestricted type **217**
9.1 The Old High German German relative pronoun 222

9.2 The Old High German light heads 231
9.2.1 The extra light head 231
9.2.2 The light head 235
9.3 Comparing light heads and relative pronouns 241
9.4 Coming back to the light heads 252
9.5 Summary 256

10 Conclusion **255**

Primary texts **259**

Bibliography **261**

List of tables

1.1 The winner of case competition 6

2.1 Gothic headless relatives (matching) 15
2.2 Gothic headless relatives (NOM — ACC) 17
2.3 Gothic headless relatives (NOM — DAT) 18
2.4 Gothic headless relatives (ACC — DAT) 20
2.5 Summary of Gothic headless relatives 21
2.6 Typology for agreement hierarchy 24
2.7 Syncretism patterns 37
2.8 Morphological case containment in Khanty 37

3.1 Case decomposed 40
3.2 Syncretism patterns (repeated) 41
3.3 Morphological case containment of 3SG in Khanty 58
3.4 Summary of Gothic headless relative (repeated) 63

4.1 Internal and external case allowed 71
4.2 Only internal case allowed 72
4.3 Only external case allowed 73
4.4 Only matching allowed 73
4.5 Internal and external case allowed (repeated) 74
4.6 Summary of Gothic headless relatives (repeated) 75
4.7 Old High German headless relatives (matching) 76
4.8 Old High German headless relatives (NOM — ACC) 78
4.9 Old High German headless relatives (NOM — DAT) 79
4.10 Old High German headless relatives (ACC — DAT) 80
4.11 Only internal case allowed (repeated) 81
4.12 Modern German headless relatives (matching) 83
4.13 Modern German headless relatives (NOM — ACC) 85
4.14 Modern German headless relatives (NOM — DAT) 87
4.15 Modern German headless relatives (ACC — DAT) 89
4.16 Only external case allowed (repeated) 90

4.17 Classical Greek headless relatives possibility 1 . . . 91
4.18 Classical Greek headless relatives possibility 2 . . . 91
4.19 Summary of Classical Greek headless relatives . . . 92
4.20 The matching type (repeated) . . . 93
4.21 Polish headless relatives (matching) . . . 94
4.22 Polish headless relatives (ACC — DAT) . . . 96
4.23 Relative pronoun follows case competition . . . 96
4.24 Relative pronoun follows case competition . . . 97

5.1 Always internal case . . . 102
5.2 Always external case . . . 102
5.3 Always external case (repeated) . . . 103
5.4 Old English headless relatives possibility 1 . . . 103
5.5 Old English headless relatives possibility 2 . . . 104
5.6 Old English headless relatives possibility 3 . . . 104
5.7 Summary of Old English headless relatives . . . 105
5.8 Modern Greek headless relatives possibility 1 . . . 106
5.9 Modern Greek headless relatives possibility 2 . . . 106
5.10 Modern Greek headless relatives possibility 3 . . . 107
5.11 Summary of Modern Greek headless relatives . . . 108
5.12 Relative pronoun follows case competition . . . 110
5.13 Relative pronoun in internal case . . . 110
5.14 Relative pronoun in external case . . . 110
5.15 Possible patterns for headless relatives . . . 112

6.1 Overview situations . . . 123
6.2 Grammaticality in the internal-only type . . . 126
6.3 Grammaticality in the matching type . . . 132
6.4 Grammaticality in the unrestricted type with LH-1 . . . 140
6.5 Grammaticality in the unrestricted type with LH-2 . . . 140

7.1 Grammaticality in the internal-only type . . . 146
7.2 Modern German relative pronouns (**durrell2011**: 5.3.3) . . . 149
7.3 Modern German demonstrative *dieser* 'this' (**durrell2011**: Table 5.2) . . . 149
7.4 Modern German demonstrative pronouns (**durrell2011**: 5.4.1) . . . 152
7.5 Modern German relative pronouns (**durrell2011**: 5.3.3) . . . 152
7.6 Intepretations of *wen* and *den-wen* relatives . . . 169

8.1 Grammaticality in the matching type . . . 183
8.2 Syncretic N/M dative forms (**swan2002**) . . . 187
8.3 Polish (in)animate relative pronouns (**swan2002**: 160) . . . 191

8.4 Polish (in)animate relative pronouns (underlying forms) (**swan2002**: 160) 192
8.5 Polish inanimate relative pronouns (underlying + surface forms) (**swan2002**: 160) 193
8.6 Polish nouns (**swan2002**: 47,57) 193
8.7 Polish inanimate relative pronouns (after change 1 + surface forms) (**swan2002**: 160) 194
8.8 Polish inanimate relative pronouns (after change 1 + surface forms) (**swan2002**: 160) 194
8.9 Polish nouns (**swan2002**: 116,117) 195
8.10 Polish dative pronouns (underlying and surface) 196

9.1 Grammaticality in the unrestricted type (part 1) 218
9.2 Grammaticality in the unrestricted type (part 2) 220
9.3 Relative pronouns in Old High German (Braune 2018: 339) 224
9.4 Adjectives on *-a-/-ō-* in Old High German Braune 2018: 300 225

10.1 The surface pronoun with differing cases per language 255

List of figures

2.1 Agreement hierarchy . . . 22
2.2 Agreement hierarchy with languages . . . 24
2.3 Nominative-accusative alignment . . . 26
2.4 Ergative-absolutive alignment . . . 26
2.5 Agreement hierarchy (case) . . . 27
2.6 Agreement hierarchy (NOM/ACC/DAT) . . . 27
2.7 Relativization hierarchy . . . 28
2.8 Relativization hierarchy with languages . . . 33
2.9 Relativization hierarchy (case) . . . 34
2.10 Relativization hierarchy (NOM/ACC/DAT) . . . 35

4.1 Attested patterns in headless relatives with case competition . . . 98

5.1 Attested patterns in headless relatives . . . 111

6.1 Two descriptive parameters generate three language types . . . 117
6.2 LH and RP . . . 120
6.3 LH and RP in the internal-only type . . . 124
6.4 EXT_{NOM} vs. INT_{NOM} in the internal-only type . . . 124
6.5 EXT_{NOM} vs. INT_{ACC} in the internal-only type . . . 125
6.6 EXT_{ACC} vs. INT_{NOM} in the internal-only type . . . 126
6.7 LH and RP in the matching type . . . 127
6.8 EXT_{NOM} vs. INT_{NOM} in the matching type . . . 127
6.9 EXT_{NOM} vs. INT_{ACC} in the matching type . . . 128
6.10 EXT_{NOM} vs. INT_{ACC} in the internal-only type (repeated) . . . 129
6.11 Nominal ellipsis in Dutch . . . 130
6.12 Nominal ellipsis in Kipsigis . . . 131
6.13 LH-1 and RP in the unrestricted type . . . 133
6.14 EXT_{ACC} vs. INT_{NOM} with case syncretism . . . 135
6.15 A syncretic light head and relative pronoun . . . 136
6.16 LH-2 and RP in the unrestricted type . . . 137
6.17 EXT_{NOM} vs. INT_{NOM} in the unrestricted type . . . 138

6.18 $\textsc{ext}_{\textsc{acc}}$ vs. $\textsc{int}_{\textsc{nom}}$ in the unrestricted type 139
6.19 Different lexical entries generate three language types 142
6.20 A syncretic light head and relative pronoun 143

7.1 ELH and RP in the internal-only type 145
7.2 LH and RP in Modern German 146
7.3 Modern German $\textsc{ext}_{\textsc{acc}}$ vs. $\textsc{int}_{\textsc{acc}} \longrightarrow$ *wen* 176
7.4 Modern German $\textsc{ext}_{\textsc{acc}}$ vs. $\textsc{int}_{\textsc{dat}} \longrightarrow$ *wem* 178
7.5 Modern German $\textsc{ext}_{\textsc{dat}}$ vs. $\textsc{int}_{\textsc{acc}} \not\longrightarrow$ *m*/*wen* 179
7.6 ELH and RP in Modern German (repeated) 180

