Case competition in headless relatives

Fenna Bergsma

April 21, 2020

Contents

List of tables

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
GEN	genitive
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 (cf. Moravcsik, 2009). 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, 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.

[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 recurring pattern

This chapter introduces the pattern that forms the focus of the first part of the dissertation. In Section 2.1 I show that case competition in headless relatives adheres to the case scale in (1).

(1) NOM < ACC < DAT

Then I show that this pattern is not unique to headless relatives. It appears in more syntactic and morphological phenomena. Section 2.2 discusses two implicational hierarchies that show the same case ordering. The hierarchies concern agreement and relativization across languages. Section 2.3 shows that the case scale also shows up in morphological patterns. It can be observed in patterns of syncretism and in morphological containment.

2.1 Case competition in 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. It has been argued in the literature that the two competing cases always adhere to particular case scale (cf. Harbert, 1978; Pittner, 1995; Vogel, 2001; Grosu, 2003; Bergsma, 2019; Caha, 2019). This scale is given in (2). Elements more on the right on this scale win

over elements more on the left of this scale.[1]

(2) NOM < ACC < DAT

This can be reformulated as follows. In a competition, dative wins over accusative, and dative wins over nominative. Additionally, accusative wins over nominative. In this section I illustrate this scale with examples. When two cases compete, 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 illustrate this with examples from headless relatives in Gothic (Harbert, 1978).

I start with the competition between dative and accusative. Following the case scale in (2), the relative pronoun appears in dative case and never in accusative. The examples are repeated from the introduction.

Consider the example in (3), repeated from the introduction. In this example, the internal case is dative and the external case is accusative. The relative clause and the relative pronoun are marked in bold. 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.

(3) 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 (4), repeated from the introduction. In this example, the internal case is accusative and the external case is dative. The relative clause is marked in bold, the relative pronoun is not. 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

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

accusative case, the internal case is accusative and the external case is dative, are unattested.

(4) 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 (2), the relative pronoun appears in dative case and never in nominative.

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

Consider the example in (6), in which the internal case is nominative and the external case is dative. The relative clause is marked in bold, the relative pronoun is not. 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.

(6) 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)

I finish with the competition between accusative and nominative. Following the case scale in (2), the relative pronoun appears in accusative case and never in nominative.

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

Consider the example in (8), in which the internal case is nominative and the external case is accusative. The relative clause is marked in bold, the relative pronoun is not. 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.

(8) 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)

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 (4). 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 (8), (6) and (3). In the attested examples, the relative pronoun appears in the external case.

To sum up, case competition in headless relative is subject to the case scale, repeated in (9).

(9) NOM < ACC < DAT

[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.

Table 2.2: Summary of Gothic matching headless relative data

	[NOM]	[ACC]	[DAT]
[NOM]		ACC	DAT
[ACC]	ACC		DAT
[DAT]	DAT	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. As I mentioned in the introduction of this section, this case scale is not specific for Gothic, but it holds across languages (cf. see Pittner 1995 for Modern, Middle High and Old High German, Grosu 2003 for Ancient Greek and Daskalaki 2011 for Modern Greek).[3]

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

2.2 Two implicational hierarchies

In this section I discuss two additional syntactic phenomena that reflect the NOM < ACC < DAT scale. The first one is an implicational hierarchy that concerns agreement. The second one is an implicational hierarchy about relativization.

[3]These languages differ from Gothic in that they are subject to an additional constraint. That is, they only allow either the internal or the external case to win case competitions. If the other case is more to the right on the case scale (9), the result is ungrammatical. Old High German is an example of a language that only allows the external case to win the case competition. If the internal case is more to the right on the case scale, the headless relative is ungrammatical. Modern German is an example of a language that only allows the internal case to win the case competition. If the external case is more to the right on the case scale, the headless relative is ungrammatical. This topic is the main focus of Part I of this dissertation.

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 an implicational hierarchy that is identical to the one observed for headless relatives: NOM < ACC < DAT.

Moravcsik (1978) formulated the implicational hierarchy in terms of grammatical functions subject, direct object and indirect object.[4] 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.

