

# The Case of German relatives<sup>1</sup>

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## 1. Introduction

This article discusses relative clauses in different varieties of German, paying special attention to the case of the relative pronoun. It is argued that the possible diachronic and dialectal variation is determined by two conditions, called C-visibility and case visibility, and their interaction.

The article is structured as follows. First some characteristics of Old High German and Middle High German pertaining to relative clauses are described: the relative pronoun may bear a case assigned by the matrix clause (Case attraction) and there are asyndetic relative clauses. Case attraction is shown to obey a condition of case visibility operating on a case hierarchy.

Section 3 deals with relative clauses in New High German, where, in contrast to Old High German and Middle High German, the relative pronoun may not be deleted and there is no Case attraction. These changes are argued to be closely connected with changes in verbal position. In contrast to the earlier stages of German, a clause-final verb position is dependent on the presence of a subordinating element in the same clause. Case visibility is shown to be operative in the formation of free relative clauses, which are the effect of a deletion of the head-NP.

These differences can be reduced to a single condition, called C-visibility, which holds for New High German, but not for earlier stages of German. C-visibility can be satisfied either by a finite verb in C<sup>0</sup>-position or a subordinating element in C<sup>0</sup> or Spec of C.

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1. I would like to thank Hubert Haider for reading and commenting several earlier versions of this paper and Sten Vikner for his comments on the last version, which improved both content and style. I am also indebted to the reviewers as well as the editors of this journal for their helpful comments and suggestions. All remaining errors are mine.

The dialectal variation as illustrated by Bavarian data shows that if relative particles are present to fulfill the condition of C-visibility, the deletion of the relative pronoun is possible, again subject to case visibility. Case visibility is argued to be a condition for the identification of *pro* by coindexed NPs.

The last section deals with historical changes related to C-visibility such as the origin of complementizers and relative clauses. Complementizers and relative pronouns derive from matrix clause elements which acquired the feature [+C]. It is argued that [+C]-elements are neither subject to Case attraction nor to deletion.

Finally, C-visibility is explained as a possible parameter setting, one of the options to make the “modal role” of clauses visible. A scenario for the changes discussed in this article is given.

## 2. Relative clauses in Old High German and Middle High German

### 2.1. *The case of relative pronouns*<sup>2</sup>

It has often been observed that in Old High German and Middle High German, relative pronouns can bear the case of the head noun or pronoun in the matrix clause, although the relative clause would assign a different case. In the following examples the case of the relative pronoun as well as the case the relative clause would assign is indicated.

(1) Genitive instead of nominative:

- a. *Daz er [...] alles des verplac des im ze*  
 that he all that(GEN) abandoned that(GEN) him to  
*schaden mohte komen.*  
 damage might come  
 ‘That he abandoned all that might cause damage to him.’  
 (Iwein 5338, Behaghel 1928: 756)
- b. *Sie gedâht' ouch maniger leide, der ir dâ*  
 she thought also some sufferings(GEN) that(GEN) her at  
*hêimé geschach.*  
 home happened  
 ‘She thought about some misfortunes that happened to her at home.’  
 (Nib. 1391,14, Behaghel 1928: 756, Lernerz 1984: 116)

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2. The term relative pronoun is here used tentatively, since relative pronouns developed out of demonstrative pronouns in the matrix clause and the function of these pronouns (whether demonstrative, “correlative” or relative) is often not entirely clear, cf. section 5.1.

Dative instead of nominative:

- c. *Sendida mih [...] zi dheodom, dhem euuuih biraubodon.*  
 sent me to them(DAT) that(DAT) you robbed  
 ‘Sent me to the people that robbed you.’  
 (Isid. 218f., Helgander 1971: 174, Lenerz 1984: 116)
- d. *Thaz iz liuhte allen then in huse sint.*  
 that it shines all(DAT) those(DAT) in house are  
 ‘That it shines unto all that are in the house.’  
 (Tatian 25,2, Behaghel 1928: 756)

Genitive instead of accusative:

- e. *Alles des ich ie gesach.*  
 all(GEN) that(GEN) I ever saw  
 ‘All that I ever saw.’  
 (Nib. 1698,1, Behaghel 1928: 756)
- f. *Do sagete er Parziwale danc prises des erwarp*  
 there said he Parzival thanks prize(GEN) that(GEN) acquired  
*sin hant.*  
 his hand  
 ‘He thanked Parzival for the prize that he acquired.’  
 (Parz. 3: 1209, Helgander 1971: 174)

Accusative instead of nominative:

- g. *Unde ne wolden niet besên den mort den dô*  
 and not wanted not see the murder(ACC) that(ACC) there  
*was geschên.*  
 had happened  
 ‘And they didn’t want to see the murder that had happened.’  
 (Alex. 3228, Grimm 1866: 319)

There are also examples of relative clauses without a head-NP in the matrix clause (cf. Behaghel 1928: 761), where the relative pronoun bears the Case assigned by the matrix verb (2a, b) or by a preposition contained in the matrix clause (2c).

- (2) a. *Aer ant uurta demo zaimo sprah.*  
 he replied him(DAT) to-him spoke  
 ‘He replied to the one who spoke to him.’  
 (Mons. 7,24, Lenerz 1984: 116)
- b. *Der bewist in des er suochte.*  
 he showed him what(GEN) he looked-for  
 ‘He showed him what he was looking for.’  
 (Iwein 988, Lenerz 1984: 116)

- c. *Die bevogtet werden sollen mit dem nechsten vattermagen*  
 that protected should be by the next relative  
*oder dem dazu erkoren wird.*  
 or the-one(DAT) therefore chosen is  
 ‘That should be protected by the next relative or the one  
 chosen instead.’

(Weist. 1,65, quoted from Grimm 1866: 323, Lernerz 1984: 116)

This phenomenon is well-known as “Case attraction” or,<sup>3</sup> in cases where both head noun and relative pronoun bear the case assigned by the verb in the relative clause, “inverse attraction”.

- (3) a. *Den schilt den er vür bôt der wart*  
 the shield(ACC) that(ACC) he held that(NOM) was  
*schiere zeslagen.*  
 quickly shattered  
 ‘The shield he held was quickly shattered.’  
 (Iwein 6722f., Lernerz 1984: 116)
- b. *Den liebsten bulen den ich hab der leit*  
 the dearest friend(ACC) that(ACC) I have that(NOM) lies  
*beim wirt im keller.*  
 at-the inn in-the cellar  
 ‘The dearest friend I have is in the cellar of the inn.’  
 (Uhl. Volkslied 585, quoted from Grimm 1866: 330)

In almost all cases of “inverse attraction”, however, there is always a pronoun in the matrix clause so what we actually have is a left-dislocated structure (for more examples, cf. Behaghel 1928: 756f., Grimm 1866: 327ff.)

There are some studies dealing with attraction where it is observed to follow a certain rule. In each Case conflict, it is always one of the oblique Cases, that is, the genitive or dative, which is assigned, whereas the nominative or the accusative is left out (cf. Eckardt 1875: 32; Johansen 1935: 35; Neckel 1900:

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3. The terminus “attraction” was borrowed from Greek grammar by Grimm (1866), who was the first to deal with this phenomenon in German. “Attraction” is used here merely as a descriptive terminus without implying that it follows the same rules as attraction in Greek (see Johansen 1935: 59 for critical comments on this point). Both attraction and inverse attraction can be considered a marked phenomenon that is not part of the “core grammar” on account of its restricted use (cf. Lernerz 1984: 117). Nevertheless it seems not unreasonable to ask under what conditions attraction and its counterpart may appear and whether it follows any regularities. As is noted by Erdmann (1874: 130), Case attraction is the exception rather than the rule. Nevertheless, it is significant that Old High German and Middle High German tolerate this kind of exception whereas New High German does not. The only statistical material that was available for attraction in Old High German is given by Wunder (1965: 324), who finds among 805 relative clauses in Otfried 30 cases of attraction.

24). This rule — or call it a strong tendency (exceptions are *very* few) — does not only exist in Old High German, but can — somewhat modified — also be observed in Gothic and Anglo-Saxon (Kölbing 1872; Harbert 1983).