8.1 LH and RP in the matching type 183
8.2 LH and RP in Polish 185
8.3 Polish $\textsc{ext}_{\textsc{acc}}$ vs. $\textsc{int}_{\textsc{acc}} \longrightarrow$ *kogo* 209
8.4 Polish $\textsc{ext}_{\textsc{acc}}$ vs. $\textsc{int}_{\textsc{dat}} \not\longrightarrow$ *ogo*/*komu* 211
8.5 Polish $\textsc{ext}_{\textsc{dat}}$ vs. $\textsc{int}_{\textsc{acc}} \not\longrightarrow$ *omu*/*kogo* 214
8.6 LH and RP in Polish (repeat ed) 215

9.1 LH-1 and RP in the unrestricted type 217
9.2 LH-1 and RP in Old High German 219
9.3 LH-2 and RP in the unrestricted type 219
9.4 LH-2 and RP in Old High German 221
9.5 Old High German $\textsc{ext}_{\textsc{nom}}$ vs. $\textsc{int}_{\textsc{nom}} \longrightarrow$ *dher* (ELH) 243
9.6 Old High German $\textsc{ext}_{\textsc{nom}}$ vs. $\textsc{int}_{\textsc{nom}} \longrightarrow$ *dher* (LH) 244
9.7 Old High German $\textsc{ext}_{\textsc{acc}}$ vs. $\textsc{int}_{\textsc{nom}} \not\longrightarrow$ *en*/*dher* (ELH) 246
9.8 Old High German $\textsc{ext}_{\textsc{acc}}$ vs. $\textsc{int}_{\textsc{nom}} \not\longrightarrow$ *dhën*/*dhër* (LH) 247
9.9 Old High German $\textsc{ext}_{\textsc{nom}}$ vs. $\textsc{int}_{\textsc{acc}} \longrightarrow$ *then* 250
9.10 Old High German $\textsc{ext}_{\textsc{nom}}$ vs. $\textsc{int}_{\textsc{acc}} \not\longrightarrow$ *ther*/*then* (LH) 251

10.1 Different lexical entries generate three language types (repeated) 257

List of abbreviations

ACC	accusative
CONN	connective
DAT	dative
DEM	demonstrative
DUR	durative
ELH	extra light head
F	feminine
GEN	genitive
INF	infinitive
M	masculine
NF	non-future
NOM	nominative
N	neuter
PL	plural
PRED	predicative
PRES	present tense
PST	past tense
PTCP	participle
REL	relative marker
SG	singular
SS	same subject
TOP	topic
TR	transitional sound

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.

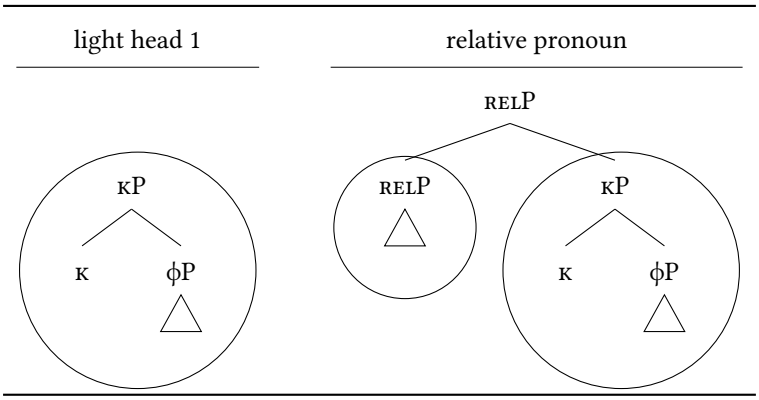


Figure 9.1: LH-1 and RP in the unrestricted type

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			
$K_{INT} = K_{EXT}$	$[K_1[\phi]]$	[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	*

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 (K_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 (K_2 in Figure 9.1). The lexical entries create a syntactic structure such that neither the light head nor the relative pronoun is a constituent that is 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

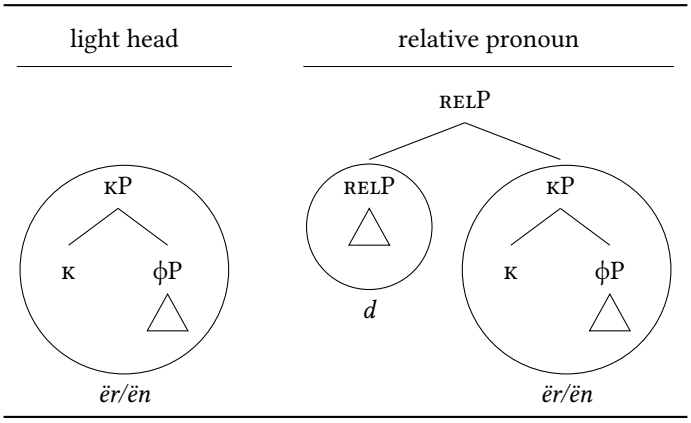


Figure 9.2: LH-1 and RP in Old High German

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.

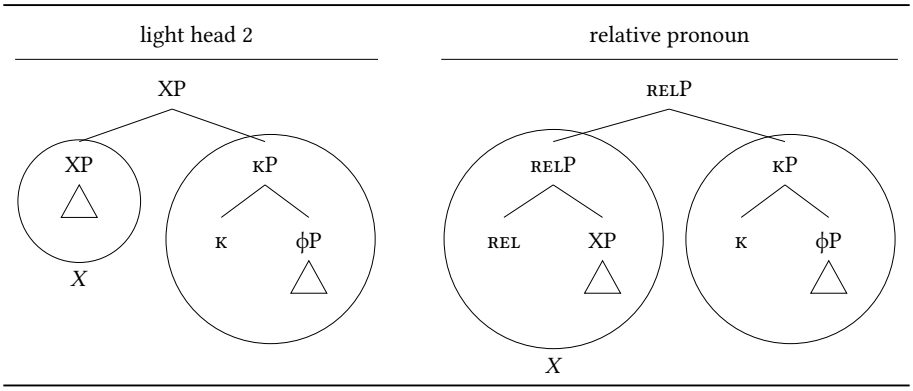


Figure 9.3: LH-2 and RP in the unrestricted type

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			
$K_{INT} = K_{EXT}$	*/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}

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 (K_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 a constituent that is 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 (K_2 in Figure 7.1). The lexical entries create a syntactic structure such that neither the light head nor the relative pronoun is a constituent that 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.

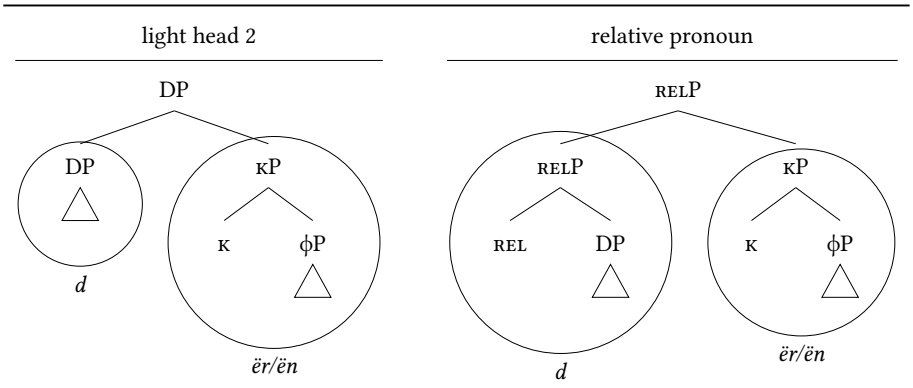


Figure 9.4: LH-2 and RP in Old High German

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 REL, 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 RELP 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.

