Case competition in headless relatives

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List of abbreviations

1	first person
3	third person
ABS	absolutive
ACC	accusative
AN	animate
AUX	auxiliary
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
OBJ	object
OHG	Old High German

PL	plural
PROG	progressive
REL	relativizer
SG	singular
SUBJ	subject

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. I let this follow from what we observe in morphology. 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 (**moravcsik2009**). Consider the two Modern German sentences in (1). What can descriptively be called subjects of the predicate *mag* 'likes' are marked as nominative. What can be described as 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 descriptive subject in the clause. *Den* in *den Schüler* 'the pupil' appears in accusative case, because it is a descriptive 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 descriptive subject in the clause. *Den* in *den Lehrer* 'the teacher' appears in accusative case, because it is the descriptive object of *mag* 'likes'.

(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 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 of 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 descriptive object of *mag* 'likes' in the main clause. The relative pronoun *der* 'that.NOM' appears in nominative case, because it is the descriptive 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 descriptive object of *mag* 'likes'

in the main clause. The relative pronoun *den* 'that.ACC' appears in accusative case, because it is the descriptive 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
the.NOM teacher likes the.ACC student that.ACC he at the
Versteckspiel sucht.
hide-and-seek game searches
'The teacher likes the pupil that he is searching for playing hide-and-seek.'

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

The focus of this dissertation lies on headless relatives. As the name suggests, this type of relative clause lacks a head.[1] I give an example of a headless relative in Gothic in (3). The relative clause is *þan -ei arma* 'who I pity', marked in bold. 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]

[1] This '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, **grosu2003**; Bresnan and Grimshaw 1978; Groos and van Riemsdijk 1981. At this point in the discussion this distinction is not relevant. I return to the issue in Chapter 5.

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

(3) gaarma þan **-ei** **arma**
pity$_{[\text{ACC}]}$ who.ACC -COMP pity$_{[\text{ACC}]}$
'I will pity (him) whom I pity'
(Gothic, Rom. 9:15, adapted from 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 descriptive 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 descriptive 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

pronoun as *þan(a)*.

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

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 in bold. The internal case is dative. The preposition *ana* 'on' takes dative objects, as indicated by the subscript on the preposition. The external case is accusative. The predicate *ushafjands* 'picking up' takes accusative objects, indicated by the subscript on the predicate. The relative pronoun *þamm(a)* appears in dative. This dative can only come from the preposition *ana* 'on'. The dative is the internal case here.

(4) 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, adapted from Harbert 1978: 343)

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

Now consider the example in (5), in which the internal case is accusative and the external case is dative. The relative clause *þammei qiþiþ þiudan Iudaie* 'whom you call King of the Jews' is marked in bold. The internal case is accusative. The predicate *qiþiþ* 'say' takes accusative objects, as indicated by the subscript on the predicate. The external case is dative. The predicate *taujau* 'do' takes dative indirect objects, as indicated by the subscript on the predicate. The relative pronoun *þamm(a)* appears in the dative case. This dative can only come from the predicate *taujau* 'do'. The dative is the external case here.

(5) hva nu wileiþ ei taujau þamm **-ei qiþiþ 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, adapted from Harbert 1978: 339)

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

The examples in (4) and (5) have shown that the relative pronoun in headless relatives can take either the internal or the external case. In the examples, the pred-

icates (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 *taujau* 'do' (5) in 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 the descriptive 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 question regarding this phenomenon. The first one is which case is going to win the case competition, i.e. which case surfaces. I discuss this in Part I. The second question is whether both competitors are able to compete in the competition, i.e. whether one of the cases is surfacing or both are ungrammatical. I discuss this in Part II. For

both I will show that morphology is leading. What we observe in syntax is a reflex of the morphology.

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 accessiblity 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 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

As the name suggests, headless relatives are relative clauses that lack an (overt) head. The internal case, the case from the relative clause, and the external case, the case from the main clause, compete to surface on the relative pronoun. The two competing cases always adhere to particular case scale (**grosu2003**; cf. Caha, 2019; Harbert, 1978; Pittner, 1995; Vogel, 2001). This scale is given in (1). Elements more on the right on this scale win over elements more on the left of this scale.[1]

(1) NOM < ACC < DAT

This can be reformulated as follows. In a competition, dative wins over accusative,

[1] I leave the genitive aside. In Section 2.4 I motivate why.

and dative wins over nominative. Additionally, accusative wins over nominative. In this section I illustrate this scale with examples. The relative pronoun always appears in the case more to the right on the case scale. It does not matter whether it is the internal or the external case.

I start with the competition between dative and accusative. Following the case scale in (1), the relative pronoun appears in dative case and never in accusative. The examples are repeated from the introduction.

Consider the example in (2), repeated from the introduction. In this example, the internal case is dative and the external case is accusative. The internal case is dative. The preposition *ana* 'on' takes dative complements. The external case is accusative. The predicate *ushafjands* '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.