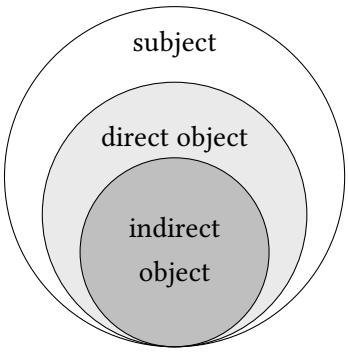

Figure 2.1: Moravcsik's 1978 schema

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

[4]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.

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 (10). The predicate *okutta* 'sent' does not agree with the subject *Tarooga* 'Taro', with the direct object *nimotuo* 'package' or with the indirect object *Hanakoni* 'Hanako'.

(10) 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 (11). 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'.

(11) 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 (12). 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'.

(12) (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 (13). 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'.

(13) 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.

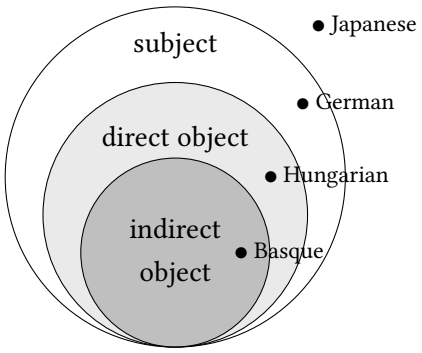

Figure 2.2: Moravcsik's 1978 schema with languages

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 (13).[5]

Bobaljik gives examples of situations in which grammatical function and mor-

[5] 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.

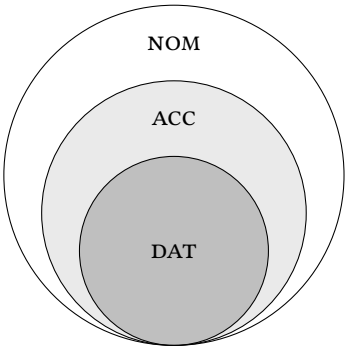

Figure 2.4: Bobaljik's 2006 simplified schema

phological case do not match. In these situations, case seem to 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 (14). 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 number with the predicate. In other words, it is not the grammatical subject that

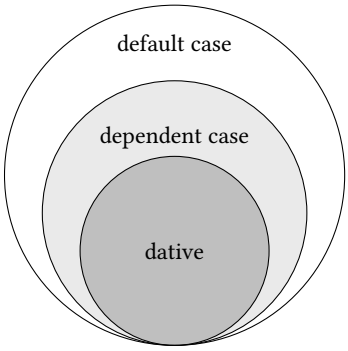

Figure 2.3: Bobaljik's 2006 actual schema

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 (13) suffices.

shows agreement.

(14) *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 (15). 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.

(15) 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 (16a). The relative clause derived from that is shown in (16b). 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.

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

In (16b), 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. In-

stead, there is an 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.[6] 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.

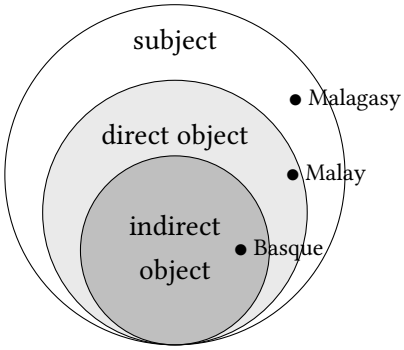

Figure 2.5: Schema for relativization

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. (17) 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'.

[6] 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.

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

In (18), the subject from the declarative sentence, marked in bold, is relativized. The 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'.

(18) **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 (17) cannot be relativized in the same way, as shown in (19). 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.

(19) *__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)

Later in this section 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, 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 (Keenan and Comrie, 1977). (20) 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'.

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

In (21), 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'.

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

The object of (20) *den Man* 'the man', marked in bold, cannot be relativized in the same way, as shown in (22). 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.