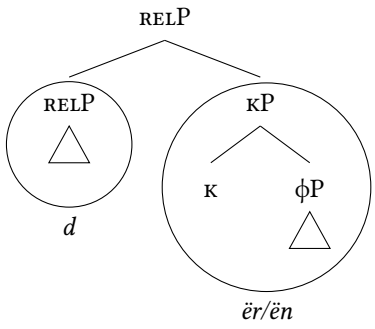
The chapter is structured as follows. First, I discuss the relative pronoun. I decompose it into the two morphemes I showed in Figure 9.2 and Figure 9.2. Then I show which features each of the morphemes corresponds to. Then I discuss the two possible light heads. The first possible light head is one 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 KP 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 KP 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

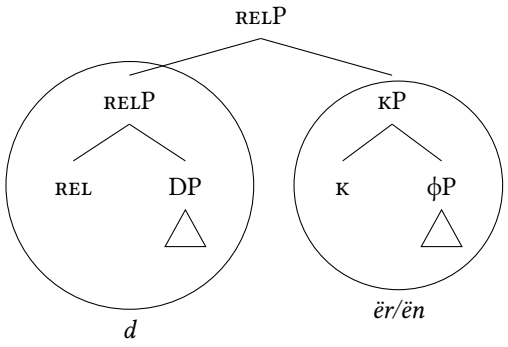
In the introduction of this chapter, I suggested in Figure 9.2 that the internal syntax of relative pronouns in Old High German looks as shown in (1).

(1)



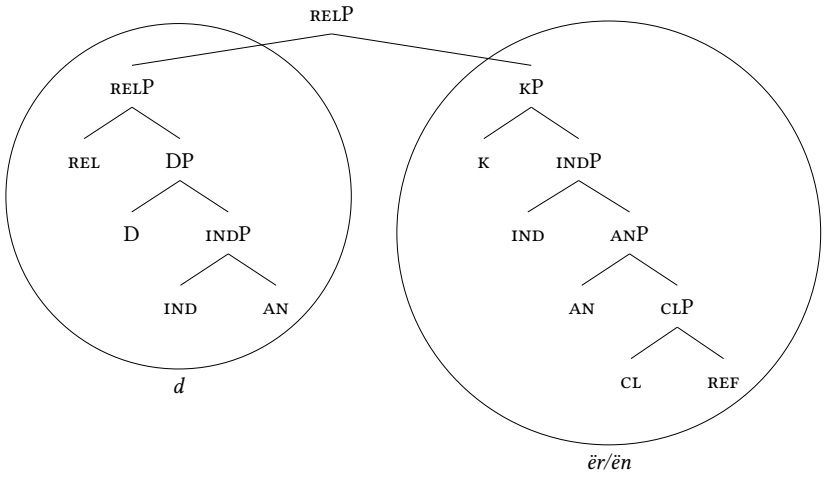
In Figure 9.2, I suggested that the internal syntax of relative pronouns in Old High German looks as shown in (2).

(2)



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 K. 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)



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 consonant (*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-az̨	d-ër	d-iu
ACC	d-az̨	d-ën	d-ea/d-ia
DAT	d-ëmu/d-ëmo	d-ëmu/d-ëmo	d-ëru/d-ëro
	N.PL	M.PL	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.

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 inflection (*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).

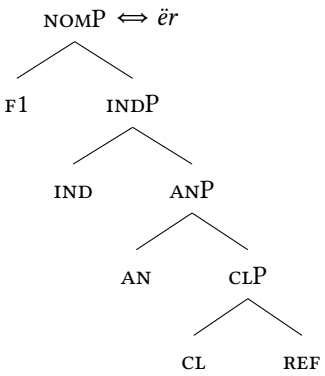
Table 9.4: Adjectives on *-a-/-ō-* in Old High German Braune 2018: 300

	N.SG	M.SG	F.SG
NOM	jung, jung-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

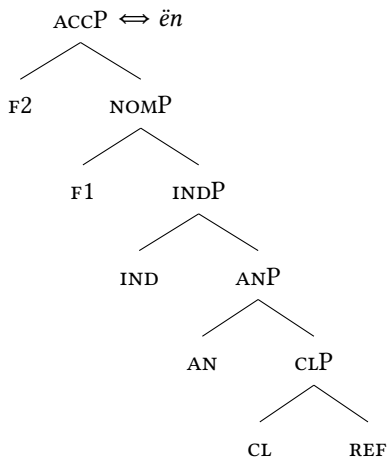
it appears in other pronominal forms too, such as possessives (Braune 2018: 337-338), demonstratives with the *dës*-stem (Braune 2018: 342) interrogatives (Braune 2018: 345).

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.



b.

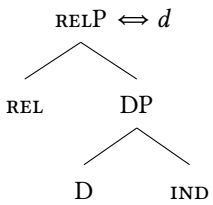


I continue with the morpheme *d*. This morpheme corresponds to what I called the REL-feature in Chapter 6 and in the introduction to this chapter. I argue that this morpheme actually spells out the feature REL, the feature D and number and gender features. Notice here that Old High German relative pronouns 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.

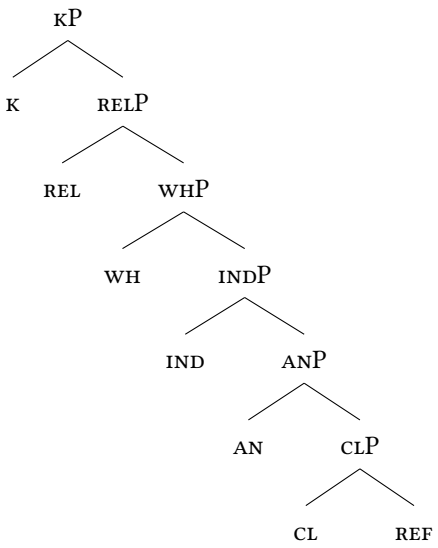
In sum, the morpheme *d* corresponds to the features D, REL and IND as shown in (6).

(6)



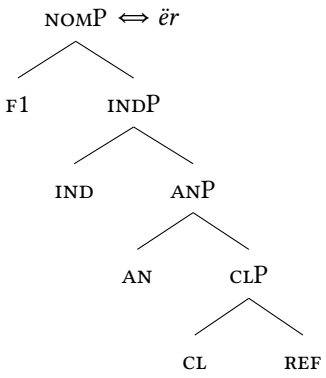
In what follows, I show how the Old High German relative pronouns are constructed. I follow the same functional sequence as I did for Modern German and Polish, except for substituting the feature WH by the feature D. I give the functional sequence in (7).

(7)

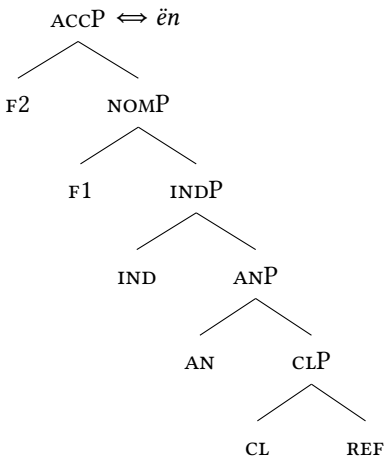


Of course, the spellout procedure is identical. The outcome is different because of the different lexical entries Old High German has. I repeat the available lexical entries in (8).

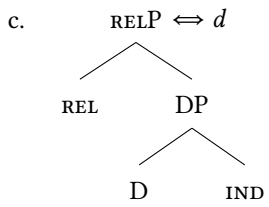
(8) a.



b.

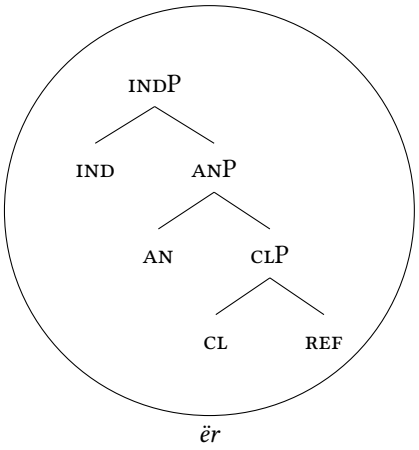


c.



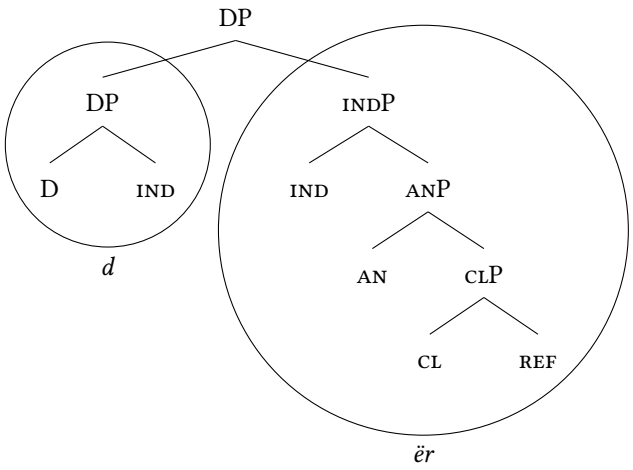
Starting from the bottom, the first two features that are merged are ref and cl, creating a clP. The syntactic structure forms a constituent in the lexical tree in (8a), which corresponds to *r*. Therefore, the clP is spelled out as *ër*, which I do not show here. Then, the feature an is merged, and 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)



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).

