

Case competition in headless relatives

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List of abbreviations

1	first person
3	third person
ACC	accusative
AN	animate
ASP	aspectual marker
COMP	complementizer
DAT	dative
DEF	definite
ERG	ergative
EXT	external case
F	feminine
INAN	inanimate
INT	internal case
M	masculine
MG	Modern German
N	neuter
NOM	nominative
OHG	Old High German
PASS	passive
PL	plural

PROG progressive

REL relativizer

SG singular

Chapter 1

Introduction

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

I show that one aspect about case competition in headless relatives holds for all languages (under discussion here at least). That is, there is a fixed order which decides which case wins the competition. Another aspect of case competition in headless relatives differs per language. That is, whether the competition takes place to begin with. I connect this variable to the morphology of the language in question.

This phenomenon has been described as some special property of a few special languages. Therefore, language-specific rules have been postulated to account for the data. My goal is to show that this phenomenon can be captured with ‘normal’ syntactic processes, like ellipsis, c-command. The account makes predictions about how a language behaves based on the shape of its relative pronouns. And we see that the phenomenon is actually more wide-spread than what has been assumed.

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

1.1 Introducing the title

Languages can use case to mark the grammatical role of a noun phrase in a clause (Edith A Moravcsik, 2009). Consider the two Modern German sentences in (1). Sub-

jects of the predicate *mag* ‘likes’ are marked as nominative, and objects of *mag* ‘likes’ are marked as accusative. The case marking of the noun phrases is reflected on the determiner in the noun phrase. In (1a), *der* in *der Lehrer* ‘the teacher’ appears in nominative case, because it is the subject in the clause. *Den* in *den Schüler* ‘the pupil’ appears in accusative case, because it is an object of *mag* ‘likes’. In (1b), the grammatical roles are reversed: *der* in *der Schüler* ‘the pupil’ appears in nominative case, because it is the subject in the clause. *Den* in *den Lehrer* ‘the teacher’ appears in accusative case, because it is the object of *mag* ‘likes’. The grammatical roles of the noun phrases in (1) can also be derived from the positioning in the clause. The subjects precede the predicate *mag* ‘likes’ and the objects follow it. As it is not relevant for the discussion here, I do not discuss the positioning of noun phrases in the clause into further detail.

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

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

In (2b), the relative clause *den er beim Versteckspiel sucht* ‘that he is searching for playing hide-and-seek’ modifies *den Schüler* ‘the pupil’. *Den* in *den Schüler* ‘the pupil’ appears again in accusative, because it is the object of *mag* ‘likes’ in the main

clause. The relative pronoun *den* ‘that.ACC’ appears in accusative case, because it is the object of *sucht* ‘searches’ in the relative clause.

- (2) a. Der Lehrer mag den Schüler, der nach draußen guckt.
 the.NOM teacher likes the.ACC student that.NOM to outside looks
 ‘The teacher likes the pupil that is looking outside.’
- b. Der Lehrer mag den Schüler, den er beim Verstecktspiel
 the.NOM teacher likes the.ACC student that.ACC he at the
 sucht.
 hide-and-seek game searches
 ‘The teacher likes the pupil that he is searching for playing hide-and-seek.’

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

The focus of this dissertation lies on headless relatives. As the name suggests, this type of relative clause lacks a head.¹ I give an example of a headless relative in Gothic in (3). The relative clause is *þan -ei arma* ‘who I pity’, marked in gray. There is no head that this relative clause modifies, because it is a headless relative. This is different from the examples from German I gave above, which each had a head. The predicate *arma* ‘pity’ takes accusative objects, as indicated by the subscript on the gloss of the verb. The predicate *gaarma* ‘pity’ also takes accusative objects, indicated again by the subscript. The relative pronoun *þan(a)* ‘who.ACC’ appears in accusative case.²

¹This ‘missing noun’ has been interpreted in two different ways. Some researchers argue that the noun is truly missing, it is absent, cf. Citko 2005; Van Riemsdijk 2006. Others claim that there is actually a head, but it is phonologically zero, Bresnan and Grimshaw 1978; Groos and van Riemsdijk 1981; Grosu 2003. At this point in the discussion this distinction is not relevant. I return to the issue in Chapter 5.

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

- (3) *gaarma þan -ei arma*
 pity_[ACC] who.ACC -COMP pity_[ACC]
 ‘I will pity (him) whom I pity’ (Gothic, Rom. 9:15, after Harbert 1978: 339)

Where does this accusative case come from? Logically speaking, there are two possible sources: the predicate in the main clause *gaarma* ‘pity’, the predicate in the relative clause *arma* ‘pity’ or both predicates. From now on, I use the terms internal and external case to refer to these two possible case sources.

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

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

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

Consider the example in (4), in which the internal case is dative and the external case is accusative. The relative clause *ana þammei lag* ‘on which he lay’ is marked

³Later on I will argue that this indirect process is ellipsis.

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

In the next section, I discuss the content of this dissertation. Before that, I comment on two notational conventions I use throughout this dissertation. First, I place subscripts on the glosses of the predicates. They indicate what the internal or external case is. The subscript on the predicate in the relative clause indicates the internal case. The subscript on the predicate in the main clause indicates the external case. This subscript can mean different things. For *ushafjands* ‘picking up’ (3) the subscript indicates which case the complement of the verb appears in. The subscript on *taujaui* ‘do’ (5) refers to the case of the indirect object of the predicate. Another possibility is that the subscript is placed on a preposition and refers to the case the preposition combines with, as for *ana* ‘on’ in (4). A last possibility is that the subscript is [NOM] and refers to the case in which the subject appears in, of which examples will emerge in the next chapter. In other words, the subscript can refer several elements: a subject, object or indirect object of a predicate. There is no overarching theoretical notion that the subscript makes reference to. The subscript simply indicates which case is required within the (main or relative) clause.