This rule can be formulated more precisely: Not only can dative or genitive occur instead of nominative or accusative, but accusative can also occur instead of nominative, as example (1g) shows. The case that is realized is always more marked than the Case that remains unrealized in the sense that it has a greater number of distinctive inflectional endings in the various inflection paradigms. If nominative is taken to be the unmarked Case because it is cross-linguistically most often “marked” by a null affix, the markedness of the other Cases follows from the number of forms in a paradigm that are distinctive from the respective nominative form. This is illustrated for demonstrative/relative pronouns in Old High German and Middle High German in (4). Old High German forms are only given (between square brackets) when they are different from the Middle High German forms:

(4)	Singular	Masculine	Neuter	Feminine
	nominative	<i>der</i>	<i>daz</i>	<i>diu</i>
	accusative	<i>den</i>	<i>daz</i>	<i>die</i> [ <i>dia</i> ]
	dative	<i>dem(e)</i> [ <i>demo</i> ]	<i>dem(e)</i> [ <i>demo</i> ]	<i>der(e)</i> [ <i>dera</i> ]
	genitive	<i>des</i>	<i>des</i>	<i>der(e)</i> [ <i>dera</i> ]
	Plural	Masculine	Neuter	Feminine
	nominative	<i>die</i> [ <i>dê</i> , <i>dia</i> ]	<i>diu</i>	<i>die</i> [ <i>dio</i> ]
	accusative	<i>die</i> [ <i>dê</i> , <i>dia</i> ]	<i>diu</i>	<i>die</i> [ <i>dio</i> ]
	dative	<i>den</i>	<i>den</i>	<i>den</i>
	genitive	<i>der(e)</i>	<i>der(e)</i>	<i>der(e)</i>

There is only one accusative form that is distinct from the nominative form, whereas all the dative and genitive forms are distinct from the nominative form, that is, there is a markedness hierarchy nominative > accusative > other.

The relative pronoun can bear the case required by the matrix clause if it is more marked. The more marked case must be visible, so to speak. This condition of “Case visibility”, as given in (5), still exists in Middle High German and has some remnants in New High German and modern German dialects as I will show later.<sup>4</sup>

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4. Harbert (1983) shows that this Case hierarchy is at work in the formation of free relative clauses in Gothic. McCreight (1987) illustrates the evidence for Case hierarchies by free relatives in several languages. See also Harbert (1989) for the relevance of the Case hierarchy to the phenomenon of attraction. One of the reviewers notes that an explanation in terms of a Case hierarchy is rather stipulative. However, as far as I know, nobody has suggested a non-stipulative explanation for these facts. Furthermore, the Case hierarchies receive some independent support by morphology as shown by the various inflectional paradigms.

## (5) Case visibility:

The relative pronoun may bear a Case assigned by the matrix clause, if this Case is more marked than the Case required by the relative clause, where “more marked” means further right in the following hierarchy:

nominative > accusative > other

2.2. *The position of relative pronouns*

The actual analysis of relative clauses in Old High German and Middle High German poses a number of problems. There are often some elements missing, with the result that a sentence like the following can be analyzed in three different ways (cf. Lenerz 1984: 59).

- (6) a. *daz in saehe die* [\_\_\_ *er in herzen truoc*].  
 b. *daz in saehe* \_\_\_ [*die er in herzen truoc*].  
 c. [*daz in saehe* [*die*] *that him see the one(NOM/ACC) he in herzen truoc*].  
 ‘That the one he loved might see him.’

(Nib. 134,1., Behaghel 1928: 761)

In (6a) it is the relative pronoun which is left out, in (6b) it is the antecedent NP, and in (6c) the NP belongs to both clauses at once.<sup>5</sup> All three analyses are possible and would make sense for Old High German. In (6a) we have an asyndetic relative clause, which can occur in Old High German, in (6b) we have a free relative (without an antecedent NP), which can occur at all stages of German and according to (6c) the matrix and the subordinate clause would share an argument. This construction has traditionally been called an “apokoinou-construction”, and in more recent terms it is a kind of serial verb construction.

In this section I will try to show that both (6a) and (6b) are possible structures of relative clauses in Old High German and Middle High German, whereas (6c) is ruled out on the grounds that the apokoinou-constructions follow other rules than relative clauses do.

2.2.1. *Asyndetic relative clauses*. “Asyndetic relative clause” is a traditional term for relative clauses that are neither introduced by a relative pronoun or adverb nor a relative particle. That is, the C-projection of these clauses is not filled with lexical material. The question arises how one can be sure whether there actually are asyndetic relative clauses in Old High German and Middle

5. Lenerz (1984: 59) notes that there is no device to represent the structure (6c) in generative grammar. This device has since been supplied by Haider’s “matching projection” mechanism (Haider 1988a), cf. section 3.2.

High German, since it is often difficult to decide where the clause boundary is. Yet apart from the fact that the meter can often give a clear indication where the clause boundary is, there are also constructions with prepositions where it is quite clear that the putative relative pronoun is in fact the complement of the preposition whereas the position of the relative pronoun is left empty:

- (7) *Er spráh zi then [ \_\_\_ es rúahtun].*  
he spoke to them(DAT) it wanted  
'He spoke to them that wanted it.'

(Otfrid I, 23,35, Behaghel 1928: 761)

In (7) the pronoun appears in the dative form assigned by the preposition, whereas the nominative required by the relative clause remains unrealized. As far as Case assignment is concerned, the pronoun behaves as a part of the matrix clause. The Case alone, however, cannot be taken as sufficient evidence for the position of the pronoun because the relative sometimes bears the Case required by the matrix clause even though the meter indicates that it is part of the relative clause.<sup>6</sup> Yet in Old High German there are no "stranded prepositions" and no prepositions without a complement, so that the only possible analysis is, that the relative clause in (7) is asyndetic, that is, a relative clause with a null subject pronoun.

The existence of asyndetic relative clauses in Old High German and Middle High German makes it possible to analyze the examples given under (1) in a different way: The pronoun tentatively called a relative pronoun may be part of the matrix clause rather than the relative clause. If this is the correct analysis, it is a kind of correlative pronoun which is repeated in the matrix clause in order to point forward to the following relative clause. The position of the relative pronoun remains empty. It will be shown later that under this analysis the observations made under 2.1 can be explained as general conditions for the identification of empty pronouns (*pro*) that hold for all the varieties of German discussed here.

2.2.2. *Free relative clauses.* Free relative clauses have traditionally been analyzed as relative clauses without an antecedent head noun or pronoun in the matrix clause (for a discussion of other analyses see below under section 3.1).

There is no reason to assume that free relatives could not occur in earlier stages of German. And in fact, a number of sentences where the relative pronoun bears the Case assigned by the verb in the relative clause and no other pronoun occurs can be explained in this way. In (8) the relative pronoun has the

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6. This is observed by Erdmann (1874: 53) and Behaghel (1928: 714) for Old High German and by Hock (1988) for Old English.

accusative marking assigned by the relative clause, whereas the nominative required by the matrix clause remains unrealized.

- (8) *Thíz ist \_\_\_ [then sie zéllent].*  
 this is whom(ACC) they talk  
 ‘This is the one whom they talk about.’  
 (Otfrid III,16,50, Helgander 1971: 175)

2.2.3. *Apokoinou-constructions.* “Apokoinou-construction” is a traditional term for two clauses linked by a shared argument. In more recent terms this type of construction can be subsumed under the phenomenon of serial verb constructions, if they are defined in the following way: “a serial verb construction is the combination of two or more asyndetically juxtaposed verbs with one shared argument in order to express a complex but unitary action” (Lehmann 1982: 35).

There is plenty of evidence for apokoinou-constructions in Old and Middle High German. I will give a few examples:

- (9) a. *Dô spranc von dem gesidele her Hagene alsô sprach.*  
 there sprang from the seat Mister Hagene thus spoke  
 ‘Mister Hagene sprang from the seat and spoke thus.’  
 (Kudrun 538, Karg 1929: 10)
- b. *Duo kom von himile der gotes engel erschein im do.*  
 there came from heaven the God’s angel appeared him there  
 ‘God’s angel came from heaven and appeared unto him there.’  
 (Kaiserchr. 6038, Karg 1929: 21)
- c. *[Si] truogen für die tür siben tusement toten wurfen sie derfür.*  
 they carried before the door seven thousand dead threw they  
 derfür.  
 there  
 ‘They carried seven thousand dead people in front of the door and cast them away there.’  
 (Nib. 2013, Karg 1929: 29)

In these examples, the subject NP (9a, b) or the object-NP (9c) is shared by the two clauses. Karg (1927) shows that in the vast majority of apokoinou-constructions, it is a nominative or an accusative NP which is shared, whereas shared genitive or dative NPs are very rare. Among the apokoinou-constructions he has found, 81 shared arguments are nominative, 93 accusative, 4 genitive and 4 dative NPs and 49 are PPs. That the shared argument receives one Case in one clause and a different one in the other clause (Case divergence) is only possible when the two Cases have an identical form. These numbers are no surprise in view of the fact that nominative and accusative NPs occur more often than either genitive or dative NPs. They also provide another instance of nominative or



accusative NPs that can be left out under appropriate conditions. Karg's findings thus show that apokoinou-constructions follow other rules than relative clauses because they do not allow Case divergences when the two Case forms are different. Also the meter shows that these constructions cannot be explained as asyndetic relative clauses: In the majority of examples collected by Karg and in all the examples given in (9) there is a pause immediately before the shared argument. Although there may be a close connection historically between this type of construction and asyndetic relative clauses (cf. Paul 1920: 198ff.), they nevertheless show different grammatical properties and therefore have to be considered two different constructions.<sup>7</sup> Therefore it seems implausible that the relative pronoun in examples (7) and (8) belongs to two clauses at once.