(2) 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, adapted from Harbert 1978: 343)

Consider the example in (3), repeated from the introduction. In this example, the internal case is accusative and the external case is dative. The internal case is accusative. The predicate *qiþiþ* '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.

(3) hva nu wileiþ ei taujau þamm **-ei qiþiþ 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, adapted from Harbert 1978: 339)

I continue with the competition between dative and nominative. Following the case

scale in (1), the relative pronoun appears in dative case and never in nominative.

Consider the example in (4), in which the internal case is nominative and the external case is dative. The relative clause, excluding the relative pronoun, is marked in bold. The internal case is nominative. The predicate *sind fraþjaiþ* 'are above' takes a nominative subject. The external case is dative. The predicate *fraþjaiþ* '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.

(4) þaim **-ei iupa sind** fraþjaiþ
what.DAT -COMP above are$_{[NOM]}$ think on$_{[DAT]}$
'set your mind on those which are above'
(Gothic, Col. 3:2, adapted from Harbert 1978: 339)

Consider the example in (5), in which the internal case is dative and the external case is nominative. The relative clause, including the relative pronoun, is marked in bold. 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.

(5) iþ **þamm -ei leitil fraletada** leitil frijod
but who.DAT -COMP ittle is forgiven$_{[DAT]}$ little loves$_{[NOM]}$
'but the one whom little is forgiven loves little'
(Gothic, Luke 7:47, adapted from Harbert 1978: 342)

I finish with the competition between accusative and nominative. Following the case scale in (1), the relative pronoun appears in accusative case and never in nominative.

Consider the example in (6), in which the internal case is nominative and the external case is accusative. The relative clause, excluding the relative pronoun, is marked in bold. 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.

(6) 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, adapted from Harbert 1978: 357)

Consider the example in (7), in which the internal case is accusative and the external case is nominative. The relative clause, including the relative pronoun, is marked in bold. 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.

(7) **þan -ei frijos** siuks ist
who.ACC -COMP love$_{[ACC]}$ sick is$_{[NOM]}$
'the one whom you love is sick'
(Gothic, John 11:3, adapted from Harbert 1978: 342)

A summary of the Gothic data as a whole 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. The diagonal is left blank, because these are instances in which the internal and external case match. 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 gray. The unattested examples are marked with an asterix

and are unmarked.[2]

Table 2.1: Case competition in Gothic headless relatives

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

The three instances in the lower left corner correspond to the examples (7), (5) and (3). In the attested examples, the relative pronoun appears in the internal case. The three instances in the upper right corner correspond to the examples in (6), (4) and (2). In the attested examples, the relative pronoun appears in the external case.

Table 2.2: Summary of Gothic matching headless relative data

	[NOM]	[ACC]	[DAT]
[NOM]		ACC	DAT
[ACC]	ACC		DAT
[DAT]	DAT	DAT	

To sum up, case competition in headless relative is subject to the case scale, repeated in (8).

[2]Throughout 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.

(8) NOM < ACC < DAT

If two cases compete, dative wins over accusative and nominative, and accusative wins over nominative. In this section I gave examples from Gothic that illustrate this.

In the remainder of this chapter I show that headless relatives in Gothic are not the only place where the case scale shows up. Instead, it appears with more morphosyntactic phenomena. Moreover, exactly this scale is also reflected in morphophonology.

2.2 Two implicational hierarchies

In this section I discuss two additional phenomena in morphosyntax that reflect the NOM < ACC < DAT scale. Both are implicational hierarchies. The first one is about agreement, the second one is about relativization. These phenomena show that the pattern in Gothic headless relatives is not something that stands on itself. The scale is a pattern that reoccurs across languages and across different phenomena. Therefore, it should not be treated as an exception with its own stipulated rule. Instead, it is something general that should also follow from general processes in languages.

2.2.1 Agreement

Agreement can be seen as "a systematic covariance between a semantic or formal property of one element and a formal property of another" (Steel, 1978). Put differently, the shape of one element changes according to some properties of an element it relates to. In this section I discuss the agreement between a predicate and its arguments.

It differs per language with how many of its arguments a predicate agrees. However, it is not random with which agreement takes place. Instead, there is a implicational hierarchy that is identical to the one observed for headless relatives in Gothic: NOM < ACC < DAT.

Moravcsik (1978) formulated the implicational hierarchy in terms of grammatical functions subject, direct object and indirect object.[3] The hierarchy is schematically represented in Figure 2.1. It should be read as follows: if a language allows the predicate to agree with the argument in a particular circle, it also allows the predicate to agree with the argument in the circle around it.