(22) *__den__ die Frau küssende **Mann**
the the woman kissing man
'the man that the woman is kissing' (German)

Malay is an example of a language that has a relativization strategy for subjects and direct objects, but not for indirect objects. (23) 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, which is not illustrated with an example.

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

(24) 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 (25). In (25a), 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 kapada* 'Ali gave the potato to'. This example in ungrammatical. The example in (25b) differs from (25a) in that the preposition *kapada* 'to' has been moved such that it precedes the relativizer *yang* 'that'. This example is ungrammatical as well, indicating this was not the reason for the ungrammaticality.

(25) a. *__perempuan__ yang Ali beri ubi kentang itu kapada
woman that Ali give potato the to
b. *__perempuan kapada__ yang Ali beri ubi kentang itu
woman to who Ali give potato that
(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. (26) 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'.

(26) 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] (27a) shows the three relativizations that are derived from (26). In (27a), the ergative subject *gizonak* 'the man' from (26) is relativized. The head *gizona* 'the man', marked in bold, has lost its ergative marker *-k*, and follows 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 (27b), the absolutive direct object *liburua* 'the book' from (26) 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 (27c), the dative indirect object *emakumeari* 'the woman' from (26) 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.

(27) 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.

[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.

[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.

2.3 Case in morphology

In the two previous sections I showed that the case scale NOM < ACC < DAT can be observed in three syntactic 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 holds for relativization strategies cross-linguistically.

In this section, I show that this same case scale also shows up in morphology. 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 widely been established that syncretism is restricted by the linear sequence NOM — ACC — DAT (Baerman, Brown, and Corbett, 2005; Caha, 2009; Zompì, 2017) (and see McFadden 2018; Smith et al. 2019 for similar claims concerning root suppletion). That is, if one orders cases in this linear sequence, only contiguous regions in the sequence can be syncretic. Following that, four possible patterns are attested crosslinguistically. 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 does not target continuous regions, but non-contiguous ones: nominative and dative are syncretic and accusative is not. This pattern is not attested crosslinguistically. In other words, there is no ABA pattern (in which a form B intervenes between the two identically formed As) (Bobaljik, 2012).

Table 2.4 shows examples for each of these possible patterns. I give an example from a syncretism between nominative, accusative and dative from Dutch. The second person plural pronoun is *jullie* 'you.PL' is syncretic between nominative, accusative and dative. I give an example from a syncretism between nominative and accusative but not dative from German. The third person singular feminine *sie*

'she/her' is syncretic between nominative and accusative. The dative has a separate form: *ihr* 'her'. I give an example from a syncretism between accusative and dative but not nominative from Icelandic. The first person singular plural is *okkur* 'us' is syncretic between accusative and dative. The nominative has a separate form: *við* 'we' (Einarsson 1949: 68). I give an example from three distinct forms from Faroese. The second person singular is *tú* 'you' for nominative, *teg* 'you' for accusative and *tær* 'you' for dative (Lockwood 1977: 70). Crucially, to the best of my knowledge, there is no language in which the nominative and the dative are syncretic but the accusative is not.

Table 2.4: Syncretism in NOM — ACC — DAT

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

In sum, case syncretism follows the ordering of the case scale in headless relatives: NOM < ACC < DAT.

2.3.2 Formal containment

This section shows a second way in which NOM < ACC < DAT is reflected in morphology: formal containment (cf. Caha, 2010; Zompì, 2017; Smith et al., 2019). In some languages, the form that is used for the accusative literally contains the form that is used for the nominative. In turn, the forms for the dative contains the form for the accusative. I illustrate this phenomenon with examples from Khanty.

Khanty (or Ostyak) shows formal containment in some of its pronouns (Nikolaeva 1999: 16 after Smith et al. 2019). Three examples are given in Table 2.5.

The nominative form for the first person singular is *ma* 'I.NOM'. The form for the accusative is *ma:ne:m* 'me'. This is the form for the nominative *ma* plus the

accusative marker *-ne:m*. The form for the dative is *ma:ne:mna* 'me'. This is the form for the accusative *ma:ne:m* plus the dative marker *-na*. So, dative formally contains the accusative, and the accusative formally contains the nominative.