Second, I write the relative clause in gray. When the relative pronoun takes the internal case, I mark it in gray as well, as shown in (4). When the relative pronoun takes the external case, I leave it black, indicating it patterns with the main clause. An example of that is (5). When the internal and external case are the same, the relative pronoun should be black and gray. As this is impossible, I choose to mark it black, as shown in (3).

1.2 The content of this dissertation

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

In Part I I discuss the pattern observed in headless relatives in Gothic. This

pattern has also been described for German, Greek, etc. etc. references references. The pattern that arises in headless relatives is not restricted to headless relatives. It can also be observed in another syntactic phenomenon: the accessibility hierarchy. This is.. Lastly: the pattern we observe in these two syntactic phenomena is what we know from morphology. I discuss patterns in morphology: formal containment, syncretism patterns, suppletion patterns.

In Part I I discuss an aspect of headless relatives that differs per language. That is, not all languages act like Gothic.

(6) Modern German

- a. accusative dative

„

- b. dative accusative

„

(7) Old High German

- a. accusative dative

„

- b. dative accusative

„

(8) Italian

- a. accusative dative

„

- b. dative accusative

„

So far people said.. I connect this crosslinguistic variation to morphology.. so i

reduce it to differences in the lexicon

In Part III I show how all of this can be derived in derivations.

Part I

The winner of the competition

Chapter 2

A reoccurring pattern

First I introduce the pattern that forms the focus of the first part of the dissertation. I show that headless relatives in Gothic adhere to the case strength scale: $NOM < ACC < DAT$.

Then I show two phenomena that follow the same ordering of NOM , ACC and DAT . The two phenomena are accessibility hierarchies. The first one is about agreement, the second one about relativization.

In the last section of this chapter I discuss how NOM , ACC and DAT pattern in morphology.

2.1 Case competition in Gothic headless relatives

In this section I show the behavior of Gothic headless relatives in detail. I systematically go through all case combinations, except for the genitive, to which I return in Section 2.4. This leaves the nominative, accusative and dative. First, I discuss the matching headless relatives, in which the internal and external case match.

Consider the example in (1), repeated from the introduction. In this example, the internal case and the external case are accusative. The relative clause, including the relative pronoun, is marked in gray. The internal case is accusative. The predicate *arma* ‘pity’ takes accusative objects. The external case is accusative as well. Here the predicate *gaarma* ‘pity’ takes accusative objects. The relative pronoun *pan(a)* ‘who.ACC’ appears in the accusative.

- (1) gaarma þan -ei arma
 pity_[ACC] who.ACC -COMP pity_[ACC]
 ‘I will pity (him) whom I pity’ (Gothic, Rom. 9:15, after Harbert 1978: 339)

Consider the example in (2), in which the internal case and the external case are nominative. The relative clause, including the relative pronoun, is marked in gray. The internal case is nominative. The predicate *matjai* ‘eats’ takes nominative subjects. The external case is nominative as well. Here the predicate *gadaupnai* ‘die’ takes nominative subjects. The relative pronoun *sa* ‘who.NOM’ appears in the nominative.

- (2) ei sa -ei þis matjai, ni gadaupnai
 that who.NOM -COMP of this eats_[NOM] not die_[NOM]
 ‘that (he) who eats of this may not die’
 (Gothic, John 6:50, after Harbert 1978: 337)

Consider the examples in (3), in which the internal case and the external case are dative. The relative clauses, including the relative pronoun, is marked in gray. The internal case is dative. The predicates *gabaur* ‘tribute’, *mota* ‘custom’, *agis* ‘fear’ and *sweriþa* ‘honour’ takes dative objects. The external case is dative as well. The same predicates as in the relative clause take dative objects. The relative pronouns *þamm(a)* ‘who.DAT’ appear in the dative.

- (3) a. þamm -ei gabaur gabaur
 who.DAT -COMP tribute_[DAT] tribute_[DAT]
 ‘tribute to (him) whom tribute is due’
 b. þamm -ei mota mota
 who.DAT -COMP custom_[DAT] custom_[DAT]
 ‘custom to (him) whom custom is due’
 c. þamm -ei agis agis
 who.DAT -COMP fear_[DAT] fear_[DAT]
 ‘fear (him) whom fear is due’

- d. þamm -ei swerīþa swerīþa
 who.DAT -COMP honour_[DAT] honour_[DAT]
 ‘honour (him) whom honour is due’
 (Gothic, Rom. 13:7, after Harbert 1978: 339)

A summary of data so far is given in Table 2.1. The left column shows the internal case between square brackets. The upper row shows the external case between square brackets. The other cells indicate the case of the relative pronoun. So far only the diagonal line is filled. These are the matching examples, the examples in which the internal case matches the external case. The relative pronoun appears in the internal and external case, and it is marked in dark gray. The nominative is given in (2), the accusative in (1), and the dative in (3).

Table 2.1: Summary of Gothic matching headless relative data

EXT	[NOM]	[ACC]	[DAT]
INT			
[NOM]	NOM		
[ACC]		ACC	
[DAT]			DAT

In what follows, I discuss the non-matching headless relatives, in which the internal and external case differ.

Consider the example in (4), in which the internal case is nominative and the external case is accusative. The relative clause, excluding the relative pronoun, is marked in gray. The internal case is nominative. The predicate *ist us Laudeikaion* ‘is from Laodicea’ takes nominative subjects. The external case is accusative. The predicate *ussiggwaid* ‘read’ takes accusative objects. The relative pronoun *þo* ‘what.ACC’

appears in the external case: the accusative. Examples, in which the relative pronoun appears in nominative case, the internal case is nominative and the external case is accusative, are unattested.