In this section it was established that there are clear cases of asyndetic relative clauses in Old High German, even if it may not be clear in every instance of a relative clause whether the pronoun is part of the matrix or the relative clause. Apokoinou-constructions which share an argument were shown to follow different rules, which makes an apokoinou-analysis of most relative pronouns implausible. The next section will deal with New High German as illustrated with data from Modern Standard German which has neither asyndetic relative clauses nor Case attraction.

### **3. Relative clauses in New High German**

First, the position of relative pronouns will be discussed which is controversial for free relatives. The Case of relative pronouns clearly shows that they are always in the C-projection of the relative clause. This change is argued to be closely connected with changes in verbal position. These changes can all be reduced to the condition of C-visibility which holds for New High German but not for earlier stages of German. The connection with the disappearance of Case attraction will be discussed in section 5.2.

#### *3.1. The position of relative pronouns*

It is uncontroversial that relative pronouns introducing headed relative clauses in New High German are part of the relative clause. A special problem is posed by the free (or "headless") relatives, however. Here in principle we would again have three possibilities:

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7. Cf. Karg (1927) and Gärtner (1969), whose study confirms Karg's conclusions.

- (10) a. [*Sie macht* \_\_\_ [*was sie will*]].  
 b. [*Sie macht was* [\_\_\_ *sie will*]].  
 c. [*Sie macht* [*was*] *sie will*].  
     she does    what    she likes  
     ‘She does what she likes to do.’

- a) The position of the head-NP is empty.  
 b) The position of the relative pronoun is empty.  
 c) The relative pronoun occupies both positions at once.

How can we be sure that the relative pronoun is indeed part of the relative clause? Whereas there are proponents of all three analyses I will show that only a), the empty-head-analysis, is in accordance with all the facts about free relatives.

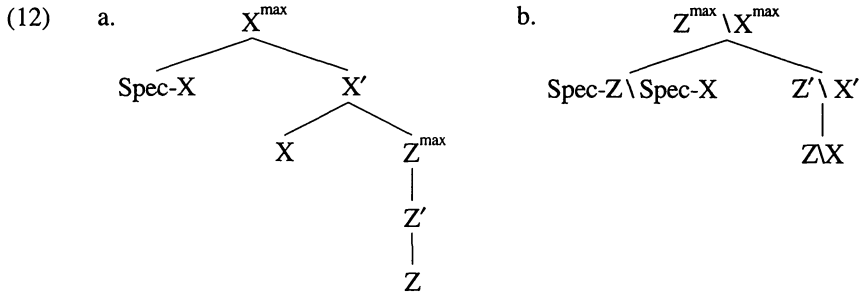
Analysis b) was formulated by Bresnan and Grimshaw (1978). The advantage of this analysis is that it gives a straightforward account for the fact that the relative pronoun in free relatives has to fulfill the Case requirements of the matrix clause in many languages (the so-called “matching effects”). This analysis would also imply that there are still asyndetic relative clauses possible in Modern German and this is an assumption which we otherwise have no evidence for. Furthermore, as has been shown by Groos and van Riemsdijk (1981: 185ff.), this analysis is not in accord with extraposition facts. Under this analysis it would be expected, that the putative head can stay in its place when the relative clause is extraposed. (11) shows that the relative pronoun of a free relative clause does not behave like the antecedent NP of a relative clause as in (11a), but as part of the relative clause.

- (11) a. *Hans hat das Geld zurückgegeben, das er gestohlen hat.*  
       Hans has the money returned            that he stolen    has  
       ‘Hans has returned the money that he has stolen.’  
 b. \**Hans hat was zurückgegeben er gestohlen hat.*  
       Hans has what returned            he stolen    has.  
 c. *Hans hat zurückgegeben, was er gestohlen hat.*  
       Hans has returned            what he stolen    has.  
 d. \**Hans hat zurückgegeben das Geld, das er gestohlen hat.*  
       Hans has returned            the money that he stolen    has.

As (11b) and (11c) illustrate, the pronoun and the relative clause can only be extraposed together which shows that the putative “head” is actually part of the relative clause.

Analysis c) has been suggested by Haider (1988a, 1988b: 47). He sees the formation of free relative clauses as an instance of the “matching projection mechanism” postulated by him, which he defines in this way: “A *matching projection* is a projection superimposed on an existing projection such that the

nodes of the primary projection serve as secondary nodes of the superimposed projection.” An empty maximal projection may under certain circumstances conflate with the maximal projection immediately under it if their features are compatible. The following tree diagrams serve to illustrate the mechanism:



In this way Haider also accounts for the matching effects often observed in free relatives. But, since this mechanism could be applied to produce apokoinou-constructions, this analysis would imply that apokoinou-constructions are possible in Modern Standard German, for which we have no evidence.

Moreover, the following section will show that the facts of Case assignment in free relatives are captured correctly only under an analysis of free relatives as relative clauses with empty head-NPs.

### 3.2. The Case of relative pronouns

Relative pronouns in headed relative clauses always appear in the Case required by the relative clause. The relative pronouns introducing free relatives show a peculiarity. In the majority of cases, the Case of the relative pronoun in free relatives also fits into the Case frame of the matrix clause. This has led some authors to assume that these “matching effects” are a necessary condition for the formation of a free relative clause in New High German.<sup>8</sup> As Pittner (1991) observes, Modern Standard German is not the strict-matching language it is often assumed to be. There are a number of examples in Modern Standard German,

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8. See for instance Eisenberg (1986: 220), Haider (1988b: 47). Groos and van Riemsdijk (1981: 177) point out that non-matching was allowed in earlier stages of German, but is generally considered ungrammatical in Modern Standard German. Engel (1988: 249) is the only contemporary grammarian who gives examples of German free relative clauses without matching effects. Paul, however, was well aware of this possibility as his lists of non-matching free relative clauses in New High German show (1920: 201ff.).

where the relative pronoun bears another Case than the matrix clause would require and the Case form is distinct.<sup>9</sup>

## (13) PP instead of accusative:

- a. *Jeder muß tun, wofür er bestimmt ist.*  
everybody must do what-for(PP) he destined is  
'Everybody must do what he is destined for.'
- b. *Er zerstört, wovon er abhängig ist.*  
he destroys what-on(PP) he dependent is  
'He destroys on what he depends.'

## Dative instead of accusative:

- c. *Sie lädt ein, wem sie zu Dank verpflichtet ist.*  
she invites whom(DAT) she to thanks obliged is  
'She invites who she is obliged to.'

## PP instead of nominative:

- d. *Wonach sich fragen läßt, ist eine Konstituente.*  
what-after(PP) REFL ask lets is a constituent  
'What can be asked for is a constituent'.

## Accusative instead of nominative:

- e. *Wen es zum Lehrerberuf hinzieht, bevorzugt eher*  
whom(ACC) it to teaching-profession draws prefers rather  
*die geisteswissenschaftlichen und philologischen Fächer.*  
the humanities  
'Who feels drawn to be a teacher, prefers the humanities.'

## Dative instead of nominative:

- f. *Punkte machte, wem es gelang, auf dem Spielstock den*  
points made who(DAT) succeeded on the bat the  
*Ball durch das gegnerische Tor zu balancieren.*  
ball through the adversary goal to balance.  
'Who succeeded to balance the ball on his bat through the goal  
of the enemy scored points.'

These examples also show that the matching effects are not as obligatory for free relatives in German as they are sometimes assumed to be. The relative pronouns do not necessarily have to fit into the matrix clause. But in every instance the

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9. These examples were given in Pittner (1991), see there for the sources and for more examples. Most of the examples are taken from newspapers and magazines, some are from expository prose in books. To me and many other speakers they are all grammatical. Examples of this kind can also be found in literary texts as well as in proverbs.

relative pronoun must bear the Case assigned by the relative clause. These data show that theories, which try to explain the matching effects by a place of the relative pronoun in the matrix clause or by accessibility of Comp to Case assignment from outside (Groos and van Riemsdijk 1981) are not wholly adequate empirically. That the relative pronoun bears the Case assigned by the relative clause follows naturally under an analysis where the relative pronoun is part of the relative clause.