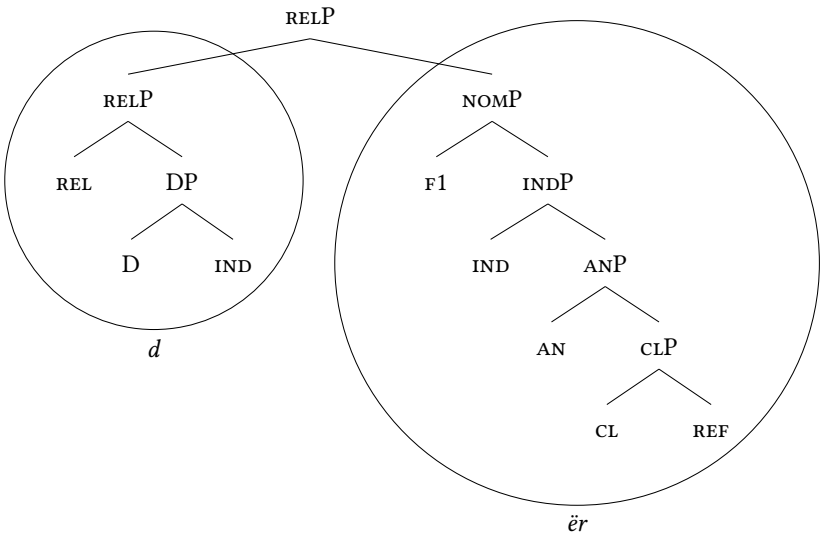
(10)



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.

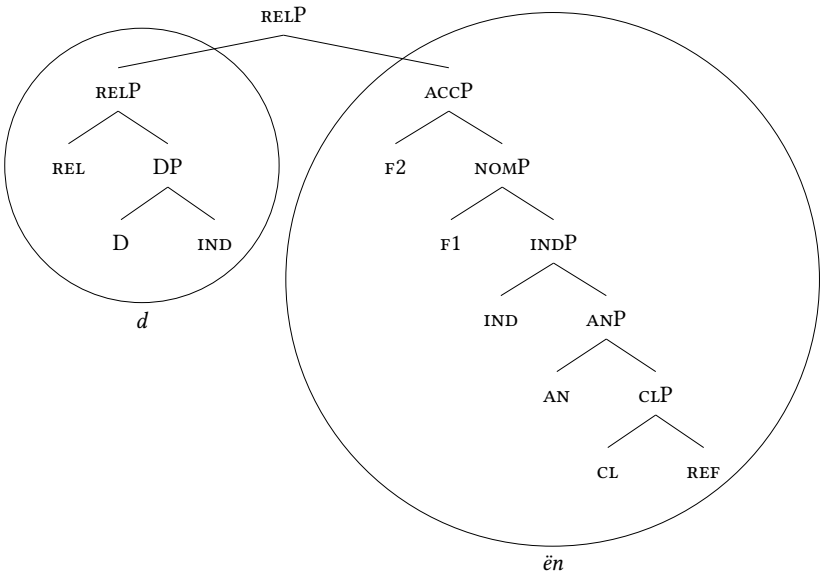
For the nominative relative pronoun, the last feature is merged: the F1. This feature should somehow end up merging with INDP, because it forms a constituent in the lexical tree in (8a), which corresponds to the *ër*. This is achieved via Backtracking in which phrases are split up and going through the 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)



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 (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)



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 a constituent that is 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.

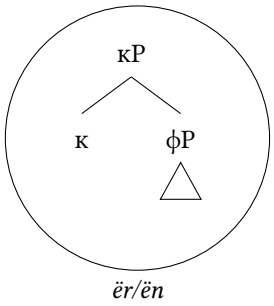
For Modern German and Polish, I considered two kinds of headless relatives as the potential source of the headless relative. The first possible scenario is that the deletion is optional and that the headless relative is derived from an existing light headed relative. The second possible scenario is that 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).

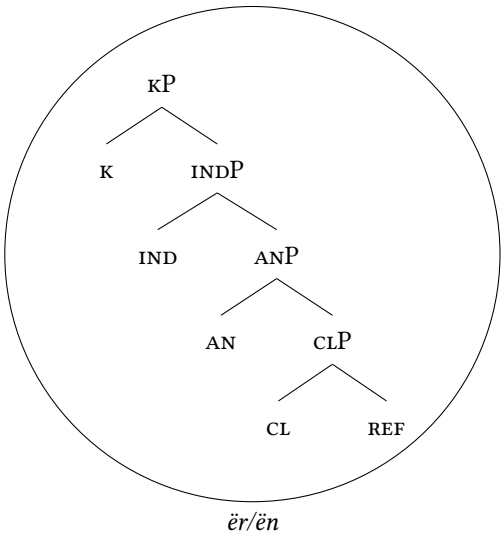
(13)



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)



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).

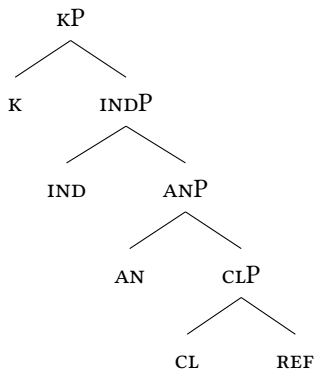
(15) a. ër
ELH.M.NOM

b. ën
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.

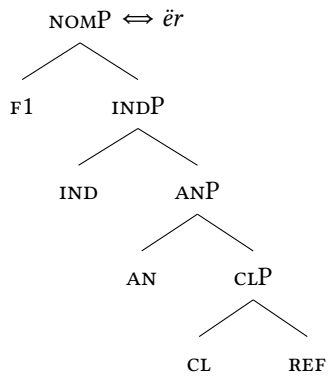
(16)



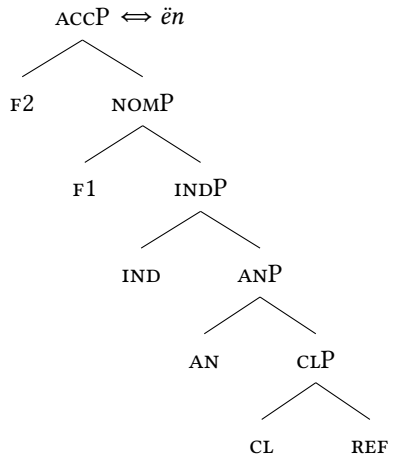
The functional sequence contains the pronominal feature REF, the gender features CL and AN, the number feature IND and case features K.

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

(17) a.

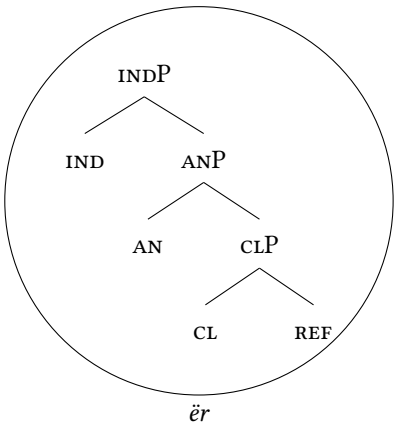


b.



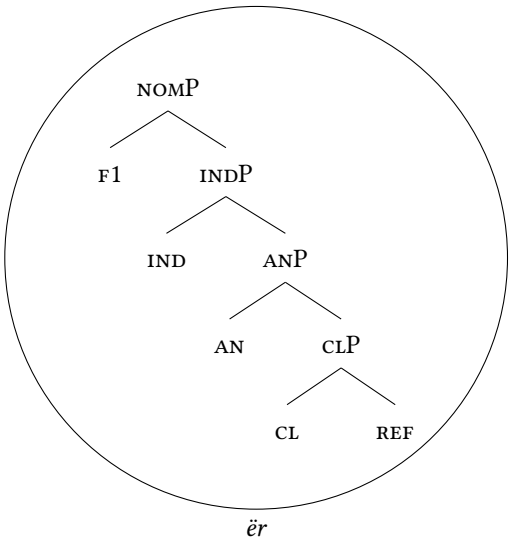
In what follows, I construct the Old High German extra light heads. Until the feature IND, the derivation is identical to the one of the relative pronoun. I give the syntactic structure at that point in (18).