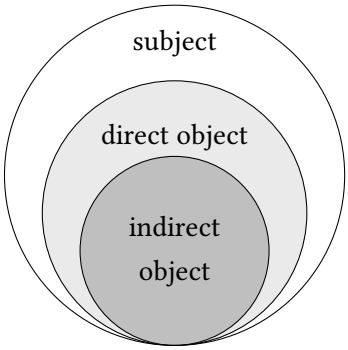


Figure 2.1: Moravcsik's 1978 schema

Then, there are four types of languages possible: first, a language that does not show any agreement; second, a language that shows agreement only with the subject and not with the direct and indirect object; third, a language that shows agreement with the subject and direct object but not with the indirect object; and fourth, a language that shows agreement with the subject, the direct object and the indirect object.

The implicational hierarchy holds for languages, not for sentences. That is, it is not the case that in a language of a particular type all instances of the grammatical function show agreement. To be more precise, in a language of the second type, that only shows agreement with the subject, not all subjects have to show agreement. Particular types of subject, such as experiencer subjects often do not show any agreement.

Japanese is an example of a language that does not show any agreement on the predicate. An example is given in (9). The predicate *okutta* 'sent' does not agree

[3] Moravcsik (1978) also included adverbs on the lowest end of the hierarchy. I leave them out here, because they are not relevant for the discussion.

with the subject *Tarooga* 'Taro', with the direct object *nimotuo* 'package' or with the indirect object *Hanakoni* 'Hanako'.

(9) Taroo-ga Hanako-ni nimotu-o okutta.
Taro-NOM Hanako-DAT package-ACC sent
'Taro sent Hanako a package.' (Japanese, Miyagawa and Tsujioka 2004: 5)

German is an example of a language that can show agreement with the subject of the clause. An example is given in (10). The predicate *gibst* 'give' contains the morpheme *-st*, marked in bold. 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'.

(10) 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 can show agreement with the subject and the direct object of a clause. An example is given in (11). The predicate *adom* 'give' contains the morpheme *-om*, marked in bold. This is a portmonteau 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'.

(11) (Én) neked ad **-om** a könyv -et
I you.DAT.SG give -1SG.SUBJ>3.OBJ the book -ACC
'I give you the book.' (Hungarian, András Bárány p.c.)

Basque is an example of language that can show agreement with the subject, the direct object and the indirect object. Basque is an ergative-absolutive language, so in transitive clauses subjects are marked as ergative and objects are marked as absolutive. An example from the Bizkaian dialect is given in (12). The stem of the auxiliary *aus* combines with the morphemes *d-*, *-ta* and *-zu*, marked in bold. The morpheme *d-* is the agreement morpheme for third person singular as direct objects,

which is here *liburua* 'the book'. The morpheme *-ta* is the agreement morpheme for first person singular indirect objects, which is here *niri* 'me'. The morpheme *-zu* is the agreement morpheme for second person singular ergative subjects, which is here *zuk* 'you'.

(12) Zu-k ni-ri liburu-a emon **d** -aus **-ta** **-zu**.
you-ERG me-DAT book-DEF.ABS given ABS.3SG -AUX -DAT.1SG -ERG.2SG
'You gave me the book.'
(Bizkaian Basque, adapted from Arregi and Molina-Azaola 2004: 45)

Putting the languages in Moravcsik's (1978) figure gives the following result.

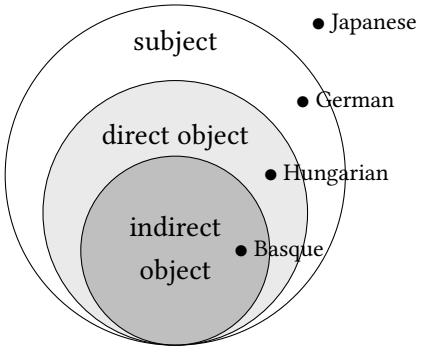


Figure 2.2: Moravcsik's 1978 schema with languages

Gilligan (1987) performed a typological study among 100 genetically and areally diverse languages, which confirms the picture. The results are shown in Table 2.3. There are 23 languages that do not show any agreement, like Japanese. There are 31 languages that show agreement only with the subject and not with the direct and indirect object, like German. There are 25 languages that show agreement with the subject and direct object but not with the indirect object, like Hungarian. There are 23 languages that show agreement with the subject, the direct object and the indirect object, like Basque.

Table 2.3: Agreement accessibility

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

It is often the case that subjects appear in nominative case, and that direct objects appear in accusative. However, this is not always the case. Subjects can be non-nominative and direct objects can be non-accusative. Bobaljik (2006) argues that the implicational hierarchy is more accurate if it is stated in terms of case rather than grammatical function. He argues for the picture shown in (12).[4]

[4] Actually, Bobaljik (2006) also includes ergative-absolutive languages, and argues for the picture in Figure 2.3. Default case can be nominative or absolutive case (in transitive clauses), and dependent case can be accusative and ergative case.