It has been argued by various authors that the empty antecedent NP of a free relative clause is an instance of the empty category *pro* (Harbert 1983; Suñer 1984; Grosu 1988). Grosu (1988) points out that the content of the empty *pro*-head is identified by the *wh*-element in the free relative clause, which makes necessary some changes with regard to the conditions for the licensing of *pro* as proposed by Rizzi (1986) and given under (14):

- (14) a. Formal licensing: *pro* is formally licensed through Case assignment by a governing  $X^0$ .  
 b. Content identification: The content of *pro* is identified through co-indexation of its features with the features of the governing  $X^0$ , provided the features of the governing  $X^0$  have “appropriate strength”.

In the case of relative clauses, the *pro*-head is assigned Case by the matrix clause. The content of *pro*, however, is identified by the relative pronoun. Content-identification by the governing  $X^0$  can be no general condition because the *wh*-element in the free relative clause is no governor for the antecedent NP. The second part of Rizzi’s formulation which says that *pro* is identified through coindexation of its features with the features of its identifier, can be kept if it is modified that this identifier need not be the governing  $X^0$ . (14b) has to be modified as given in (15):

- (15) Content identification of *pro*:  
 The content of *pro* is identified through the features of a co-indexed element ( $I^0$  or NP), provided the features of the coindexed element have “appropriate strength”.<sup>10</sup>

It has often been observed that there is a correlation between rich verbal morphology and the possibility of a null subject pronoun. *pro* as a null subject pronoun is licensed by its coindexation with  $I^0$  if verbal morphology is rich enough to identify the features of *pro*. In a parallel fashion the pronoun of free

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10. Rizzi’s formulation “appropriate strength” applies to whole paradigms with many distinctions. There is independent evidence, however, that “appropriate strength” for *pro*-identification may also mean the strength of single forms in a paradigm, cf. the Hebrew data discussed in Haegeman (1994: 456).

relative clauses and its head-NP are co-indexed, sharing the features of number and gender. The head-NP can be *pro* if the morphology of the relative pronoun is strong enough to identify it. Languages which have no matching requirement whatsoever (like Latin) have a morphology which is distinct with regard to number and gender, which may be enough to identify *pro*, so that matching in Case may be superfluous. Many languages choose a middle way between strict matching and no matching: Non-matching free relative clauses are possible, but they obey a Case markedness condition. "Appropriate strength" means here that a relative pronoun with a more marked Case can identify a *pro*-head with a less marked Case, where the hierarchy of markedness is language-specific, it may be for instance nominative > other or nominative > accusative > other.

New High German is a language of this type, where the Case hierarchy is nominative > accusative > other.<sup>11</sup> An antecedent pronoun in the matrix clause may be deleted if a Case markedness condition is fulfilled. Again, only nominative and accusative pronouns may be left out. (13e) provides evidence for an ordering of nominative and accusative on the markedness hierarchy. Thus, in the formation of free relatives in New High German the following rule is at work:<sup>12</sup>

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11. The Case hierarchy is again supported by morphological markedness. In New High German, *d*- and *w*-relative pronouns exist. The *d*-pronouns are identical with demonstrative pronouns, the *w*-pronouns are also used as interrogative pronouns. The paradigms are given in (i) and (ii).

(i) *d*-pronouns

	masc.	neuter	fem.	plural
nominative	<i>der</i>	<i>das</i>	<i>die</i>	<i>die</i>
accusative	<i>den</i>	<i>das</i>	<i>die</i>	<i>die</i>
dative	<i>dem</i>	<i>dem</i>	<i>der</i>	<i>denen</i>
genitive	<i>dessen</i>	<i>dessen</i>	<i>deren</i>	<i>deren/derer</i>

(ii) *w*-pronouns

	masc.	neuter
nominative	<i>wer</i>	<i>was</i>
accusative	<i>wen</i>	<i>was</i>
dative	<i>wem</i>	—
genitive	<i>wessen</i>	<i>wessen</i>

In headed relative clauses, almost always the *d*-pronoun is used (except when the head-NP is neutral with unspecific reference or the pronoun *das* or *alles*). In free relative clauses almost always the *w*-pronoun is used. A *d*-pronoun may only occur if the reference of the free relative clause is specific. So I assume that the pronoun is chosen after deletion of the head-NP.

12. I do not claim that all the non-matching examples quoted will be perfectly grammatical to every speaker of German, but they are generally judged to be much better than self-constructed examples that do not obey the rule given under (16). See Bausewein (1991) for speaker judgements on sentences of this type. As in the other stages of German, the Case hierarchy is not entirely without exceptions. Pittner (1994) discusses factors which make (very rare) exceptions from this rule possible.

- (16) An antecedent pronoun of a relative clause may be deleted if it bears the same or a less marked case form than the relative pronoun, where “less marked” means further left in the following hierarchy:

nominative > accusative > other

If the empty head-NP is taken to be an instance of the category *pro* as argued above then (16) can be generalized to (17):

- (17) *pro*-identification by a co-indexed NP

The features of *pro* can be identified by a co-indexed NP iff this NP bears

- a. the same Case form or
- b. a Case form more marked, that is, further right in the hierarchy nominative > accusative > other<sup>13</sup>

In New High German the relative pronoun always bears the Case assigned by the verb in the relative clause. This also applies to free relatives, where the relative bears the Case assigned to it by the relative clause in every case. While the head-NP may be empty, the option to leave the position of the relative pronoun empty is no more available in New High German. This is argued to be closely connected to the loss of what is called “independent V-end” in the next section.

### 3.3. Verb positions in New High German

As is well known, there are three types of verb position in New High German:

- (18) a. Finite verb in first position (V1).  
b. Finite verb in second position (V2).  
c. Finite verb in clause-final position (V-end).

These verb positions occurred already in Old High German according to Behaghel (1932: 50ff.). It is now generally agreed that proto-Germanic was of the SOV-type, which means that V-end was prevalent.

V-end in Old High German was still possible in independent declarative sentences, but this use was already becoming more and more marked. Most independent clauses in Old High German had V2 order. V-end-position could be used in dependent clauses in order to mark the dependency.<sup>14</sup> But most impor-

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13. In languages with a very rudimentary Case system like Modern English *pro*-identification by a co-indexed NP can take place only according to (17a).

14. It must be mentioned that the verb in subordinate clauses in Old High German is not always absolutely in the clause-final position but may be followed by one or more constituents. But it

tant in this respect is that V-end-position was not dependent on the existence of a complementizer in the same clause as it is in New High German. This is the only actual syntactic change in verb position according to Lenerz (1984).

V-end was mostly used in dependent clauses in order to mark their dependency. Lenerz (1985) points out that V-end was possible in subordinate clauses without a complementizer in Old High German and Middle High German.

- (19) a. *Wánu sie iz intríatin.*  
 believe(1SG) they it feared  
 'I believe they were afraid of it.'  
 (Otfrid I, 27, 11, Lenerz 1985: 106)
- b. *Ich waen der schade von im geschach.*  
 I believe the damage from him happened  
 'I believe he was responsible for the damage.'  
 (Willehalm 85, 9, Lenerz 1985: 106f.)

I will call this "independent V-end", since it was not dependent on the presence of a complementizer in the same clause.

In Standard Modern German there is no independent V-end in finite clauses. The "old structure" with the verb in final position without a complementizer in the same clause is restricted to poetic language where it bears a distinctly archaic connotation.

- (20) a. *Nach dem Fenster das bleiche Antlitz sah.*  
 to the window the pale face looked  
 'The pale face looked to the window.'  
 (Schiller XI, 239, 81, Lenerz 1985: 107))
- b. *Hier alles sich von Studenten nährt.*  
 here all themselves from students live  
 'Here all live from students.'  
 (Goethe, Urfaust, 266, Lenerz 1985: 107)

Examples from present-day German are hard to come by. The following is the text of an advertising poster quoted in Dürscheid (1989: 22):

- (21) *Von Reginaris die Languste nur Gutes zu berichten wußte.*  
 about Reginaris the Languste only good to tell knew  
 'The Languste had only good things to tell about Reginaris.'