(18)



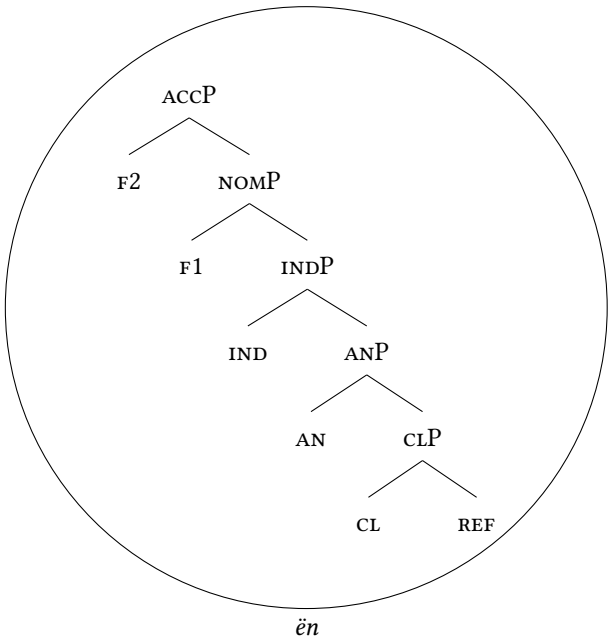
The last feature that is merged for the nominative extra light head is the F1. It is merged, and the NOMP is created. The syntactic structure forms a constituent in the lexical tree in (17a). Therefore, the NOMP is spelled out as *ër*, as shown in (19).

(19)



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)

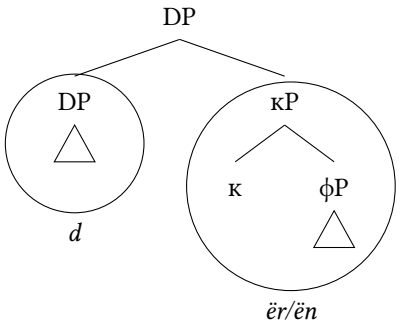


In sum, Old High German headless relatives can be derived from a light-headed relative with an extra light head, just like in Modern German and Polish. This extra light head is spelled out by a single phi and case feature portmanteau. The lexical entries used to spell this light head out are also used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

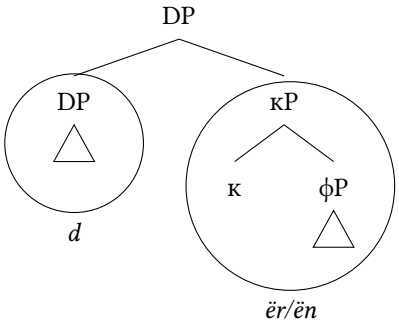


In Chapter 6, I suggested that the second possible light head in the unrestricted type of language consist of at least three features: D, ϕ and k. In this section, I determine the exact feature content of the light head.

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 syncretism 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.

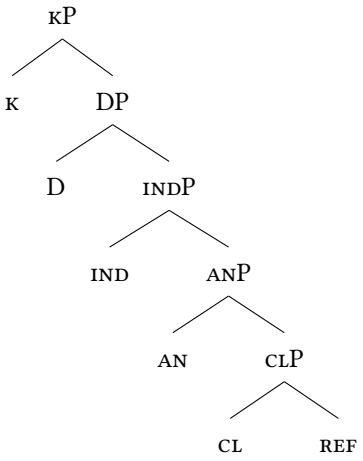
In the remainder of this section, I discuss the two light heads that I compare the internal syntax of in Section 9.3. The are the nominative masculine and the accusative masculine, shown in (24).

(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)



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 K.

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

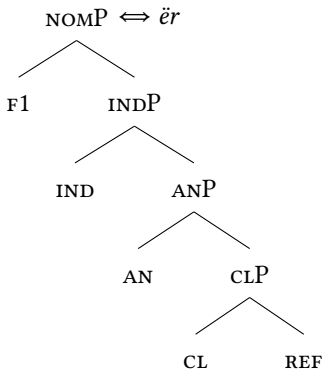
With that came the other pattern: int only. Some people lost the attraction (but everybody kept the d-pronoun) and with that the pattern disappeared. So the patterns in headless relatives follow from the relative pronouns in the language.

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

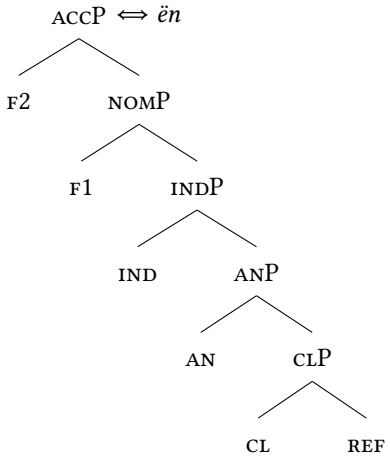
Wouldn't we now not expect that Modern German patterns with Old High German wrt attraction in headed constructions. Yes, we would. And yes, this is exactly what we see. Paper by Bader on case attraction.

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.

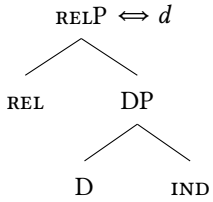
(26) a.



b.

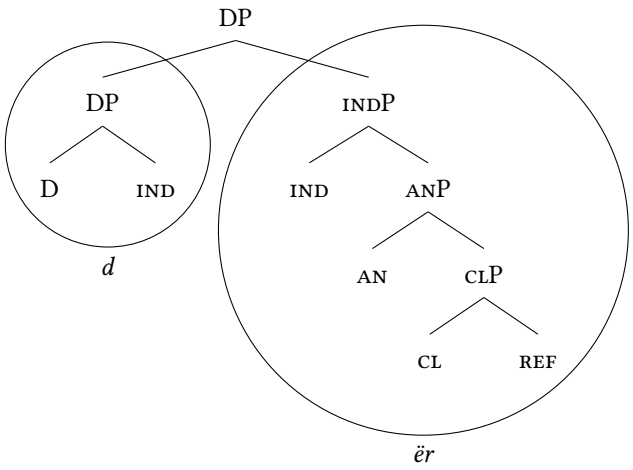


c.



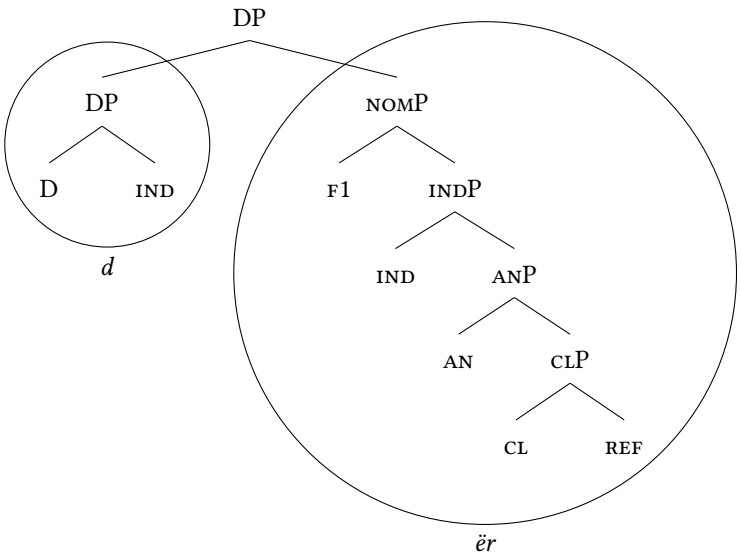
In what follows, I construct the Old High German light heads. Until the feature D, the derivation is identical to the one of the relative pronoun. I give the syntactic structure at that point in (27).