- (4) jah þo -ei ist us Laudeikaion jus ussiggwaid
 and what.ACC -COMP is_[NOM] from Laodicea you read_[ACC]
 ‘and read that which is from Laodicea’
 (Gothic, Col. 4:16, after Harbert 1978: 357)

Consider the example in (5), in which the internal case is nominative and the external case is dative. The relative clause, excluding the relative pronoun, is marked in gray. The internal case is nominative. The predicate *sind frapjaiþ* ‘are above’ takes a nominative subject. The external case is dative. The predicate *frapjaiþ* ‘think on’ takes dative indirect objects. The relative pronoun *þaim* ‘what.DAT’ appears in the external case: the dative. Examples, in which the relative pronoun appears in nominative case, the internal case is nominative and the external case is dative, are unattested.

- (5) þaim -ei iupa sind frapjaiþ
 what.DAT -COMP above are_[NOM] think on_[DAT]
 ‘set your mind on those which are above’
 (Gothic, Col. 3:2, after Harbert 1978: 339)

Consider the example in (6), in which the internal case is accusative and the external case is nominative. The relative clause, including the relative pronoun, is marked in gray. The internal case is accusative. The predicate *frijos* ‘love’ takes accusative objects. The external case is nominative. The predicate *siuks ist* ‘is sick’ takes nominative subjects. The relative pronoun *þan* ‘who.ACC’ appears in the internal case: the accusative. Examples, in which the relative pronoun appears in nominative case, the internal case is accusative and the external case is nominative, are unattested.

- (6) þan -ei frijos siuks ist
 who.ACC -COMP love_[ACC] sick is_[NOM]
 ‘the one whom you love is sick’ (Gothic, John 11:3, after Harbert 1978: 342)

Consider the example in (9), repeated from the introduction. In this example, the internal case is accusative and the external case is dative. The relative clause, excluding the relative pronoun, is marked in gray. The internal case is accusative. The predicate *qipip* ‘say’ takes accusative objects. The external case is dative. The predicate *taujau* ‘do’ takes dative indirect objects. The relative pronoun *þamm* ‘who.DAT’ appears in the external case: the dative. Examples, in which the relative pronoun appears in accusative case, the internal case is accusative and the external case is dative, are unattested.

- (7) *hva nu wileiþ ei taujau þamm -ei qipip þiudan Iudaie?*
 what now want that do_[DAT] who.DAT -COMP say_[ACC] king of Jews
 ‘what now do you wish that I do to (him) whom you call King of the Jews?’
 (Gothic, Mark 15:12, after Harbert 1978: 339)

Consider the example in (8), in which the internal case is dative and the external case is nominative. The relative clause, including the relative pronoun, is marked in gray. The internal case is dative. The predicate *fraletada* ‘is forgiven’ takes dative objects. The external case is nominative. The predicate *frijod* ‘loves’ takes nominative subjects. The relative pronoun *þamm(a)* ‘who.DAT’ appears in the internal case: the dative. Examples, in which the relative pronoun appears in nominative case, the internal case is dative and the external case is nominative, are unattested.

- (8) *iþ þamm -ei leitiþ fraletada leitiþ frijod*
 but who.DAT -COMP little is forgiven_[DAT] little loves_[NOM]
 ‘but the one whom little is forgiven loves little’
 (Gothic, Luke 7:47, after Harbert 1978: 342)

Consider the example in (7), repeated from the introduction. In this example, the internal case is dative and the external case is accusative. The relative clause, including the relative pronoun, is marked in gray. The internal case is dative. The preposition *ana* ‘on’ takes dative complements. The external case is accusative. The predicate *ushaffands* ‘picking up’ takes accusative objects. The relative pronoun *þamm(a)* ‘who.DAT’ appears in the internal case: the dative. Examples, in which the relative pronoun appears in accusative case, the internal case is dative and the

external case is accusative, are unattested.

- (9) ushafjands ana þamm -ei lag
 picking up_[ACC] on_[DAT] what.DAT -COMP lay
 ‘picking up (that) on which he lay’

(Gothic, Luke 5:25, after Harbert 1978: 343)

A summary of the Gothic data as a whole is given in Table 2.2. The left column shows the internal case, the upper row shows the external case. The diagonal is filled with matching examples, marked dark gray. The remaining six cells show instances where the internal and external case differ. Within the cells, two cases are given. The case in the lower left corner stands for the relative pronoun in the internal case. The case in the upper right corner stands for the relative pronoun in the external case. The grammatical examples are marked in light gray. The unattested examples are marked with an asterisk and are unmarked.¹

Table 2.2: Summary of Gothic headless relative data

EXT INT			
	[NOM]	[ACC]	[DAT]
[NOM]	NOM	*NOM ACC	*NOM DAT
[ACC]	*NOM ACC	ACC	*ACC DAT
[DAT]	*NOM DAT	*ACC DAT	DAT

The three instances in the lower left corner correspond to the examples (6), (8) and (7). In the attested examples, the relative pronoun appears in the internal case.

¹Throughout this dissertation * stands for ‘not found in natural language’. For extinct languages this means that there are no attested examples. For modern languages it means that the examples are ungrammatical.

The three instances in the upper right corner correspond to the examples in (4), (5) and (9). In the attested examples, the relative pronoun appears in the external case.

This can be reformulated as follows. In a competition, dative wins over accusative and nominative. This can be seen in the lowest row and the most right column. Additionally, accusative wins over nominative. In sum, the situation can be summarized as in (10).

- (10) a. ACC wins over NOM
 b. DAT wins over NOM
 c. DAT wins over ACC

Formulated in a scale of ‘case strength’ Caha 2019; Grosu 2003; Harbert 1978; Pittner 1995; Vogel 2001:

- (11) NOM < ACC < DAT

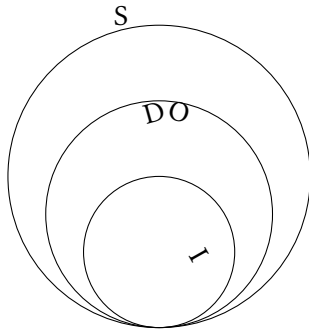
In the next few sections I show that this scale of case strength does not only appear in headless relatives. The next section shows two other morphosyntactic phenomena that follow the same scale. Section 2.3 shows how the case scale is reflected in morphophonology.