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occurs later than in independent clauses. Behaghel therefore calls it "verb-late". Lenerz (1984: 169ff.) points out that this can be explained as the effect of the extraposition of one or more constituents, a possibility that exists in all stages of the development of German, so that there is no principal syntactic change involved. What has changed is merely the evaluation of extraposition from a stylistic point of view.



Here again, we have a highly marked structure which is deviating from the usual grammatical rules for reasons of rhythm and rhyme. Apart from these exceptional structures the general rule is that V-end-position in New High German is only possible in clauses introduced by a subordinating element. Relative and interrogative constituents (*d-/w*-constituents) in subordinate clauses behave like complementizers, they introduce V-end-clauses. V-end occurs in the following structural configurations in New High German:

- (22) a. [<sub>CP</sub> [<sub>Spec</sub> *d/w*-constituent] [<sub>C</sub> e ]...  
 b. [<sub>CP</sub> [<sub>Spec</sub> e] [<sub>C</sub> *daß/ob* etc.]...]

Whereas complementizers occupy the C<sup>0</sup>-position, *d-/w*-constituents, being maximal projections, can only occur in Spec of C, which is an XP-position. In (22a), however, the question arises what prevents the finite verb from moving into the empty C-position.

A widely accepted solution is that relative pronouns are in Spec of C but fill the C-position by a co-indexing mechanism.<sup>15</sup> Chomsky (1986: 27) states that Spec and head positions of subordinate clauses share selectional features determined by the verb in the main clause. Spec-head-agreement has the effect that the C-position is not really empty even though a relative or interrogative phrase occupies the Spec of C-position. The C-position in dependent clauses is a position selected by the matrix clause, bearing the features assigned to it by the matrix clause with the effect that the finite verb cannot move there.

Another problem is that *w*-elements can co-occur with V-end not only in subordinate clauses but also in independent ones such as in “musing questions” (23a) or in exclamatory sentences (23b):

- (23) a. *Wen sie gestern getroffen hat?*  
 whom she yesterday met has?  
 ‘Who she did meet yesterday?’  
 b. *Wen die gestern getroffen hat!*  
 whom she yesterday met has  
 ‘Who she met yesterday!’

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15. For a discussion of other solutions, see for instance Grewendorf (1988: 249ff.), Hoening (1993). Hoening (1993) holds that relative pronouns fill the C-position literally. According to his opinion, a solution in which all instances of V-end can be described by the same structural configurations is preferable. He proposes a solution to the effect that movement should not be explained by category level but by functional features. He argues that finite verbs can move to C<sup>0</sup>, not because they have the correct bar level (X<sup>0</sup>) — this alone would not prevent a noun or a preposition to move there — but because they have the right functional features. If bar level is not the decisive factor, there is no reason to assume that relative and interrogative phrases cannot occupy this position. Hoening sees this as a minor revision of the theory, but the question is, whether it is not violating the very foundations of X-bar-syntax even if you follow his suggestion that functional categories (like C and I) might follow other rules as lexical categories do.

These facts show that it is not enough to say that *w*-elements co-occur with V-end in subordinate clauses where features of the matrix clause are transmitted to the C-position. Complementizers like *daß* und *ob* can also occur in independent clauses, but they always cooccur with V-end.

The solution proposed here for this difference is essentially a lexical one. It has become common to characterize lexical categories with features just as phonemes, which allows the formation of “natural classes” of lexical categories with regard to their syntactic properties. I assume that all subordinating elements in German share a common feature which I will call [+C]. This feature has the syntactic effect that the elements with this feature fill the C<sup>0</sup>-position either literally or through some co-indexing mechanism like Spec–head-agreement, that is, they introduce clauses with V-end-position. This feature is part of the lexical entry of the subordinating elements and it is part of the speaker’s knowledge about the use of these words. The speaker must know whether a given word can introduce a V-end-clause or not. In section 5.1 I will argue that what happens when complementizers develop out of other word classes is that they acquire the feature [+C]. Complementizers like *daß* und *ob* have one lexical entry with the feature [+C]. *W*-elements have a lexical entry where the feature is [±C].

In New High German the C-position may not remain empty. It is either filled by finite verbs (in V1 and V2-clauses) or by C-elements which fill this position either literally or through co-indexing. I will refer to this condition as C-visibility, which holds for New High German but is not valid in Old High German. It can be argued that the disappearance of asyndetic relative clauses and independent V-end-position is due to the condition of C-visibility.

The conclusion from the variation observed so far is that Old High German differs from New High German with respect to C-visibility. Subordinating elements meeting the condition of C-visibility are not subject to deletion nor to Case assignment from the matrix clause. These findings are partially confirmed by the dialectal variation that is possible as illustrated in the next section with data from Bavarian.

#### 4. Relative clauses in Bavarian

In this section I will concentrate on Bavarian, but some other dialects show similar characteristics. Like Modern Standard German Bavarian has no asyndetic relative clauses, no Case attraction and no independent V-end.

The main difference with regard to relative clauses is that Bavarian has relative particles that may be added to a relative pronoun. These particles are *wo* or, in some areas, *was*.

- (24) a. *Der Mo, den wo i gseng hob, ...*  
           the man who that I seen have  
           ‘The man that I saw’

- b. *De Leid, de was vui Geid hobm, ...*  
 the people who that much money have  
 'The people that have much money'

The relative particle lexicalizes the feature [+C] thereby fulfilling the condition of C-visibility. We would therefore expect that the relative pronoun is not necessary in every instance and this is indeed the case.

Under certain conditions the relative pronoun may be deleted. This deletion can take place if the relative pronoun bears the same Case form as the antecedent NP.

- (25) a. *Der Mo, (der) wo uns g'hoifa hod, ...*  
 the man(NOM) who(NOM) that us helped has  
 'The man that helped us'
- b. *Den Mantl, (den) wo i kaffd hob', ...*  
 the coat(ACC) who(ACC) that I bought have  
 'The coat that I had bought'
- c. *Dem Mo, (dem) wo mir g'hoifa hom, ...*  
 the man(DAT) whom(DAT) that we helped have  
 'The man whom we helped'

As the examples given in (26) show, the relative pronoun can also be deleted if it is nominative:

- (26) a. *I sog's dem Mo (der) wo im Gartn arwat.*  
 I tell-it the man(DAT) who(NOM) that in-the garden works  
 'I tell the man who works in the garden.'
- b. *I gib's dera Frau (die) wo d'Muich bringt.*  
 I give-it the lady(DAT) who(NOM) that the-milk brings  
 'I give it to the lady who brings the milk.'
- c. *I schenk's dem Kind (des) wo mid da Katz spuid.*  
 I give-it the child(DAT) who(NOM) that with the cat plays  
 'I give it to the child that plays with the cat.'

(examples from Bayer 1984: 216)

The deletion of accusative pronouns is always possible when their form is homonymous to the nominative form:

- (27) a. *Die Lampn (die) wo i g'seng hob wor greißlich.*  
 the lamp which that I seen have was ugly  
 'The lamp I saw was ugly.'
- b. *Des Auto (des) wo i mecht is z'teia.*  
 the car who that I like is too-expensive  
 'The car that I would like is too expensive.'

- c. Der Mantl \*(den) wo i kaffd hob wor z'rissn  
 the coat who that I bought have was torn  
 'The coat I bought was torn.'

(examples from Bayer 1984: 216)

Bayer (1984) observes that relative pronouns in all cases may be deleted if their Case form is morphologically identical to the Case of the head NP, which is a matching effect parallel to the one often observed in free relative clauses. If the Case form is not identical he assumes that only a nominative pronoun may be deleted. He judges the following two clauses to be unacceptable if the relative pronoun is deleted (examples from Bayer 1984: 223, grammaticality judgements are changed):

- (28) a. *Mir song's dem Mo (den) wo da Hund bissn hod.*  
 we tell-it the man(DAT) whom(ACC) that the dog bitten has  
 'We tell it to the man whom the dog has bitten.'  
 b. *Mir meng de Frau \*(dera) wo da Xaver*  
 We like the woman(ACC) whom(DAT) that the Xaver  
*wos gem hod.*  
 something given has  
 'We like the woman to whom Xaver has given something.'

To many speakers of Bavarian, there is clear difference in acceptability: (28a) is a lot better than (28b). Bayer remarks this in a footnote (1984: 265, footnote 25) and tries to explain it as the effect of a partial neutralization of the Bavarian Case system, where dative and accusative are subject to a kind of syncretism. Under this assumption it still remains unclear why (28a) should be better than (28b) if there is no difference made between dative and accusative. These facts follow naturally from the condition of Case visibility. The accusative is less marked in Bavarian than the dative and can therefore be more easily omitted. We have the same Case hierarchy as in the other varieties of German: nominative > accusative > other.