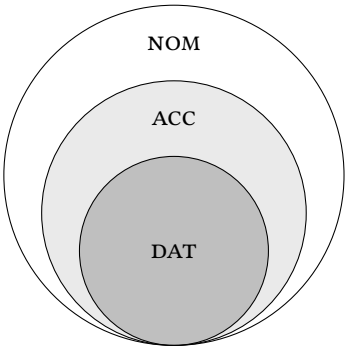


Figure 2.4: Bobaljik's 2006 simplified schema

Bobaljik gives examples of situations in which grammatical function and morphological case do not match. In these situations, case seem to be capture the facts for the implicational hierarchy, and grammatical function does not. I give two examples from Icelandic that illustrate this point.

Icelandic is a language that has dative subjects. If agreement takes place with the grammatical subject, it is expected that the dative subject agrees with the predicate. This is not what happens, as illustrated in (13). The dative subject *morgum studentum* 'many students' is plural. The sentence is ungrammatical with the predicate *líka* 'like' inflecting for plural as well. So, the dative subject does not agree in

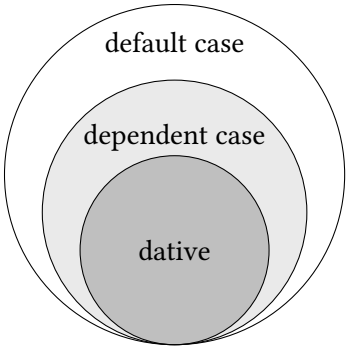


Figure 2.3: Bobaljik's 2006 actual schema

In the languages I discuss in this dissertation, I focus on languages that have nominative as default case and accusative as dependent case, so Figure (12) suffices.

number with the predicate. In other words, it is not the grammatical subject that shows agreement.

(13) *Morgum studentum líka verkið.
many students.DAT like.PL job.NOM
'Many students like the job.' (Harley 1995: 208)

Instead, it is the nominative object that agrees with the verb. This is illustrated in (14). The dative subject *konunginum* 'the king' is singular. The nominative object *ambáttir* 'slaves' is plural. The predicate *voru* 'were' is inflected for plural, agreeing with the nominative object. This is expected if morphological case determines agreement: it is the nominative that shows agreement. The grammatical role, the fact that this nominative is an object, does not influence agreement.

(14) Um veturinn voru konunginum gefnar ambáttir
In the.winter were.PL the.king.DAT given slaves.NOM
'In the winter, the king was given (female) slaves.'
(Zaenen, Maling, and Thráinsson 1985: 112)

In conclusion, agreement follows the same implicational hierarchy as the case scale in headless relatives: NOM < ACC < DAT.

2.2.2 Relativization

Relativization refers to the process in which a relative clause is derived from a non-relative clause. An example of the non-relative clause is given in (15a). The relative clause derived from that is shown in (15b). The head of the relative clause is *the woman* and precedes the clause. The optional relative pronoun follows the head. The head of the head does not appear in the relative clause anymore.

(15) a. You like the woman.
b. **the woman**, (who) you like

In (15b), it is the object of the clause that is relativized. It differs per language which elements can be relativized with a particular strategy. Just like the distribution was

not random for agreement, it is not random which elements can be relativized. Instead, there is a implicational hierarchy that is identical to the one observed for the case scale: NOM < ACC < DAT.

Keenan and Comrie (1977) formulated the implicational hierarchy in terms of the grammatical functions subject, direct object and indirect object.[5] The implicational hierarchy is schematically represented in Figure 2.5. It should be read as follows: if a language allows a particular relativization strategy of the grammatical function in a particular circle, it also allows this relativization strategy of the grammatical function of the circle around it. The languages in the figure give examples of the circles they are in.

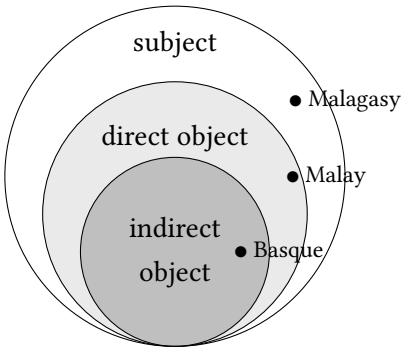


Figure 2.5: Schema for relativization

There are four types of languages possible: first, a language that allows only the subject to be relativized with a particular strategy and not the direct and indirect object; second, a language that allows the subject and direct object to be relativized with a particular strategy but not the indirect object; and third, a language that allows the subject, the direct object and the indirect object to be relativized with a particular strategy.

Malagasy is an example of a language that allows subjects to be relativized using a particular strategy, but not direct and indirect objects.[6]

[5] Keenan and Comrie (1977) also included obliques, possessives and objects of comparison on the lowest end of the hierarchy. I leave them out here, because they are not relevant for the discussion.