2.2 Parallels in accessibility hierarchies

In this section I discuss two additional phenomena in morphosyntax that reflect the NOM < ACC < DAT ordering.

2.2.1 Agreement

The hierarchy is to be read as follows: if a language allows the verb to agree with an argument marked by a case X, it also allows the verb to agree with all arguments to the left of X.



Gilligan 1987; Edith A. Moravcsik 1978 with subject, object and indirect object.

Table 2.3: Agreement accessibility

agreement with			number of languages	example
subject	direct object	indirect object		
*	*	*	23	Mandarin Chinese
✓	*	*	31	German
✓	✓	*	25	Hungarian
✓	✓	✓	23	Basque
✓	*	✓	(1)	-
*	✓	✓	0	-
*	x	*	0	-
*	*	✓	0	-

Mandarin Chinese is an example of a language that does not show any agreement on the predicate. An example is given in (12). The predicate *gěi* ‘give’ does not agree with the subject *nǐ* ‘you’, with the direct object *shū* ‘book’ or with the indirect object *wǒ* ‘me’.

- (12) Nǐ bǎ shū gěi wǒ -le.
 you ba book give me -ASP
 ‘You gave me the book.’ (Mandarin Chinese, Zheng Shen p.c.)

German is an example of a language that shows agreement with the subject of the clause. An example is given in (13). The predicate *gibst* ‘give’ contains the morpheme *-st*. This morpheme is the agreement morpheme for second person singular subjects. The predicate *gibst* ‘give’ agrees in person and number with the subject *du* ‘you’. There is no agreement with the direct object *das Buch* ‘the book’ or the indirect object *mir* ‘me’.

- (13) Du gib -st mir das Buch.
 you give -2SG me the book
 ‘You give me the book.’ (German)

Hungarian is an example of a language that shows agreement with the subject and the direct object of a clause. An example is given in (14). The predicate *adom* ‘give’ contains the morpheme *-om*. This is a portmanteau morpheme for a first person singular subject and a third person object agreement. The predicate *adom* ‘give’ agrees with the subject *én* ‘I’ and the direct object *a könyvet* ‘the book’. There is no agreement with the indirect object *neked* ‘you’.

- (14) (Én) neked ad -om a könyv -et
 I you.DAT.SG give -1SG.SBJ>3.OBJ the book -ACC
 ‘I give you the book.’ (Hungarian, András Bárány p.c.)

Basque is an example of language that shows agreement with the subject, the direct object and the indirect object. An example is given in (15). The auxiliary consists of the morphemes *d-*, *-austa* and *-zu*. The morpheme *d-* agrees with the direct object *liburua* ‘the book’. The morpheme *-austa* agrees with the indirect object *niri* ‘me’. The morpheme *-zu* agrees with the subject *zuk* ‘you’.

- (15) Zu -k ni -ri liburu -a emon d -austa -zu.
 you -ERG me -DAT book -DEF.ACC given ACC.3SG -DAT.1SG -ERG.2SG
 ‘You gave me the book.’ (Basque, Arregi and Molina-Azaola 2004: 45)

Bobaljik 2006 makes it default/dependent/dative

Table 2.4: Agreement accessibility

agreement with		
NOM	ACC	DAT
*	*	*
✓	*	*
✓	✓	*
✓	✓	✓
✓	*	✓
*	✓	✓
*	X	*
*	*	✓

2.2.2 Relativization

Keenan Comrie sub/obj/ind obj

Caha nom/acc/dat

In Malagasy, only subjects can be relativized.

- (16) a. Nahita ny vehivavy ny mpianatra.
 saw the woman the student
 ‘The student saw the woman.’
 b. ny mpianatra izay nahita ny vehivavy
 the student that saw the woman
 ‘the student that saw the woman’
 c. *ny vehivavy izay nahita ny mpianatra
 the woman that saw the student
 ‘the woman that the student saw’

(Malagasy, Keenan and Comrie 1977: 70)

Objects can be passivized and then relativized (again relativization of a subject).

- (17) a. Nohitan' ny mpianatra ny vehivavy.
 seen.PASS the student the woman
 'The woman was seen by the student.'
- b. ny vehivavy izay nohitan' ny mpianatra
 the woman that seen.PASS the student
 'the woman that was seen by the student'
- (Malagasy, Keenan and Comrie 1977: 70)

In Malay, subjects and objects can be relativized using *yang*. Below I only give an example of a relativized object.

- (18) Ali bunoh ayam yang Aminah sedang memakan.
 Ali kill chicken that Aminah PROG eat
 'Ali killed the chicken that Aminah is eating.'
- (Malay, Keenan and Comrie 1977: 71)

Indirect objects cannot be relativized in the same way.

- (19) a. Ali beri ubi kentang itu kepada perempuan itu.
 Ali give potato the to woman the
 'Ali gave the potato to the woman.'
- b. *perempuan yang Ali beri ubi kentang itu kepada
 woman that Ali give potato the to
- c. *perempuan kepada yang Ali beri ubi kentang itu
 woman to who Ali give potato that
- (Malay, Keenan and Comrie 1977: 71)

A different construction is made.

- (20) perempuan yang menerima ubi kentang itu daripada Ali
 woman that received potato the from Ali
 'the woman that received the potato from Ali'
- (Malay, Keenan and Comrie 1977: 71)

In Basque, subjects, objects and indirect objects can be relativized with the same strategy.