Again, this hierarchy reflects morphological markedness. The inflectional paradigm for the relative pronoun given under (29) shows that there is only one accusative form that is distinctive from the nominative form whereas all the dative forms are distinctive:

(29)		Masculine	Neuter	Feminine	Plural
	Nominative	<i>der</i>	<i>des</i>	<i>die</i>	<i>die</i>
	Accusative	<i>den</i>	<i>des</i>	<i>die</i>	<i>die</i>
	Dative	<i>den</i>	<i>dem</i>	<i>der(a)</i>	<i>dene(n)</i>

Since the relative pronoun may be deleted and a particle is not necessary if there is a relative pronoun, we have the following possibilities in Bavarian:

(30)	Spec of C	C
	a. relative pronoun	particle
	b. e	particle
	c. relative pronoun	e

These two rules apply optionally in Bavarian:

- (31) a.  $wo \rightarrow \emptyset$  /relative pronoun \_\_\_\_  
 b. relative pronoun  $\rightarrow \emptyset$  / \_\_\_\_  $wo$

If the null relative pronoun in (31b) is taken to be an instance of *pro*, b) is subject to the condition for *pro* that is identified by a co-indexed NP as given in (17).

A much discussed question arising in this context is why Bavarian has relative particles (and an extra complementizer *daß* in dependent *wh*-clauses) and standard German has not. Since these two varieties are closely related it is unlikely that there is a deep structural reason. I will not discuss this question in detail here but merely give a sketch of what may be the difference. As Bayer (1984) shows, C-elements in Bavarian tolerate extractions from IP, whereas in Modern Standard German they do not. Consequently, if the relative particle *wo* or the additional complementizer *daß* in dependent *wh*-clauses would be in the C-position in Standard German, it would prevent the *d-/w*-constituent from moving to Spec of C. In this way the features selected by the matrix clause (gender and number in the case of relatives) would be prevented from appearing in the C-projection.

Since Bavarian has relative particles which lexicalize the feature [+C], the relative pronoun may be deleted if a relative particle is present and Case visibility is obeyed. Bayer (1984) also observes that the relative clause must be adjacent to the head-NP if the relative pronoun is deleted. This is probably due to a locality condition for the identification of *pro* (cf. Grosu 1988: 47).

In Bavarian the relative pronoun may be deleted if there is a separate lexicalizer of [+C] subject to an adjacency condition and to Case visibility. Since the C-visibility condition is fulfilled by the relative particle, the relative pronoun can be omitted if the Case visibility condition is fulfilled. If there is no relative particle, the relative pronoun is obligatory because of C-visibility.

## 5. Some speculations on the historical development

In this section changes will be discussed which are all closely connected to C-visibility: the origin of complementizers and relative pronouns, the disappearance of relative particles and Case attraction, and the loss of independent V-end.

5.1. *The origin of complementizers and relative pronouns*

Complementizers have developed out of other word classes and phrases, such as adverbs, prepositions, pronouns, noun phrases and prepositional phrases. The complementizer *daß*, for instance, has developed out of a demonstrative pronoun in the matrix clause that was pointing forward to the following clause. *Daß* was for a long time a semantically neutral complementizer and could be combined with other subordinating elements which were originally part of the matrix clause. More and more they were analyzed as parts of the subordinate clause and finally an extra complementizer became superfluous. In our terms, the feature [+C] has been lexicalized separately for some time. Finally, the elements immediately preceding the [+C]-element acquired this feature themselves thus meeting the condition of C-visibility and obliterating the need for additional complementizers. There is still evidence for this development in present-day German, where some complementizers can either occur alone or appear combined with *daß* (*bis daß* - *bis*, *trotzdem daß* (dialect) - *trotzdem*). A few elements never succeeded in becoming a complementizer in their own right, and they can only appear in combination with *daß* (*auf daß*, *so daß*). Most of these elements, however, have acquired the feature [+C], which renders additional complementizers superfluous. This is essentially what happened also when relative pronouns developed.

It is uncontroversial that one class of relative pronouns (*d*-pronouns) have developed out of demonstrative pronouns in German as well as in other Germanic languages. But it is very controversial how this change came about (cf. the overview in Helgander 1971: 112-136). The theories concerning this point fall into two main groups. According to one view, the relative pronoun originated as a demonstrative pronoun in the matrix clause. Others hold that the relative pronoun developed out of a demonstrative pronoun in the relative clause, which was in front position and was reanalyzed as a subordinating element.

Advocates of the view that the relative pronoun originated in the matrix clause consider asyndetic relative clauses to be the earliest form of relative clauses (see Dal 1966: 198). Their subordination was merely signalled by the verb in clause-final (or "late") position. This theory was first formulated by Erdmann (1874) and subsequently improved by Maurer (1880).

Usually there was a demonstrative pronoun in the matrix clause that the relative clause was related to. Maurer sees a parallel between the development of the article and the relative pronoun both of which developed out of the demonstrative pronoun.<sup>16</sup> Demonstrative pronouns lost their stress and were

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16. Kurzová (1980: 35) notes that the article and the relative function of demonstrative pronouns developed together in the Germanic languages as well as in Greek. The process is demonstrated for Gothic in detail by Neckel (1900: 5ff.)

placed in front of the nouns. On account of this change, the former demonstrative pronouns were no longer able to point forward to a relative clause and the relative clauses were separated from their former head pronouns. So the pronoun had to be repeated in the matrix clause. This is called a “correlative pronoun”.<sup>17</sup>

Lernerz (1984: 85ff.) argues against the theory that the relative pronoun originated in the matrix clause with the following arguments. First of all, he sees a problem in the transition process because there is some reanalysis involved and the clause boundary moves. Secondly, asyndetic relative clauses allow no empty position. Thirdly, Case attraction, which is often cited as evidence for a transition process, occurs also after the transition process has taken place as is indicated by the meter.

All of these points, however, are not necessarily arguments against a transition process. The transition process is well attested for other elements in German, the most important one being *daß*, which developed out of a demonstrative pronoun in the matrix clause that was pointing forward to the next clause. As for empty positions in asyndetic relative clauses, they can be partly explained by Old High German being a *pro*-drop language. Apart from this, as Lernerz himself admits, Modern English provides examples for missing elements in asyndetic relative clauses, such as in *the man he saw*. That attraction occurs also after the transition (as indicated by the meter) is probably due to the fact that the transition is not yet complete.

From this it can be concluded that there are no important arguments against a transition of the pronoun. The advantage of this theory is that it is the only one which can offer some explanation for Case attraction.<sup>18</sup>

There is evidence for the following steps in the transition process. First (32b), the demonstrative pronoun was repeated in the matrix clause in order to point forward to the following relative clause, which was either asyndetic or introduced by a relative particle. It needs no extra explanation why this correlative pronoun bears the Case required by the matrix clause. More puzzling

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17. See Curme's (1912: 19) treatment of English relatives: “This repetition of the demonstrative is the origin of the so called correlative construction. Originally the demonstrative was repeated as it was needed at the end of the proposition to point to the following asyndetic relative clause. In course of time the second demonstrative lost much of its originally strong stress and glided over into the following clause as a relative correlative to the antecedent demonstrative.”

18. See the discussion of the subject by Dal (1966: 199): “An indication for the development of the relative out of the demonstrative is the widespread occurrence of so-called attraction in Old High German. In the earliest stages of Old High German the pronoun could be already repeated in the subordinate clause. [...] Where the two clauses require different Cases, the pronoun of the subordinate clause must often bear the Case required by the main clause. [...] In this construction, the pronoun is not yet completely separated from the main clause. Only when the pronoun was repeated in the subordinate clause and its Case is determined by its syntactic position in that clause, the actual relative pronoun came into existence.”

is the following step (32c'): The second pronoun is already part of the relative clause according to the meter, as Erdmann (1874: 53) and Behaghel (1928: 714) observe, but it nevertheless bears the Case required by the matrix clause. Because of its dubious double character I call it a "(cor)relative pronoun", because its syntactic position is in the relative clause but it bears a Case assigned by the matrix clause. The third step (32d) is that the pronoun always bears the Case assigned by the relative clause, now it is doubtless a relative pronoun. Under the assumption that a null relative pronoun is an empty category *pro* the steps are:

- (32) a. NP<sub>i</sub> [*pro*<sub>i</sub>...  
 b. NP<sub>i</sub> correlative pronoun<sub>i</sub> [*pro*<sub>i</sub>...  
 c. NP<sub>i</sub> [(cor)relative pronoun<sub>i</sub> (*pro*<sub>i</sub>)  
 c.' NP<sub>i</sub> [(cor)relative pronoun<sub>i</sub>  
 d. NP<sub>i</sub> [relative pronoun<sub>i</sub> ...