[6] Later I draw the parallel between subject and nominative, direct object and accusative and indirect object and dative (after Caha, 2009). As Malagasy does not have any overt morphological system,

(16) is an example of a declarative sentence in Malagasy. It is a transitive sentence that contains the subject *ny mpianatra* 'the student' and the direct object *ny vehivavy* 'the woman'.

(16) Nahita ny vehivavy ny mpianatra.
saw the woman the student
'The student saw the woman.' (Malagasy, Keenan and Comrie 1977: 70)

In (17), the subject from the declarative sentence, marked in bold, is relativized. The

it does not hold that the subject corresponds to the nominative in this case. German is another example of a language that allows subjects to be relativized using a particular strategy, but not direct and indirect object. This strategy is the participle construction. (i) is an example of a declarative sentence in German. It is a transitive sentence that contains the subject *die Frau* 'the woman' and the object *der Mann* 'the man'.

(i) Die Frau küsst den Mann.
the woman kisses the man
'The woman is kissing the man.' (German)

In (ii), the subject from the declarative sentence *die Frau* 'the woman', marked in bold, is relativized. The predicate form the declarative clause *küsst* 'kisses' is turned in into the participle *küssende* 'kissing'. The participle appears at the end of the relative clause *den Mann küssende* 'the man kissing'. The relative clause directly precedes the noun of the subject, creating distance between the determiner *die* 'the' and *Frau* 'woman'.

(ii) **die** den Mann küssende **Frau**
the the man kissing woman
'the woman who is kissing the man' (German)

The object of (i) *den Man* 'the man', marked in bold, cannot be relativized in the same way, as shown in (iii). Again, the predicate form the declarative clause *küsst* 'kisses' is turned in into the participle *küssende* 'kissing'. The participle appears at the end of the relative clause *die Frau küssende* 'the woman kissing'. The relative clause directly precedes the noun of the object, creating distance between the determiner *der* 'the' and *Mann* 'man'. This example is ungrammatical.

(iii) *__den__ die Frau küssende **Mann**
the the woman kissing man
'the man who is kissing the woman' (German)

subject *ny mpianatra* 'the student' appears in the first position of the clause. It is followed by the invariable relativizer *izay* 'that'. After that, the rest of the relative clause follows, in this case *nahita ny vehivavy* 'saw the woman'.

(17) **ny mpianatra** izay nahita ny vehivavy
the student that saw the woman
'the student that saw the woman'
(Malagasy, Keenan and Comrie 1977: 70, my boldfacing)

The object of (16) cannot be relativized in the same way, as shown in (18). Here the object *ny vehivavy* 'the woman', marked in bold, appears in the first position of the clause. It is again followed by the relativizer *izay* 'that' and the rest of the relative clause, which is here *nahita ny mpianatra* 'saw the student'. This example is ungrammatical.

(18) *__ny vehivavy__ izay nahita ny mpianatra
the woman that saw the student
'the woman that the student saw'
(Malagasy, Keenan and Comrie 1977: 70, my boldfacing)

Malay is an example of a language that has a relativization strategy for subjects and direct objects, but not for indirect objects. (19) shows an example in which the object is relativized. The object here is *ayam* 'chicken', marked in bold. It is followed by the relativizer *yang* 'that'. After that, the rest of the relative clause *Aminah sedang memakan* 'Aminah is eating' follows. The same strategy works to relativize subjects.

(19) 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, my boldfacing)

Indirect objects cannot be relativized using the same strategy. (20) is an example of a ditransitive sentence in Malay. The indirect object *kapada perempuan itu* 'to the woman' cannot be relativized using *yang*.

(20) Ali beri ubi kentang itu kapada perempuan itu.
Ali give potato the to woman the
'Ali gave the potato to the woman.' (Malay, Keenan and Comrie 1977: 71)

This is illustrated by the examples in (21). In (21a), the direct object *perempuan kapada* 'to the woman', marked in bold, appears in the first position of the clause. It is followed by the relativizer *yang* 'that' and the rest of the relative clause *Ali beri ubi kentang itu* 'Ali gave the potato to'. This example in ungrammatical. The example in (21b) differs from (21) in that the preposition *kapada* 'to' has been stranded in the relative clause. This example is ungrammatical as well, indicating this was not the reason for the ungrammaticality.

(21) a. *__perempuan kapada__ yang Ali beri ubi kentang itu
woman to who Ali give potato that

b. *__perempuan__ yang Ali beri ubi kentang itu kapada
woman that Ali give potato the to
(Malay, Keenan and Comrie 1977: 71, my boldfacing)

Basque is an example of a language that has a particular relativization strategy for subjects, direct objects and indirect objects. (22) is an example of a declarative ditransitive sentence in Basque. The sentence contains the subject *gizonak* 'the man', the direct object *liburua* 'the book' and the indirect object *emakumeari* 'the woman'.