- (21) a. Gizon-a-k emakume-a-ri liburu-a eman dio.
 man-DEF-ERG woman-DEF-DAT book-DEF.ACC give has
 ‘The man has given the book to the woman.’
- b. emakume-a-ri liburu-a eman dio-n gizon-a
 woman-DEF-DAT book-DEF.ACC give has-REL man-DEF
 ‘the man who has given the book to the woman’
- c. gizon-a-k emakume-a-ri eman dio-n liburu-a
 man-DEF-ERG woman-DEF-DAT give has-REL book-DEF
 ‘the book that the man has given to the woman’
- d. gizon-a-k liburu-a eman dio-n emakume-a
 man-DEF-ERG book-DEF.ACC give has-REL woman-DEF
 ‘the woman that the man has given the book to’

(Basque, Keenan and Comrie 1977: 72)

Table 2.5: Relativization accessibility

relativization of			
	direct		indirect
	subject	object	object
example			
✓	✓	*	*
✓	✓	✓	*
✓	✓	✓	✓
Malagasy			
Malay			
Basque			

2.3 Case in morphology

2.3.1 Syncretism patterns

Icelandic: Einarsson 1949: 68 Teribe: ? Lavukaleve: Yvonne? Khinalugh: Beata etc.

Table 2.6: Syncretism patterns

pattern			NOM	ACC	DAT	translation	language
A	A	A	inu	inu	inu	2PL	Lavukaleve
A	B	B	ta	bor	bor	1PL	Teribe
A	A	B	pað	pað	því	3PL.N	Icelandic
A	B	C	zi	jä	as(ir)	1SG	Khinalugh
A	B	A					not attested

(22) NOM < ACC < DAT

2.3.2 Morphological containment

Nikolaeva 1999: 16

Table 2.7: Case containment in Khanty

	1SG	3SG	1PL
NOM	ma	luw	muŋ
ACC	ma:- ne:m	luw- e:l	muŋ- e:w
DAT	ma:- ne:m-na	luw- e:l-na	muŋ- e:w-na

Boretzky 1994: 31-46

Table 2.8: Case containment in Kalderaš Romani

	‘brother’	‘brothers’	‘girl’	‘girls’
NOM	phral	phral-(á)	rakl-í	rakl-já
ACC	phral- és	phral- én	rakl- já	rakl-já- n
DAT	phral- és-kə	phral- én-gə	rakl- já-kə	rakl-já- n-gə

Gippert 1987: 23-24

Table 2.9: Case containment in West Tocharian

	‘horses’	‘men’
NOM	yakwi	eñkwi
ACC	yakwe- ṃ	eñkwe- ṃ
DAT	yäkwe- ṃ-ts	eñkwe- ṃ-ts

(23) $\text{NOM} < \text{ACC} < \text{DAT}$

2.4 A side note on the genitive

- possessive
- accessibility hierarchy
- not available

Chapter 3

Case decomposition meets ellipsis

The problem: so far people that account for headless relatives have made reference to this case hierarchy. they put them in their OT tables, let the fly in from the left in their syntax, whatever. What I want to do is unify all the instances of nom-acc-dat. I put nom-acc-dat in syntax. which is morphology.

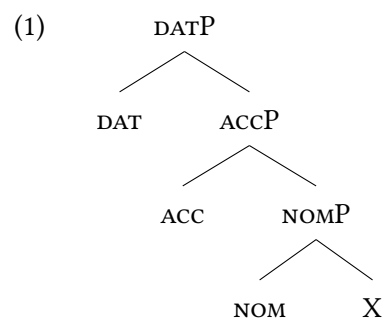
3.1 Problem with previous analyses of headless relatives

The problem: so far people that account for headless relatives have made reference to this case hierarchy. they put them in their OT tables, let the fly in from the left in their syntax, whatever.

What I do is start is start from morphology. There we have complex case: dat - acc - nom. What we see in syntax is a by-product of the morphology, it's a consequence, it's an indirect relation. cause and effect if the morphology is different, than so will the syntax

3.2 Morphology

3.2.1 Case decomposition



morphological containment

3.2.2 Phrasal spellout

Single morphemes spell out phrases

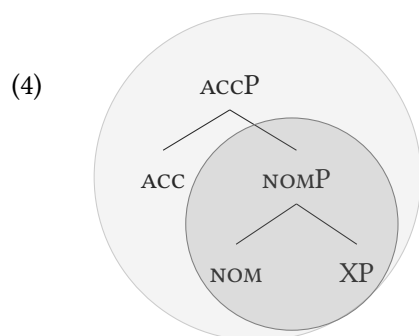
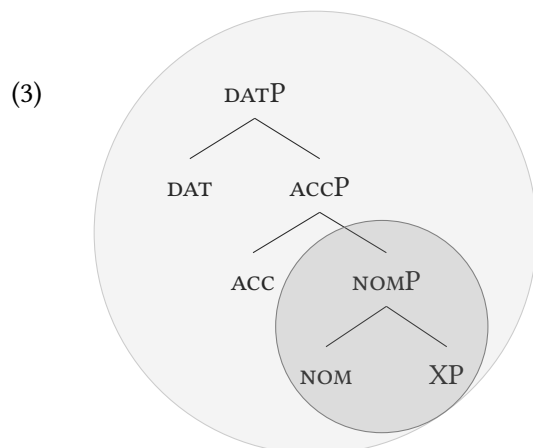
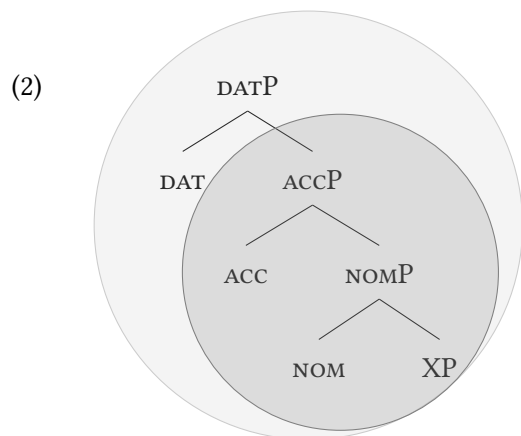
suppletion and syncretism