(27)



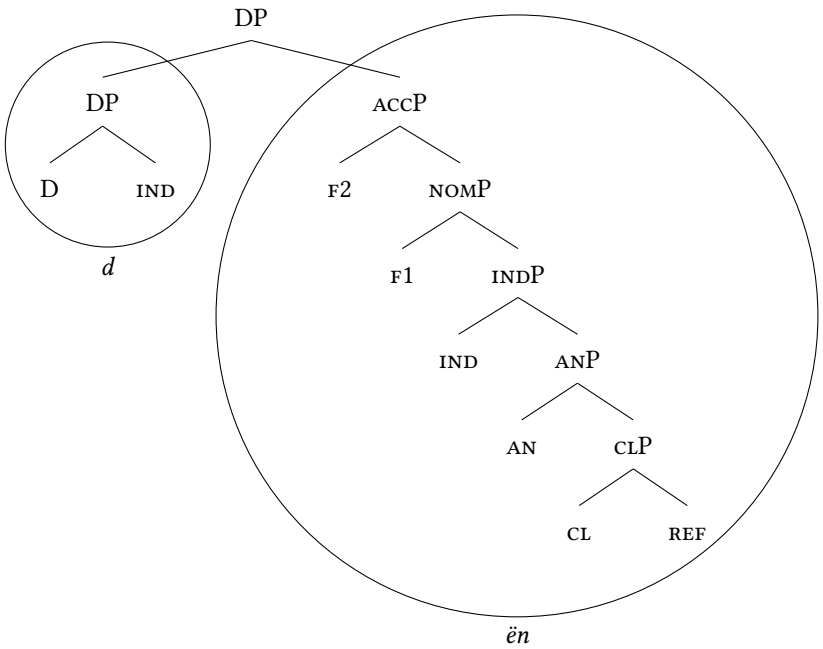
For the nominative light head, the last feature is merged: the F1. This feature should somehow end up merging with INDP, because it forms a constituent in the lexical tree in (26a), which corresponds to the *ër*. This is achieved via Backtracking in which phrases are split up and going through the Spellout 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)



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

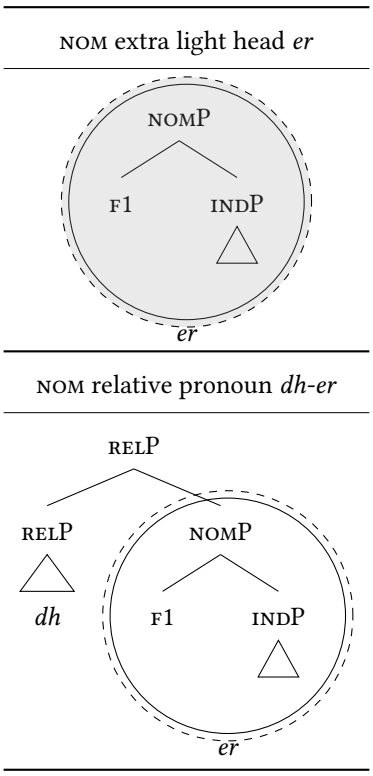


Figure 9.5: Old High German EXT_{NOM} vs. INT_{NOM} → *dher* (ELH)

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 extra light head can be deleted. I signal the deletion of the extra light head by marking the content of its circle gray.

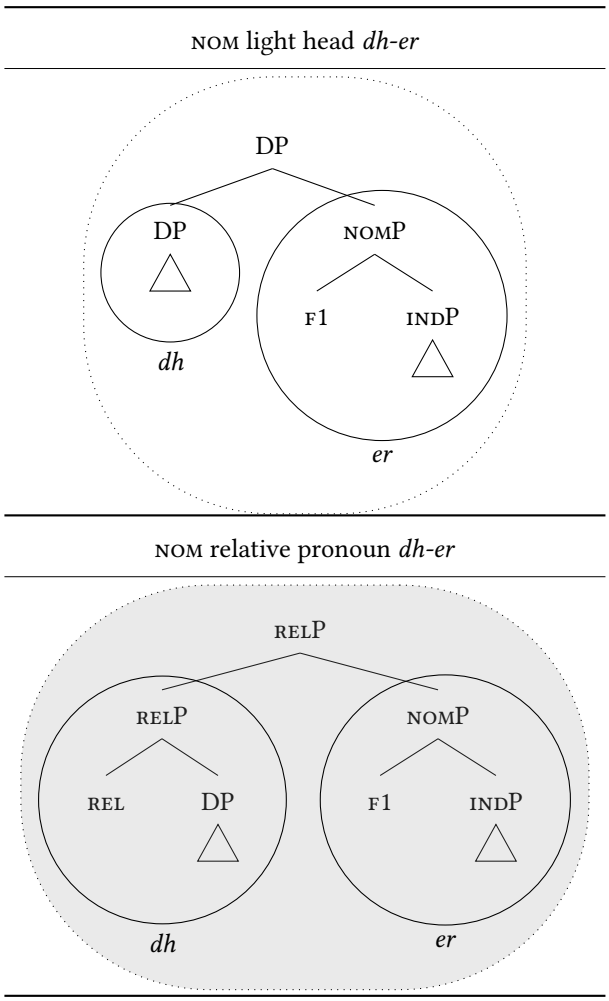


Figure 9.6: Old High German EXT_{NOM} vs. $\text{INT}_{\text{NOM}} \longrightarrow$ *dher* (LH)

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* 'REL.SG.M.NOM' appears in the nominative case. The external case is accusative, as

[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.

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**
Judah.DAT REL.SG.M.ACC my.ACC.M.PL mountain.ACC.PL
berga **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**
Judah.DAT REL.SG.M.ACC my.ACC.M.PL mountain.ACC.PL
berga **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 weaker feature containment requirement is not met, the stronger constituent con-

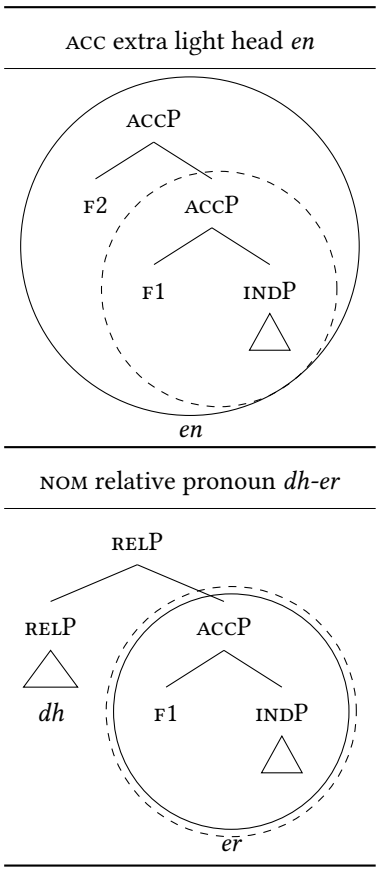


Figure 9.7: Old High German EXT_{ACC} vs. INT_{NOM} $\not\rightarrow$ *en*/*dher* (ELH)

tainment 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 9.10, 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 *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*. The light head is not formally contained within the relative pronoun, and the relative