(22) Gizon-a-k emakume-a-ri liburu-a eman dio.
man-DEF-ERG woman-DEF-DAT book-DEF.ABS give has
'The man has given the book to the woman.'
(Basque, Keenan and Comrie 1977: 72)

A relative clause in Basque appears in the prenominal position and it is marked by the invariable marker *-n*.[7] (23a) shows the four relativizations that are derived from (22). In (23a), the ergative subject *gizonak* 'the man' from (22) is relativized. The head *gizona* 'the man', marked in bold, has lost its ergative marker *-k*, and follows

[7] additionally, the relativized positions do not appear in verbal agreement anymore, but this not visible in the example, because they are all phonologically zero.

the relative clause *makumeari liburua eman dio* 'who has given the book to the woman'. The suffix *-n* is attached to the relative clause. In (23b), the absolutive direct object *liburua* 'the book' from (22) is relativized. The head *liburua* 'the book', marked in bold, follows the relative clause *gizonak emakumeari eman dion* 'that the man has given to the woman'.[8] The suffix *-n* is attached to the relative clause. In (23c), the dative indirect object *emakumeari* 'the woman' from (22) is relativized. The head *emakumea* 'the man', marked in bold, has lost its dative marker *-ri*, and follows the relative clause *gizonak liburua eman dion* 'that the man has given the book to'. The suffix *-n* is attached to the relative clause.

(23) a. emakume-a-ri liburu-a eman dio-n **gizon-a**
woman-DEF-DAT book-DEF.ABS give has-REL man-DEF
'the man who has given the book to the woman'

b. 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'

c. gizon-a-k liburu-a eman dio-n **emakume-a**
man-DEF-ERG book-DEF.ABS give has-REL woman-DEF
'the woman that the man has given the book to'

(Basque, Keenan and Comrie 1977: 72, my boldfacing)

Caha 2009 restates the implicational hierarchy in terms of case. Subject corresponds to nominative, direct object corresponds to accusative, and indirect object corresponds to dative. Again, the case scale NOM < ACC < DAT can be observed.

2.3 Case in morphology

In the two previous sections I showed that the case scale NOM < ACC < DAT can be observed in three morphosyntactic phenomena. First, it shows up in case competition in headless relatives. Second, the case scale forms the basis for the implicational hierarchy observed in agreement across languages. Third, the identical implicational

[8] The absolutive direct object *liburua* 'the book' does not have an additional overt absolutive marker, so this difference cannot be observed when it is relativized.

holds for relativization strategies cross-linguistically.

In this section, I show that this same case scale also shows up in morphophonology. First, syncretism only targets continuous regions on the case scale. Second, several languages show formal containment that mirrors the case scale.

2.3.1 Syncretism

Syncretism refers to the phenomenon whereby two or more different functions are fulfilled by a single form (cf. Baerman, Brown, and Corbett, 2002). In this section I show that syncretism patterns among nominative, accusative and dative are not random. Instead, they pattern along the case scale NOM < ACC < DAT.

It has been widely established that syncretism only targets continuous elements and not non-continuous ones along the ordering NOM — ACC — DAT (Baerman, Brown, and Corbett, 2005; Caha, 2009; McFadden, 2018; Smith et al., 2019; Zompì, 2017). That means four possible patterns are crosslinguistically attested. First, all three cases are syncretic. Second, nominative and accusative are syncretic and the dative is not. Third, the accusative and the dative are syncretic and the nominative is not. Fourth, all cases are non-syncretic. There is one pattern that is not possible, because it does targets non-continuous regions: nominative and dative are syncretic and accusative is not. This pattern is not attested crosslinguistically.

Table 2.4: Syncretism patterns

pattern			NOM	ACC	DAT	translation	language
A	A	A	jullie	jullie	jullie	2PL	Dutch
A	B	B	við	okkur	okkur	1PL	Icelandic
A	A	B	sie	sie	ihr	3SG.F	German
A	B	C	tú	teg	tær	2SG	Faroese
A	B	A					not attested

I give examples from different Germanic languages.
decribe the examples in the table
Icelandic: Einarsson 1949: 68

say that this also works for gothic give the examples there only the full syncretism is not attested

(24) NOM < ACC < DAT

2.3.2 Morphological containment

Nikolaeva 1999: 16

Table 2.5: Case containment in Khanty

	1SG	3SG	1PL
NOM	ma	luw	muŋ
ACC	ma**ː-neːm**	luw-**eːl**	muŋ-**eːw**
DAT	ma**ː-neːm**-na	luw-**eːl**-na	muŋ-**eːw**-na

Boretzky 1994: 31-46

Table 2.6: 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 2.7: Case containment in West Tocharian

	'horses'	'men'
NOM	yakwi	eṅkwi
ACC	yakwe-**ṃ**	eṅkwe-**ṃ**
DAT	yäkwe-**ṃ**-ts	eṅkwe-**ṃ**-ts