3.3 Ellipsis

Ellipsis targets phrases

3.4 Reflex of morphology in syntax

3.4.1 Morphology



3.4.2 Syntax

Table 3.1: DATP deletes ACCP

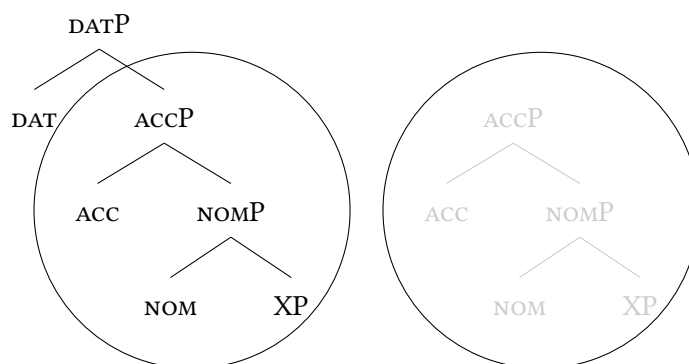


Table 3.2: DATP deletes NOMP

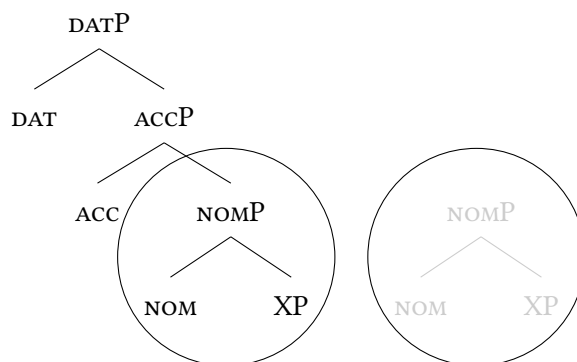
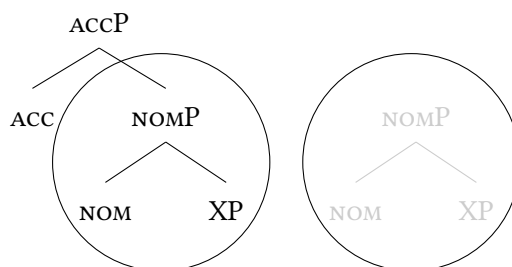


Table 3.3: ACCP deletes NOMP



3.5 Similar analyses

Himmelreich

Part II

The competitors in the competition

Chapter 4

The variation

4.1 The different patterns

In Gothic, the more complex case wins. In OHG, the more complex case wins, only if it is external. In MG, the more complex case wins, only if it is internal. In Italian, case mismatch is not allowed.

Table 4.1: Variation

	INT>EXT	EXT>INT
MG	✓	*
OHG	*	✓
Gothic	✓	✓
Italian	*	*

4.1.1 Both: Gothic

	EXT			
INT		[NOM]	[ACC]	[DAT]
[NOM]		NOM	ACC *NOM	DAT *NOM
[ACC]		*NOM ACC	ACC	DAT *ACC
[DAT]		*NOM DAT	*ACC DAT	DAT

4.1.2 Only from external: Old High German

- (1) INT:NOM, EXT:ACC
- NOM not attested
 - ih bibringu fona Juda [dhen mina berga chisetzit]
I educate_[ACC] about Juda who.ACC my mountains through pull_[NOM]
'I educate the one who wanders through my mountains about Judas'
(OHG, Isid. 34:3, Behaghel 1923-1932: 761)
- (2) INT:NOM, EXT:DAT
- NOM not attested
 - aer antuurta [demo zaimo sprah]
he replied_[DAT] who.DAT to him spoke_[NOM]
'he replied to the one who spoke to him'
(OHG, Mons. 7:24, Behaghel 1923-1932: 761, after Pittner 1995: 199)
- (3) INT:ACC, EXT:NOM
- ACC not attested
 - NOM not attested
- (4) INT:ACC, EXT:DAT
- ACC not attested

- b. istû furira Abrâhame, ouh [thên man hiar nû
 are you superior_[DAT] to Abraham also who.DAT one here now
 zalta]?
 named_[ACC]
 ‘are you superior to Abraham to those which they just mentioned?’
 (OHG, Otfrid III 18:33, Behaghel 1923-1932: 761)

(5) INT:DAT, EXT:NOM

- a. DAT not attested
 b. NOM not attested

(6) INT:DAT, EXT:ACC

- a. DAT not attested
 b. ACC not attested

Don’t know:

(7) OHG

- a. gaat uz diu halt za dem iz forchaufent

‘ (OHG, Monsee Fragments 20,14, Behaghel 1923-1932, p. 761)

- b. thia laz ih themo iz lisit thar

‘ (OHG, Otfrid I,19,25, Behaghel 1923-1932, p. 761)

So, to sum up:

Table 4.2: Case attraction in headless relatives in OHG

EXT INT	[NOM]	[ACC]	[DAT]
[NOM]	NOM	*NOM ACC	*NOM DAT
[ACC]	*NOM *ACC	ACC	*ACC DAT
[DAT]	*NOM *DAT	*ACC *DAT	DAT

4.1.3 Only from internal: Modern German

(8) INT:NOM, EXT:ACC

- a. *Ich lade ein, [wer mir sympathisch ist].
 I invite_[ACC] who.NOM me nice is_[NOM]
 ‘I invite who I like.’ (Vogel 2001: 344)
- b. *Ich lade ein, [wen mir sympathisch ist].
 I invite_[ACC] who.ACC me nice is_[NOM]
 ‘I invite who I like.’ (Vogel 2001: 344)

(9) INT:NOM, EXT:DAT

- a. *Ich vertraue, [wer Hitchcock mag].
 I trust_[DAT] who.NOM Hitchcock likes_[NOM]
 ‘I trust who likes Hitchcock.’ (Vogel 2001: 345)
- b. *Ich vertraue, [wem Hitchcock mag].
 I trust_[DAT] who.DAT Hitchcock likes_[NOM]
 ‘I trust who likes Hitchcock.’ (Vogel 2001: 345)