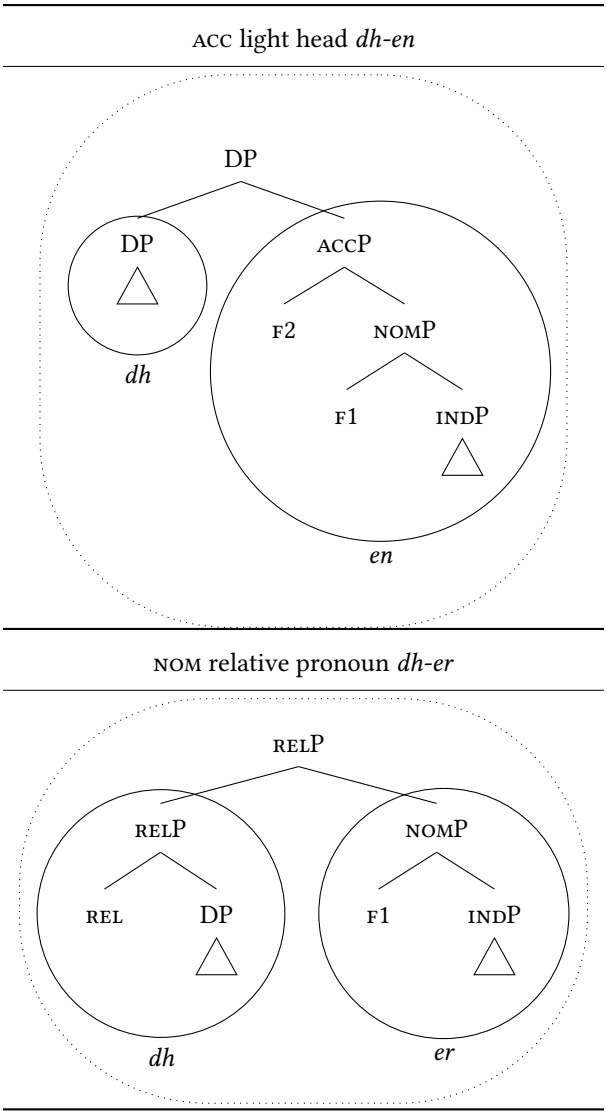


Figure 9.8: Old High German EXT_{ACC} vs. $\text{INT}_{\text{NOM}} \nrightarrow$ *dhën*/*dhër* (LH)

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 case is allowed to surface in Old High German.

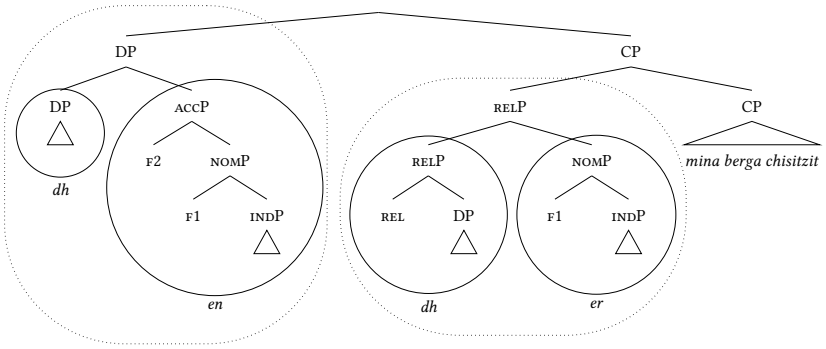
we need to look at the larger syntactic structure. repeat example here

(32) only with den der

I draw a tree of the light head and the relative clause

Consider the larger syntactic structure in (33) that represents part of the sentence in (31b).

(33)

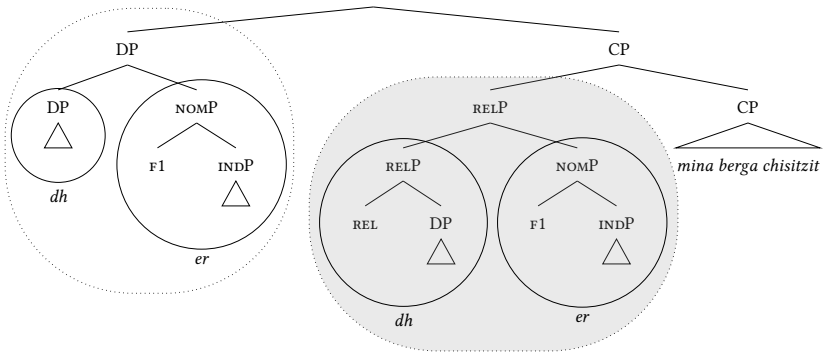


The DP on the left represents the light head from Figure X, the RelP in the middle is the relative pronoun from Figure X. The lower CP on the right contains relative clause besides for the relative pronoun.

This structure has come into being by merging features one by one. The last feature that has been merged is F2, that made the relative pronoun an AccP. Remember from the functional sequence in X that the case features are the highest features, so they are the last ones to be merged.[6] This means that one step in the derivation ago, the syntactic structure looked as in (34).

[6]These features end up within the left DP via Backtracking, splitting up the separate workspaces (DP and CP), further Backtracking, splitting up DP and AccP and also RelP and CP. The first can be spelled out first on the AccP, so that is where it is realized.

(34)



Comparing the internal syntax of the light head and the relative pronoun at this stage.. see Figure X I describe in words what happens there.

Then the feature F2 is merged, and we see the effect of if had the external case deleted the internal case.

I end with the situation in which the internal case is the more complex one. Consider the examples in **??**, in which the internal accusative case competes against the external nominative case. The relative clause is marked in bold. (35) 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 (35), 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 (36), 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.

(35) 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)

(36) *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 (36) 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 (36), which does derive a grammatical result. Then I show that no headless relative can be derived from the

(31a). In Figure **??**, I give the syntactic structure of the extra light head at the top and the syntactic structure of the relative pronoun at the bottom.

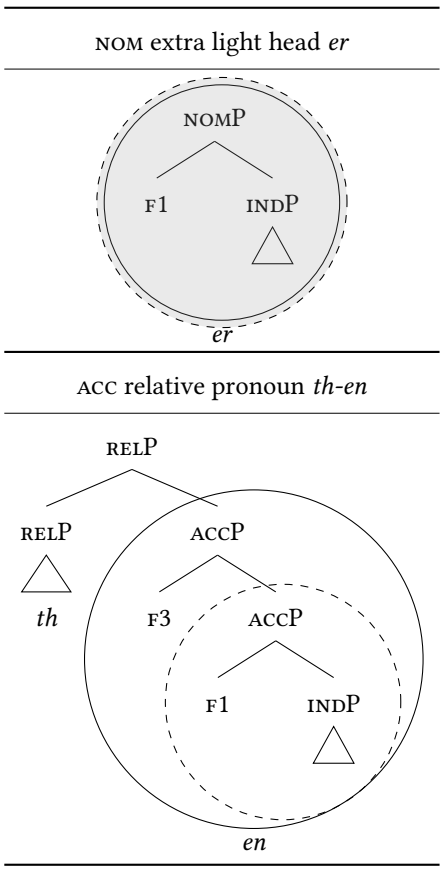


Figure 9.9: Old High German EXT_{NOM} vs. INT_{ACC} ⟶ *then*

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 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 **??**, I give the syntactic structure of the light head at the top and the syntactic structure of the relative pronoun at the bottom.

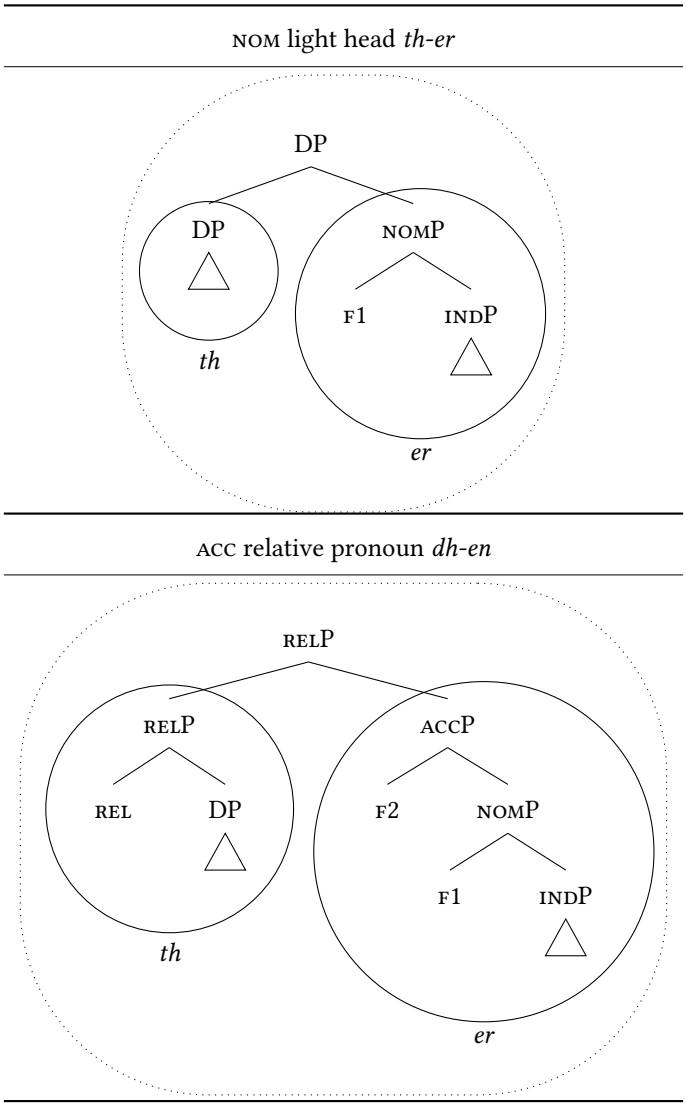


Figure 9.10: Old High German EXT_{NOM} vs. INT_{ACC} $\not\rightarrow$ *ther*/*then* (LH)

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.