(25) NOM < ACC < DAT

2.4 Excluding 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 hierachy. 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

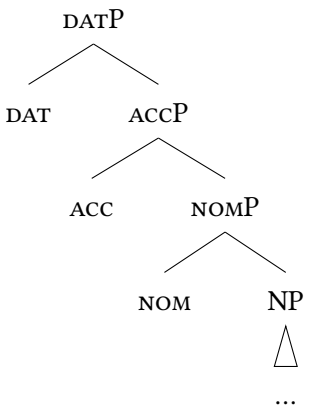
3.2 Morphology

3.2.1 Case decomposition

morphological containment

how can we account for that? well, all these morphemes have their own heads

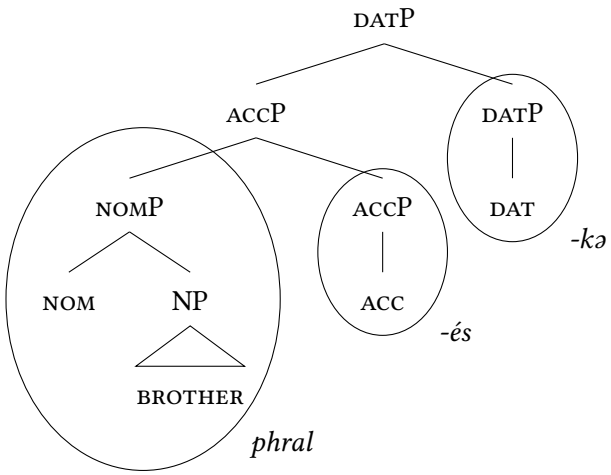
(1)



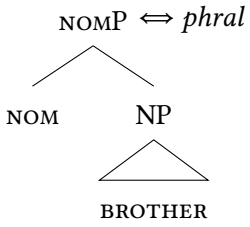
(2) phral -és -kə
brother.NOM -ACC -DAT

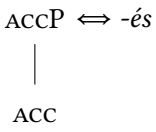
(Kalderaš Romani, Boretzky 1994: 31-46)

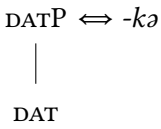
(3)



how to deal with it that *phral* spells out brother and nominative, so spells out phrases already..

(4) a. 

b. 

c. 

this is how this works in nanosyntax

3.2.2 Phrasal spellout

but what about the syncretism patterns?

we want to start out with the same syntax

with phrasal spellout, we spell out multiple heads at once

this is how that works in nanosyntax

3.3 Ellipsis

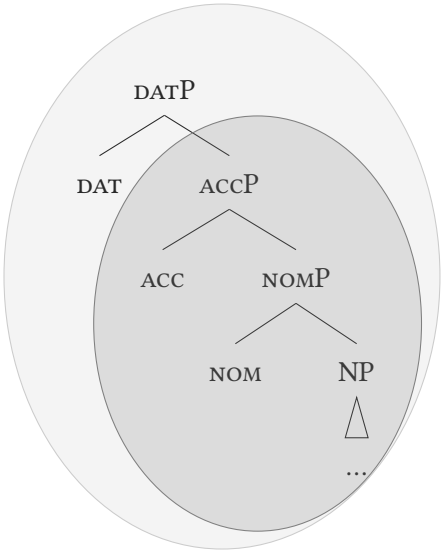
Ellipsis targets phrases

it does not delete elements one by one

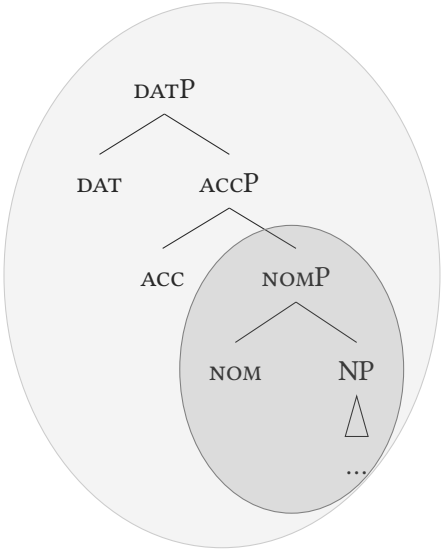
3.4 Reflex of morphology in syntax

3.4.1 Morphology

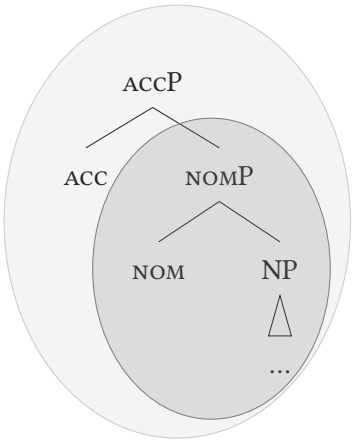
(5)