(10) INT:ACC, EXT:NOM

- a. Uns besucht [wen Maria mag].
 Us visits_[NOM] who.ACC Maria.NOM likes_[ACC]
 'Who visits us likes Maria likes.' (Vogel 2001: 343)
- b. *Uns besucht [wer Maria mag].
 Us visits_[NOM] who.NOM Maria.NOM likes_[ACC]
 'Who visits us likes Maria likes.' (Vogel 2001: 343)
- (11) INT:ACC, EXT:DAT
- a. *Ich vertraue [wem auch Maria mag].
 I trust_[DAT] who.DAT also Maria likes_[ACC].
 'I trust whoever Maria also likes.' (Vogel 2001: 345)
- b. *Ich vertraue [wen auch Maria mag].
 I trust_[DAT] who.ACC also Maria likes_[ACC].
 'I trust whoever Maria also likes.' (Vogel 2001: 345)
- (12) INT:DAT, EXT:NOM
- a. Uns besucht [wem Maria vertraut].
 us visits_[NOM] who.DAT Maria trusts_[DAT]
 'Who visits us, Maria trusts.' (Vogel 2001: 343)
- b. *Uns besucht [wer Maria vertraut].
 us visits_[NOM] who.NOM Maria trusts_[DAT]
 'Who visits us, Maria trusts.' (Vogel 2001: 343)
- (13) INT:DAT, EXT:ACC
- a. Ich lade ein [wem auch Maria vertraut].
 I invite_[ACC] who.DAT also Maria trusts_[DAT].
 'I invite whoever Maria also trusts.' (Vogel 2001: 344)
- b. *Ich lade ein [wen auch Maria vertraut].
 I invite_[ACC] who.ACC also Maria trusts_[DAT].
 'I invite whoever Maria also trusts.' (Vogel 2001: 344)

Table 4.3: Case attraction in headless relatives in MG

EXT INT	[NOM]	[ACC]	[DAT]
[NOM]	NOM	*ACC *NOM	*DAT *NOM
[ACC]	*NOM ACC	ACC	*DAT *ACC
[DAT]	*NOM DAT	*ACC DAT	DAT

4.1.4 None: Italian

4.2 Shape of relative pronoun

Table 4.4: Shape of relative pronoun per language

	rel pron in headless rel	rel prons in light-headed rel
Gothic	A + C	A + A + C
OHG	A	A + A
MG	B	A + A
Italian	B	A + B

4.2.1 Gothic

4.2.1.1 Headless relatives

D + COMP

Table 4.5: Relative pronouns in headless relatives in Gothic

	N.SG	M.SG	F.SG
NOM	þ-at-ei	s-a-ei	s-ō-ei
ACC	þ-at-ei	þ-an-ei	þ-ō-ei
DAT	þ-amm-ei	þ-amm-ei	þ-izái-ei
	N.PL	M.PL	F.PL
NOM	þ-ō-ei	þ-ái-ei	þ-ōz-ei
ACC	þ-ō-ei	þ-anz-ei	þ-ōz-ei
DAT	þ-áim-ei	þ-áim-ei	þ-áim-ei

4.2.1.2 Light-headed relatives

D, D + COMP

4.2.2 Old High German

4.2.2.1 Headless relatives

D

Table 4.6: Relative pronouns in headless relatives in OHG

	N.SG	M.SG	F.SG
NOM	d-az	d-ēr	d-iu
ACC	d-az	d-ēn	d-ea/-ia/(-ie)
DAT	d-ēmu/-ēmo	d-ēmu/-ēmo	d-ēru/-ēro
	N.PL	M.PL	F.PL
NOM	d-iu/-ei	d-ē/-ea/-ia/-ie	d-eo/-io
ACC	d-iu/-ei	d-ē/-ea/-ia/-ie	d-eo/-io
DAT	d-ēm/-ēn	d-ēm/-ēn	d-ēm/-ēn

4.2.2.2 Light-headed relatives

D, D

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.

4.2.3 Modern German

4.2.3.1 Headless relatives

WH

Table 4.7: Relative pronouns in headless relatives in MG

	INAN	AN
NOM	w-as	w-er
ACC	w-as	w-en
DAT	-	w-em

4.2.3.2 Light-headed relatives

Pattern in light-headed relatives: D, D

4.2.4 Italian

4.2.4.1 Headless relatives

WH: *che*

4.2.4.2 Light-headed relatives

D, WH: *quello, che*

4.3 Bringing this together

Table 4.8: Variation and relative pronoun shape

	rel pron in headless rel	rel prons in light-headed rel	INT>EXT	EXT>INT
Gothic	A + C	A + A + C	✓	✓
OHG	A	A + A	*	✓
MG	B	A + A	✓	*
Italian	B	A + B	*	*

And how can we now derive this?

Chapter 5

Connecting morphology and syntax

5.1 Background: relative clause theory

Standard raising, probably Cinque's double-headed structures

5.2 Analysis

5.2.1 Old High German

In OHG, proper attraction in headless relatives can be derived from headed relatives. The relative pronoun is the determiner from the main clause. Under a double-headed Cinque-analysis, it is the internal DP that is deleted.

(1) DAT instead of ?

- a. was allon them ando, them thar quamun at erist tuo
what all d.DAT do to d.DAT there x as first do?
,

than is im so them salte them (the M) man bi seuues Stade oido teuuirpit, 1370.

Hon them erlscipie them thar inne uuas, 2768.

allon them ando them thar quamun at erist tuo, 3435.

fon them herrosten them thes hnses giuueld, 3344 C.
 sagda them alat them (the M) thar all giscaop, 4636. —

(2) ACC instead of NOM

- a. unde ne wolden níet besên den mort den dô was
 and not wanted not see the murder.ACC that.ACC there had
 geschên
 happened
 ‘and they didn’t want to see the murder that had happened.’
 (MHG, Nib. 1391,14, Behaghel 1923-1932: 756, after Pittner 1995: 198)

5.2.2 Modern German

In German, inverse attraction in headed relatives can be shown to be very different from inverse attraction in headless relatives. I am not set on an analysis yet. Under a double-headed Cinque-analysis, it is the external DP that is deleted. Grafting is also still an option.