The third person singular and first person plural show the same pattern. The accusative forms *luwe:l* 'him/her' and *muŋe:w* 'us' contain the nominative forms *luw* and the *muŋ* plus the accusative marker *-e:l* or *-e:w*. The dative forms *luwe:lna* 'him/her' and *muŋe:wna* 'us' contain the accusative forms *luwe:l* and *muŋe:w* plus the dative marker *-na*. Again, the dative formally contains the accusative, which in turn contains the nominative.

Table 2.5: 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

Other languages that show this phenomenon are West Tocharian (Gippert, 1987) and Vlakh and Kalderaš Romani (respectively Friedman 1991 and Boretzky 1994).

In sum, some languages morphologically look like NOM-ACC-DAT. This exactly reflects the case scale NOM < ACC < DAT.

2.4 Excluding the genitive

In the literature about headless relatives, the genitive is often discussed together with the nominative, accusative and dative (cf. Harbert, 1978; Pittner, 1995). In this dissertation I do not discuss the genitive. The reason is that I restrict myself to cases that appear in all possible case competition combinations. As the genitive does not fulfill that requirement, it is therefore excluded.

In Gothic headless relatives, there is data available of the genitive in case competition with the accusative. The genitive wins in this competition. I give an example in which the internal case is accusative and the external case is genitive in (28). The relative clause is marked in bold, the relative pronoun is not. The internal case is

accusative. The predicate *gasehvun* 'saw' takes accusative objects. The external case is genitive. The noun *waiht* 'thing' combines with a genitive. The relative pronoun *þiz(e)* 'what.GEN' appears in the external case: the genitive.

(28) ni waiht þiz **-ei** **gasehvun**
not thing$_{[GEN]}$ what.GEN -COMP saw$_{[ACC]}$
'not any of (that) which they saw'
(Gothic, Luke 9:36, adapted from Harbert 1978: 340)

If the internal case is genitive and the external case is accusative, the genitive wins as well. Crucially, there are no attested examples in Gothic of genitives in case competition with nominatives or datives.

The same holds for the two other main languages discussed in this thesis: Modern German and Old High German. In Modern German, case competitions have been reported between all possible case combinations, so also between genitives and nominatives, between genitives and accusatives, and between genitives and datives (cf. Vogel, 2001). The genitive wins over the nominative and the accusative. In a competition between the genitive and the dative neither of them gives a grammatical result. Old High German might show some examples of case competition between genitives and accusatives and genitives and nominative. In these cases, the genitive always wins. No examples of datives against genitives are attested (Behaghel, 1923-1932). In sum, the genitive does not appear in all possible case competition combinations in all three languages, and is therefore excluded.

2.5 Summary

Case competition in headless relatives adheres to the case scale in (29). If the internal and external case differ, cases more on the right of the scale win over cases more to the left on the case.

(29) NOM < ACC < DAT

This case scale is not only found in case competition in headless relatives. Implicational hierarchies regarding two syntactic phenomena appear across languages.

The first one concerns agreement. If a language shows agreement with datives, it also shows agreement with accusatives and nominatives. If a language shows agreement with accusatives, it also shows agreement with nominatives. The second implicational hierarchy concerns relativization. If a dative in a language can be relativized with a particular strategy, an accusative and a nominative can be too using the same strategy. If an accusative can be relativized with a particular strategy, so can a nominative with this strategy.

The case scale also shows up in morphological patterns. First, if the cases are ordered according to the case scale, syncretism only target continuous forms, no ABA pattern appears. Second, some languages show how the dative formally contains accusative, and how the accusative formally contains the nominative.

These phenomena show that the pattern observed in headless relatives is not something that stands on itself. The scale is a pattern that recurs across languages and across different phenomena. Therefore, it should not be treated as an special process with its own stipulated rule. Instead, it is something general that should also follow from general processes in languages.

The next chapter shows how features of the nominative, accusative and dative are organized. All facts presented in this chapter can be derived from the organization of these features.

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.