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.

Also this at some point in the derivation does not work. It's the relative pronoun that has too many cases, so taking of case features from that one does not help.

9.4 Coming back to the light heads

I assume that a syntactic structure of a light-headed relative looks as in X[7]

(37) here an example of a high D and the relative clause below it

There is a D, which appears higher in the structure than the relative clause, etc. etc. explanation the relative clause is already complete, including case features This structure for light-headed relatives is also assumed by cf. Cinque etc. etc. the features that are merged last in building a light head are the case features. first we have a D without case features, and then the case features are merged on by one. this means that we have a stage in the dervation dathat looks like:

(38) no cases, including relative pronoun and relative clause

[7]I actually assume that a light-headed relative with an extra light looks as in X

(i) here an example with a non-D with the head in the low position

here explain what is in the example. This is also what Cinque says: non-definite heads are low, and definite heads are high. Two questions follow from such an analysis: (1) how do the case features end up down there, and (2) what triggers the movement of the light head to the higher position. About (1), Cinque says that it is feature percolation, and I follow that intuition. Technically, what's happening is backtracking, opening up the different workspaces, which leads to the case features finding a match on the element to the left of the relative clause. Concerning (2), Cinque says it's movement, I'm not sure what it's triggered by. I don't know what it is. If it's movement, then it can be triggered by spellout or by features. I don't see how either of them should work. It could be connected to the formation of a complex spec. It seems that as soon the spec is there, the light head also moves up, and the complex spec does not attach to the relative clause. I leave this for future research.

(39) only nominative case

now there's deletion!

then we merge the next case feature, and we get a more complex external case

note that we also have c-command for the deletion! great![8]

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.). I illustrate this with the two examples I repeat from Chapter 4.

Consider the example in (42), repeated from Chapter 4. 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.

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

Consider also the example in (42), repeated from Chapter 4. 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.

(41) enti aer ant uurta demo **zaimo**
and 3SG.M.NOM reply.PST.3SG$_{[DAT]}$ REL.SG.M.DAT to 3SG.M.DAT
sprah
speak.PST.3SG$_{[NOM]}$
'and he replied to the one who spoke to him'
not: 'and he replied to whoever spoke to him'
(Old High German, Mons. 7:24, adapted from Pittner 1995: 199)

- possible prediction: ext>int = def, int>ext = wh, not what we see, show 4 examples

Consider the example in (42), repeated from Chapter 4. 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.

(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)

[8] coming back the extra light head, we also have c-command there, under the defininteino of kayne

Consider also the example in (42), repeated from Chapter 4. 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.

(43) enti aer ant uurta demo **zaimo**
and 3SG.M.NOM reply.PST.3SG$_{[DAT]}$ REL.SG.M.DAT to 3SG.M.DAT
sprah
speak.PST.3SG$_{[NOM]}$
'and he replied to the one who spoke to him'
not: 'and he replied to whoever spoke to him'
(Old High German, Mons. 7:24, adapted from Pittner 1995: 199)

Old High German is special because the relative pronoun in its headless relatives is syncretic with the relative pronoun in its light-headed relatives.

This light head story never works for Modern German or Polish because for them the relative pronoun and the light head are not syncretic: *den*-WEN and *tego-kogo*

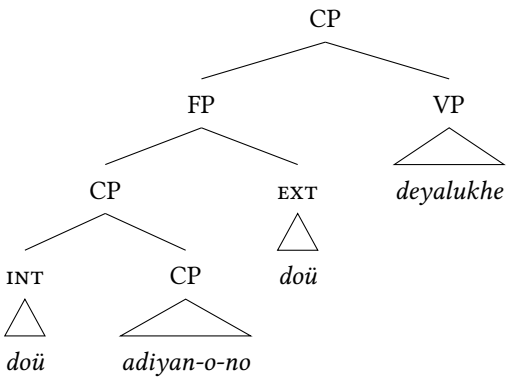
According to Cinque, every type of relative clause in every language is underlyingly double-headed. Evidence for this claim comes from languages that show this morphologically. An example from Kombai is given in (44). The head of the relative clause is *doü* 'sago', and it appears inside the relative clause and outside.

(44) [**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)

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

(45) shows the syntactic structure of the sentence in (44).

(45)

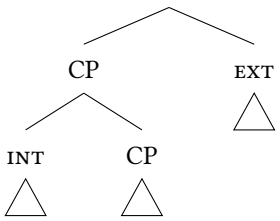


In most languages one of the two heads is deleted throughout the derivation.

According to Cinque 2020, the internal element can delete the external element,

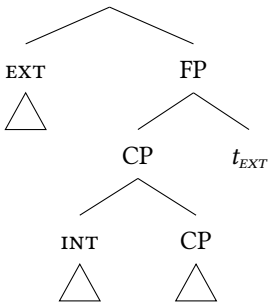
because the internal element c-commands the external element. This is c-command according to Kayne's definition of it: the internal element is in the specifier of the specifier of the FP.

(46)



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.[9] From this position, the external element can delete the internal one, because the external element c-commands the internal one.

(47)



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

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

As I said earlier, I need two elements to do case competition with. In headless relatives, I only see a single one surfacing. However, some languages actually show

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

two elements surfacing. Here there are two copies of the element, one inside the relative clause, one outside of the relative clause.

(48) [**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)

The external element is not always an exact copy of the element inside of the relative clause. An example from Kombai shows that the element outside of the relative clause can also be a subset of what the element inside of the relative clause is. Here I give two examples, there is an *old man* and a *person*, and there is *pig* and a *thing*.

(49) a. [**yare** gamo khereja bogi-n-o] **rumu**
old man join.SS work do.DUR.3SG.NF-TR-CONN person
na-momof-a
my-uncle-PRED
'The old man, who is joining the work, is my uncle.' 77
b. [**ai** fali-khano] **ro** nagu-n-ay-a.
pig carry-go.3PL.NF thing our-TR-pig-PRED
'The pig they took away, is ours.' (Kombai, Vries 1993: 77)

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

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

(50) Junya-wa [Ayaka-ga **ringo**-o mui-ta] sono **ringo**-o tabe-ta.
Junya-TOP Ayaka-NOM apple-ACC peel-PST that apple-ACC eat-PST
'Junya ate the apples that Ayaka peeled.'
(Japanese, Erlewine and Gould 2016: 2)

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

9.5 Summary

Primary texts

Isid. Der althochdeutsche Isidor

Mons. The Monsee fragments

Otfrid Otfrid's Evangelienbuch

Bibliography

Braune, Wilhelm (2018). *Althochdeutsche Grammatik I*. Walter de Gruyter GmbH & Co KG. DOI: 10.1515/9783110515114.

Cinque, Guglielmo (2020). *The Syntax of Relative Clauses: A Unified Double-headed Analysis*. Cambridge: Cambridge University Press. DOI: 10 . 1017 % 2F9781108856195.

Erlewine, Michael Yoshitaka and Isaac Gould (2016). "Unifying Japanese relative clauses: copy-chains and context-sensitivity". In: *Glossa: a journal of general linguistics* 1.1. DOI: 10.5334/gjgl.174.

Fuß, Eric (n.d.). "Wh-relatives in German: historical and current developments". In: ().

Pittner, Karin (1995). "The Case of German Relatives". In: *The linguistic review* 12.3, pp. 197–231. DOI: 10.1515/tlir.1995.12.3.197.

Vries, Lourens de (1993). *Forms and functions in Kombai, an Awyu language of Irian Jaya*. Dept. of Linguistics, Research School of Pacific Studies, The Australian National University.