(6)



(7)



3.4.2 Syntax

Table 3.1: DATP deletes ACCP

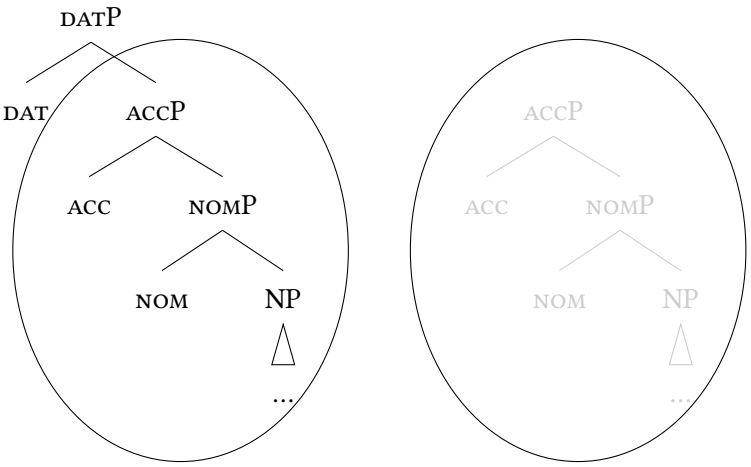


Table 3.2: DATP deletes NOMP

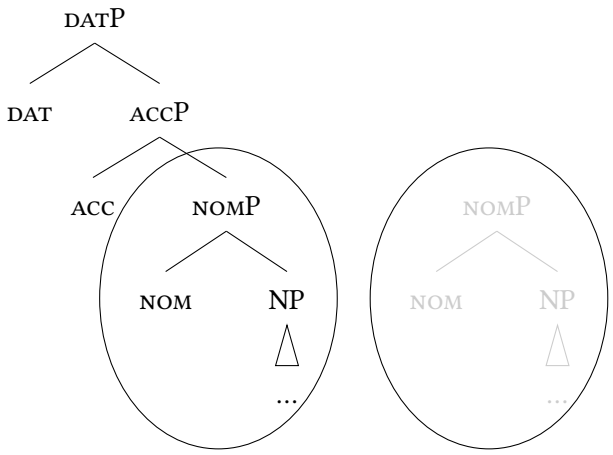
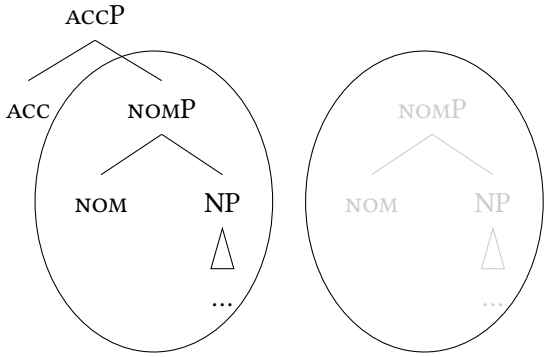


Table 3.3: ACCP deletes NOMP



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]		ACC *NOM	DAT *NOM
[ACC]	*NOM ACC		DAT *ACC
[DAT]	*NOM DAT	*ACC DAT	

4.1.2 Only from external: Old High German

(1) INT:NOM, EXT:ACC

a. NOM not attested

b. 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

a. NOM not attested

b. 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

a. ACC not attested

b. NOM not attested

(4) INT:ACC, EXT:DAT

a. ACC not attested

b. istû furira Abrâhame, ouh [thên man hiar nû
are you superior$_{[\text{DAT}]}$ to Abraham also who.DAT one here now
zalta]?
named$_{[\text{ACC}]}$
'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	ACC *NOM	DAT *NOM
[ACC]	*NOM *ACC	ACC	DAT *ACC
[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-az̨	d-ër	d-iu
ACC	d-az̨	d-ën	d-ea/-ia/(-ie)
DAT	d-ëmu/-ëmo	d-ëmu/-ëmo	d-ëru/-ëro
	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?

4.3.1 All allow for matching ones

First, I discuss the matching headless relatives, in which the internal and external case match.

Consider the example in (14), 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 *þan(a)* 'who.ACC' appears in the accusative.

(14) 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 (15), 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 *gadauþnai* 'die' takes nominative subjects. The relative pronoun *sa* 'who.NOM' appears in the nominative.

(15) ei sa -ei þis matjai, ni gadauþnai
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 (16), 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.

(16) 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 sweriþa sweriþa
who.DAT -COMP honour$_{[DAT]}$ honour$_{[DAT]}$
'honour (him) whom honour is due'

(Gothic, Rom. 13:7, after Harbert 1978: 339)

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 case which is the internal and external case. The nominative is given in (15), the accusative in (14), and the dative in (16).

Table 4.9: Summary of Gothic matching headless relative data

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

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

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