Baerman, Matthew, Dunstan Brown, and Greville G Corbett (2002). "Surrey syncretisms database". In: DOI: 10.15126/SMG.10/1.

Baerman, Matthew, Dunstan Brown, and Greville G Corbett (2005). *The syntax-morphology interface: A study of syncretism*. Cambridge: Cambridge University Press.

Behaghel, Otto (1923-1932). *Deutsche Syntax: Eine geschichtliche Darstellung*. Heidelberg: Winter.

Bergsma, Fenna (2019). "Mismatches in free relatives — grafting nanosyntactic trees". In: *Glossa: a journal of general linguistics* 4.1. DOI: 10.5334/gjgl.821.

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.

Bobaljik, Jonathan (2012). *Universals In Comparative Morphology*. Cambridge, MA: MIT Press. DOI: 10.7551/mitpress/9069.003.0001.

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 (2009). "The Nanosyntax of Case". PhD thesis. Tromsø: University of Tromsø.

Caha, Pavel (2010). "The parameters of case marking and spell out driven movement". In: *Linguistic variation yearbook* 10.1, pp. 32–77. DOI: 10.1075/livy.10.02cah.

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. DOI: 10.1162/002438905774464331.

Daskalaki, Evangelia (2011). "Case Mis-Matching as Kase Stranding". In: *University of Pennsylvania Working Papers in Linguistics*. Ed. by Lauren A. Friedman. Vol. 17. Philadelphia: Penn Linguistics Club, pp. 77–86.

Einarsson, Stefán (1949). *Icelandic: grammar, texts, glossary*. The Johns Hopkins Press.

Friedman, Victor A (1991). "Romani nominal inflection: Cases or postpositions". In: *Problemy opisu gramatycznego języków słowiańskych, (Studia gramatyczne, Vol. 11)*, pp. 57–63.

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/la.55.07gro.

Harbert, Wayne Eugene (1978). "Gothic syntax: a relational grammar". PhD thesis. Urbana-Champaign: University of Illinois.

Harley, Heidi (1995). "Abstracting away from abstract case". In: *Proceedings-NELS*. Vol. 25. University of Massachusetts. GLSA, pp. 207–222.

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.

Lockwood, William Burley (1977). *An introduction to modern Faroese*. Torshavn: Føroya Skúlabókagrunnur.

McFadden, Thomas (2018). "*ABA in stem-allomorphy and the emptiness of the nominative". In: *Glossa: a journal of general linguistics* 3.1. DOI: 10.5334/gjgl.373.

Miyagawa, Shigeru and Takae Tsujioka (2004). "Argument structure and ditransitive verbs in Japanese". In: *Journal of East Asian Linguistics* 13.1, pp. 1–38. DOI: 10.1023/b:jeal.0000007345.64336.84.

Moravcsik, Edith A. (1978). *Agreement*. Ed. by Charles A. Ferguson Joseph H. Greenberg and Edith A. Moravcsik. Stanford. DOI: 10.2307/413494.

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. DOI: 10.1093/oxfordhb/9780199206476.013.0016.

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.

Smith, Peter W et al. (2019). "Case and number suppletion in pronouns". In: *Natural Language & Linguistic Theory* 37.3, pp. 1029–1101. DOI: 10.1007/s11049-018-9425-0.

Starke, Michal (2009). "Nanosyntax: A Short Primer to a New Approach to Language". In: *Nordlyd* 36, pp. 1–6.

Starke, Michal (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.

Steel, Susan (1978). "Word order variation: A typological study". In: *Universals of Human Language: IV: Syntax*. Ed. by Charles A. Ferguson Joseph H. Greenberg

and Edith A. Moravcsik. Stanford: Stanford University Press, pp. 585–623. DOI: 10.2307/413494.

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.

Zaenen, Annie, Joan Maling, and Höskuldur Thráinsson (1985). "Case and grammatical functions: The Icelandic passive". In: *Natural Language & Linguistic Theory* 3.4, pp. 441–483. DOI: 10.1163/9789004373235_005.

Zompì, Stanislao (2017). *Case decomposition meets dependent-case theories*.