5.2.3 Gothic

In Gothic, ?

Part III

Details

Chapter 6

Technical implementation

6.1 Background

- (1) **The Superset Principle** Starke (2009):
A lexically stored tree matches a syntactic node iff the lexically stored tree contains the syntactic node.
- (2) **The Elsewhere Condition** (Kiparsky 1973, formulated as in Caha 2019):
When two entries can spell out a given node, the more specific entry wins. Under the Superset Principle governed insertion, the more specific entry is the one which has fewer unused features.
- (3) **Spellout Algorithm:**
Merge F and
 - a. Spell out FP .
 - b. If (a) fails, attempt movement of the spec of the complement of F , and retry (a).
 - c. If (b) fails, move the complement of F , and retry (a).

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

- (4) **Cyclic Override** (Starke, 2018):
Lexicalisation at a node XP overrides any previous match at a phrase contained in XP .

If the spellout procedure in (3) fails, backtracking takes place.

- (5) **Backtracking** (Starke, 2018):

When spellout fails, go back to the previous cycle, and try the next option for that cycle.

If backtracking also does not help, a specifier is constructed.

- (6) **Spec Formation** (Starke, 2018):

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

6.2 Derivations

Chapter 7

Conclusion

Primary texts

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

Bibliography

- Arregi, Karlos and Gainko Molina-Azaola (2004). "Restructuring in Basque and the theory of agreement". In: *Proceedings of the 23rd West Coast Conference on Formal Linguistics*. Ed. by Angelo J. Rodríguez Vineeta Chand Ann Kelleher and Benjamin Schmeiser. Somerville, MA: Cascadilla Press, pp. 43–56.
- Behaghel, Otto (1923-1932). *Deutsche Syntax: Eine geschichtliche Darstellung*. Heidelberg: Winter.
- Bobaljik, Jonathan (2006). "Where's Φ ? Agreement as a Post-Syntactic Operation". In: *Phi-Theory: Phi Features Across Interfaces and Modules*. Ed. by Daniel Harbour, David Adger, and Susana Béjar. Oxford: Oxford University Press, pp. 295–328.
- Boretzky, Norbert (1994). *Romani: Grammatik des Kalderaš-Dialektes mit Texten und Glossar*. Wiesbaden: Harrassowitz Verlag.
- Bresnan, Joan and Jane Grimshaw (1978). "The Syntax of Free Relatives in English". In: *Linguistic Inquiry* 9.2, pp. 331–391.
- Caha, Pavel (2019). *Case competition in Nanosyntax. A study of numeral phrases in Ossetic and Russian*.
- Citko, Barbara (2005). "On the Nature of Merge: External Merge, Internal Merge, and Parallel Merge". In: *Linguistic Inquiry* 36.4, pp. 475–496.
- Einarsson, Stefán (1949). *Icelandic: grammar, texts, glossary*. The Johns Hopkins Press.
- Gilligan, Gary Martin (1987). "A cross-linguistic approach to the pro-drop parameter". PhD thesis. Los Angeles, CA: University of Southern California.
- Gippert, Jost (1987). "Zu Den Sekundären Kasusaffixen Des Tocharischen". In: *Tocharian and Indo-European Studies* 1, pp. 22–39.

- Groos, Anneke and Henk van Riemsdijk (1981). "Matching Effects in Free Relatives: A Parameter of Core Grammar". In: *Theory of Markedness in Generative Grammar*. Ed. by Luciana Brandi Adriana Belletti and Luigi Rizzi. Pisa: Scuola Normale Superiore.
- Grosu, Alexander (2003). "A Unified Theory of 'standard' and 'transparent' Free Relatives". In: *Natural Language and Linguistic Theory* 21.2, pp. 247–331. DOI: 10.1075/1a.55.07gro.
- Harbert, Wayne Eugene (1978). "Gothic syntax: a relational grammar". PhD thesis. Urbana-Champaign: University of Illinois.
- Keenan, Edward L and Bernard Comrie (1977). "Noun phrase accessibility and universal grammar". In: *Linguistic inquiry* 8.1, pp. 63–99.
- Kiparsky, Paul (1973). "'Elsewhere' in Phonology". In: *A Festschrift for Morris Halle*. Ed. by Stephen Anderson and Paul Kiparsky. New York: Holt, Rinehart, & Winston, pp. 93–106.
- Moravcsik, Edith A (2009). "The distribution of case". In: *The Oxford handbook of case*. Ed. by Andrej Malchukov and Andrew Spencer. Oxford University Press, pp. 231–245.
- (1978). *Agreement*. Ed. by Charles A. Ferguson Joseph H. Greenberg and Edith A. Moravcsik. Stanford.
- Nikolaeva, Irina (1999). *Ostyak*. München: Lincom Europa.
- 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.
- Starke, Michal (2009). "Nanosyntax: A Short Primer to a New Approach to Language". In: *Nordlyd* 36, pp. 1–6.
- (2018). "Complex Left Branches, Spellout, and Prefixes". In: *Exploring Nanosyntax*. Ed. by Lena Baunaz et al. Oxford: Oxford University Press, pp. 239–249. DOI: 10.1093/oso/9780190876746.003.0009.
- Van Riemsdijk, Henk (2006). "Free Relatives". In: *The Blackwell Companion to Syntax*. Ed. by Martin Everaert and Henk van Riemsdijk. 2. Oxford: Blackwell Publishing, pp. 338–382. DOI: 10.1002/9780470996591.ch27.
- Vogel, Ralf (2001). "Case Conflict in German Free Relative Constructions: An Optimality Theoretic Treatment". In: *Competition in Syntax*. Ed. by Gereon Müller

and Wolfgang Sternefeld. Berlin: Mouton de Gruyter, pp. 341–375. DOI: 10 .
1515/9783110829068.341.