The fact that Case visibility as stated in section 2.1 holds for (32a) and (32b), can now be reduced to the condition on the identification of *pro* by a co-indexed NP as it was formulated for Modern Standard German and Bavarian in (17). (32c), however, is problematic: If it is assumed that there is a category *pro* that is co-indexed with the (cor)relative pronoun, the facts of Case visibility are captured by the condition for the identification of *pro* without an additional rule. But this would mean that an argument occurs twice, once as an empty category and once as relative pronoun, which is highly unlikely. Therefore, (32c') must be correct. This means that the Case required for the relative pronoun by the relative clause remains unrealized in the sense that it cannot be assigned, not even to an empty category. So the only possible explanation seems to be that the rules for Case identification between the head-NP and the empty pronoun operating in (32a) and (32b) are extended to an overt pronoun.<sup>19</sup> (32c') reflects a transitory stage. There is now an overt pronoun instead of a null pronoun. The peculiarities concerning Case assignment to this pronoun can be explained as follows: *pro* is replaced by an overt pronoun but the rules for Case identification operating in (32a) and (32b) still apply. A marked Case assigned by the matrix clause can replace an unmarked Case assigned by the relative clause.<sup>20</sup>

19. Hock (1988) gives another explanation for the same facts in Old English. He suggests that there is phonological rephrasing but no syntactic rebracketing. This seems to me to be an ad hoc-solution, if there is no other evidence for the independence of these processes.

20. Relative clauses in Swiss German provide an example of elements in CP being left unrealized. See the analysis by van Riemsdijk (1989), who assumes that a resumptive pronoun is moved to CP, cliticized and deleted under certain circumstances. Again there are effects of a Case hierarchy, in that only nominative and accusative NPs may be deleted, but not dative ones. This corresponds to morphological markedness, since only dative has separate Case forms, nominative and accusative forms are identical.



If the null relative pronoun is taken to be *pro*, it is immediately clear that there is a close connection between the existence of this kind of asyndetic clause and *pro*-drop. This was already observed by Maurer (1880), who posits a close connection between asyndetic relative clauses and what is nowadays called *pro*-drop. According to him, asyndetic relative clauses were only possible because a subject pronoun could be missing in earlier stages of German. This explains why the nominative did not have to be realized, but this does not explain why the accusative may be left unrealized as well. For missing object pronouns Maurer assumes some sort of analogy to subject pronouns.

This analogy can be made explicit by the conditions for the licensing of *pro*. A missing subject relative pronoun could be identified in two ways: a) by co-indexation with  $I^0$  or b) by its co-indexation with the head-NP (cf. section 3.2). Since the data allowed no decision between a) and b) for null subject relative pronouns, it could be assumed that b) is operating.

Case attraction, as illustrated with the examples given under (1) where the second pronoun was (tentatively) called a relative pronoun, follows naturally if the second pronoun is taken to be a correlative pronoun in the matrix clause pointing forward to the relative clause, whose C-projection is lexically empty. The facts about Case assignment follow without additional rules if the null relative pronoun is taken to be an instance of the empty category *pro*. The rule given under (17) and repeated here as (33) applies as well:

- (33) The features of *pro* can be identified by a co-indexed NP iff this NP bears
- a. the same Case form, or
  - b. a Case form more marked, that is, further right on the hierarchy nominative > accusative > other.

If the second pronoun is part of the relative clause according to the meter, this can be explained as a transitory stage, where the rules of Case identification between the head-NP and *pro* are extended to an overt pronoun that replaces *pro*.

We therefore conclude that relative pronouns originated in the matrix clause, and that the following relative clause could either have an empty C-projection or the C-position filled by a relative particle. The disappearance of relative particles as described in the next section shows that the relative pronouns acquired the feature [+C], which rendered extra relative markers superfluous.

## 5.2. The disappearance of relative particles and Case attraction

A relative pronoun has a dual function, since it is at the same time an argument of its verb and a subordinating element. Many languages have different means

to express these two functions, pronouns for the argument function and separate relative particles which have only a subordinating function. In Old High German, the deictic adverb *thar* could be used as relative particle, but it did not occur very often. Up to the time of Luther *da* could be used as relative particle, but became increasingly archaic (Behaghel 1928: 715). The complete disappearance of these relative particles in New High German shows that the reanalysis of the old demonstrative pronouns as being [+C]-elements is complete. Particles were no longer needed because the relative pronouns acquired the feature [+C].

So far it has been established that New High German and Old High German are different with regard to C-visibility, which accounts for the appearance of [+C]-elements and the dependence of V-end-position on these elements.<sup>21</sup> But what has Case attraction got to do with it?

A clue is given by the conditions in Gothic. Gothic is a language where a relative particle (*ei*) occurs in every instance. In Gothic the relative pronoun (which forms a phonological unity with the particle) is free to take either the Case assigned by the matrix verb or the relative verb in accordance with the rule of Case visibility as stated above in (5).

It can generally be observed that in languages with separate relative particles the relative pronoun is more open to Case assignment from the matrix clause (see Johansen, 1935: 59). This probably holds because the relative pronoun is released from its subordinating function and therefore it is less necessary to indicate by Case assignment that it belongs to the relative clause. In other words, elements with the feature [+C] are neither subject to Case attraction nor to deletion. If there are separate words to lexicalize [+C], the relative pronoun does not bear this feature and therefore can be attracted or deleted under certain circumstances.

### 5.3. *The loss of independent V-end*

All the changes discussed so far have been reduced to C-visibility, which holds in New High German, but not in Old High German. Now of course the question arises why the condition of C-visibility is valid for New High German, but not for Old High German. What motivated the change?

There have been various attempts to explain how it came about that the C-position has to be filled in New High German (in the sense discussed above). Yet while they can shed some light on the nature of C-visibility, none of them

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21. As one of the reviewers points out, there could be a connection between C-visibility and the rise of *that-t*-phenomena. Subject extraction from *daß*-clauses is not possible for speakers of Modern Standard German: \**Wer glaubst du, daß das gesagt hat?* In Bavarian and other dialects there is no such restriction arguably because complementizers do not block access to the Spec of C-position.

can explain why the change occurred, as far as I can see.

Lenerz (1984, 1985) gives an account of the changes in verbal position and clause structure from Old High German to New High German. The central thesis of Lenerz (1984) is that there has been very little actual syntactic change in the development of German, what has mainly changed are the form-function-relationships. In accord with this thesis Lenerz shows that all these possibilities of verb position existed in Old High German, but were partly used for different purposes. While V1 in New High German occurs in *yes/no* questions, imperatives, conditionals and some marginal sentence types like exclamatory and optative sentences, in Old High German V1 could be used in declarative sentences which should receive a particular stress.

Lenerz (1985) assumes that early Germanic sentences were (in more recent terms) bare IPs, where any constituent could be preposed, also the finite verb. The preposing of the verb is a stylistic rule with “the effect of emphasizing the whole content of the sentence similar to existential sentences in English and German” (Lenerz 1985: 119). An example is given in (34).

- (34) Uuarun *tho hirta in thero lantskeffi uuahhante.*<sup>22</sup>  
 were there herdsmen in the country watching  
 ‘There were herdsmen in the country on watch.’

(Tatian 6, 1, Lenerz 1985: 103)

Lenerz assumes that this V1-pattern led to a reanalysis of the sentence structure with a base generated Infl-position in front of the sentence. V2 then is the effect of preposing another constituent before the finite verb in front position. In this way, all three verb positions could be generated. The only actual syntactic change in verb position he sees is that V-end was not dependent on a complementizer or relative/interrogative element in the same clause.

Lenerz (1985) deals at some length with the question how this change came about. In his model of modern German sentence structure there is a *Composition* and a “*d-/w*-position” in front of it. These correspond to the *C*<sup>0</sup>-position and the *Spec* of *C*-position in newer versions of generative grammar.<sup>23</sup>

He considers two possibilities: In Old High German either the CP was left empty or there was no CP at all in these sentences, that is, they were bare IPs. He comes to the conclusion that the second alternative is the more plausible one. Since Proto-Germanic was an SOV-language, it had no initial complementizers. Complementizers were gained from other word classes such as demonstrative pronouns, adverbs or prepositions, which were reanalyzed as being in the first

22. This use is common to Germanic languages like Yiddish, Icelandic (cf. Vikner 1993: 98ff.) and still marginally possible in Modern German, for instance at the beginning of jokes: *Kommt da ein Mann herein...*

23. Lenerz has an extra topic position in front of the *d-/w*-position which corresponds to the “Vorfeld”. Nowadays it is assumed that the *Spec* of *C*-position itself corresponds to the Vorfeld.

position of the following clause. In this way, the sentence structure with a CP was generalized, whereas the “old structure” with no CP became increasingly archaic and restricted in its use. The initial clause structure (35a) was replaced by (35b) which again was replaced by (35c):

- (35) a. [IP ]  
 b. ([CP C] [IP ...]  
 c. [CP C [IP ...

Lenerz assumes that at some point in the development of sentence structure the C-position became identified with the position of the fronted finite verb. This position was thus associated with verbal inflection and acquired the Infl-characteristics it still holds today.<sup>24</sup>

This development finally resulted in a rule that the finite verb had to move to this position unless a complementizer or relative/interrogative element was present, which is the state of affairs in New High German.

A weakness in Lenerz’s account is the reanalysis that is involved, especially that clauses changed from being bare IPs to CPs. An attempt of explanation that can do without the kind of reanalysis proposed by Lenerz is Weerman’s (1989) account. A basic assumption in his framework is that information contained in the D-structure must be made visible at S-structure. He tries to establish that general principles of generative grammar theory like Case theory, binding theory and theta-theory apply not only to nominal projections but also to verbal projections ( $V^{\max}$  = clauses).

Weerman assumes that there are in principle two ways to make D-structure information visible at S-structure. This can either take place by morphological means (that is, inherently) or by a fixed syntactic position (that is, syntactically). Relevant D-structure information for nouns is the theta role which can be made visible at S-structure either morphologically (inherently) or syntactically by a fixed position. For clauses he assumes it is their “modal role” which must be made visible and this role can either be made visible by verbal inflection (inherently/morphologically) or by finite verbs in a certain syntactic position, namely the  $C^0$ -position, which is the only one where this modal role becomes syntactically visible. Inherent or morphological visibility is possible only if the verbal inflection is rich enough.

In this way Weerman explains why in Old High German the C-position could be empty, namely because verbal inflection was rich enough to allow for morphological/inherent identification. Thus the loss of the possibility of an empty C-position is seen as an effect of deflexion.

The same holds for the identification of theta roles of NPs. They can be

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24. These Infl-characteristics are pointed out by Bayer (1984), who shows that complementizers for example in Bavarian may be connected with verbal inflection morphemes.

marked morphologically if the Case system is rich enough. If the Case system is defective the theta roles have to be made visible by a fixed syntactic position.

In Weerman's framework a separate Comp/Infl parameter (as first suggested by Platzack 1986) is unnecessary. The parametric variation is whether S-structure identification of theta-roles of NPs and modal roles of clauses is made morphologically or syntactically. This modal role, which Weerman is not very explicit about, is to be understood in a semantic sense: "The characteristic of a finite clause is that it expresses the attitude of the speaker of the clause towards the truth value that is expressed" (Weerman 1989: 85). All finite clauses, also the independent ones, have a modal role. Just as the finite verb plays a central role for the identification of the modal role of an independent clause, since the finite verb can be marked for mood, the complementizer or relative/interrogative element plays a central role in determining the modal role of a dependent clause. Since the modal role of independent clauses was marked more and more syntactically, that is, by a fixed position of the finite verb in the C-position, in a parallel fashion this position was assumed to play a central role for the modal role of dependent clauses. Here Weerman sees a motivation for the transition of elements from the matrix clause into the C-position: There was a search for lexicalizers of this position in dependent clauses, and they could be found in the matrix clause adjacent to the dependent clause, which made reanalysis of them as a part of the dependent clause easily possible.

One rather obvious problem with Weerman's explanation of the rise of V2 is that verbal inflection had hardly declined in Old High German at the time V2 in independent clauses was already prevalent.<sup>25</sup> It is therefore questionable whether the process of deflexion motivated the change. In the same vein, the traditional view (which is adopted by Weerman) that a fixed word order is the result of the loss of a rich morphological Case system can be criticized. English, for example, which changed from a relatively free word order comparable to that of New High German to a fixed order, still had a differentiated morphological Case system when the change was taking place. So in both cases it seems implausible to see deflexion as the cause of these changes in word order.

In Weerman's framework it could be argued that the parameter is changed from inherent to syntactic identification and then deflexion takes place because morphological identification is no longer necessary. But this would of course mean that one has no explanation for the different parameter setting. Or it could be argued that already a minimal amount of deflexion is sufficient to tip the balance towards syntactic identification with possibly other factors involved.

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25. Another problem is Weerman's assumption that there is no separate I-projection. Weerman's account runs into difficulties with languages where there is clear evidence for an I separate from C (cf. also the criticism by Vikner 1993: 62f.). For German, this is controversial. It has been argued that the I- and the C-projection are not separate but projected onto one another (see Haider 1988a).

Weerman therefore remains within the limits of generative grammatical theory which gives no reasons for changes but tries to describe the variations that are possible according to general grammatical principles.

These objections, however, do not mean that there is no connection between deflexion and the rise of V2. It can be observed in other areas of grammatical change that new means of expression are created before old ones become obsolete. An example from German is the development of sentence negation. *En* (or *ni*) still existed as a negation particle when *nicht* was introduced as a reinforcing element. Subsequently, *en* was cliticized and finally omitted, *nicht* alone expressed negation (*ich en weiz* > *ich en weiz niht* > *ich enweiz niht* > *ich weiz niht* 'I don't know'). In a parallel fashion, V1 and V2 as means of syntactic S-structure identification was already introduced when morphological identification by means of verb inflection was still available. For some period, V1 and V2 had only reinforcing character but gradually came to be the only means of identification as deflexion developed further.

Weerman's basic idea that the "modal role" of a clause can be made syntactically visible at the C-position sheds some light on the nature of C-visibility. As mentioned above, in independent clauses word order and verbal inflection are means to characterize it, in dependent clauses it is mainly the complementizer which can indicate the modal role.

Old High German, which has a rich verbal inflection, but not yet a differentiated system of subordination (as hardly any complementizers existed) could have the parameter set to morphologic/inherent visibility of the modal role of clauses. The rise of V2 strengthened the importance of syntactic visibility in the C-position and in this way promoted the development of complementizers. It is hard to see how a differentiated system of subordination could be established by inherent marking via verbal inflexion, since there was only the indicative/subjunctive distinction to mark the difference between independent and dependent clauses. Thus C-visibility was promoted by the development of a differentiated system of hypotaxis.

But why, one could ask, is there no V2 in subordinate clauses without complementizer in Old High German, such as asyndetic relative clauses? What prevented the verb from moving there? One could argue that verbs are in general unsuitable to make the modal role of subordinate clauses visible. Or, what is more probable, the C-position (which already existed, but did not have to be visible) was bearing the features assigned to it from the main clause. And the finite verb was simply not compatible with these features, just as it is not compatible with these features in New High German with the effect that the finite verb does not move into the C-position in relative clauses or subordinate interrogative clauses.

Weerman's theory therefore elucidates the nature of C-visibility: C-visibility is one way to make D-structure information about the role of clauses visible.

#### 5.4. The scenario

Having established a connection between deflexion and the rise of V1/V2 as well as the appearance of new complementizers it is now possible to give the following scenario as far as the changes concerning relative clauses are concerned.

Deflexion is indirectly connected with the development of relative clauses in two ways: It gives rise to V1/V2 and thus to C-visibility creating a need for lexicalizers of C, and it promotes the disappearance of *pro*-drop which had made asyndetic relative clauses possible.

The diagram under (36) on the next page illustrates the factors involved and their approximate timing. Exact dating of the single events is not possible for various reasons: Most of these events take place over a long period of time, they are gradual processes, not overnight changes. Also, the arrangement of the boxes is not to be interpreted as a strict chronological order. The disappearance of *pro*-drop in Middle High German took place over a long period of time which overlapped with the reanalysis of matrix pronouns as relative pronouns.

### 6. Summary

This article dealt with syntactic differences related to relative clauses in several varieties of German. Old High German and New High German were shown to differ with respect to the possibility of Case attraction, asyndetic relative clauses, the existence of relative particles and independent V-end (finite verb in clause-final position without a complementizer in the same clause). Old High German and Middle High German have all these characteristics, New High German has none of them. These differences were reduced to a single condition which was called C-visibility.

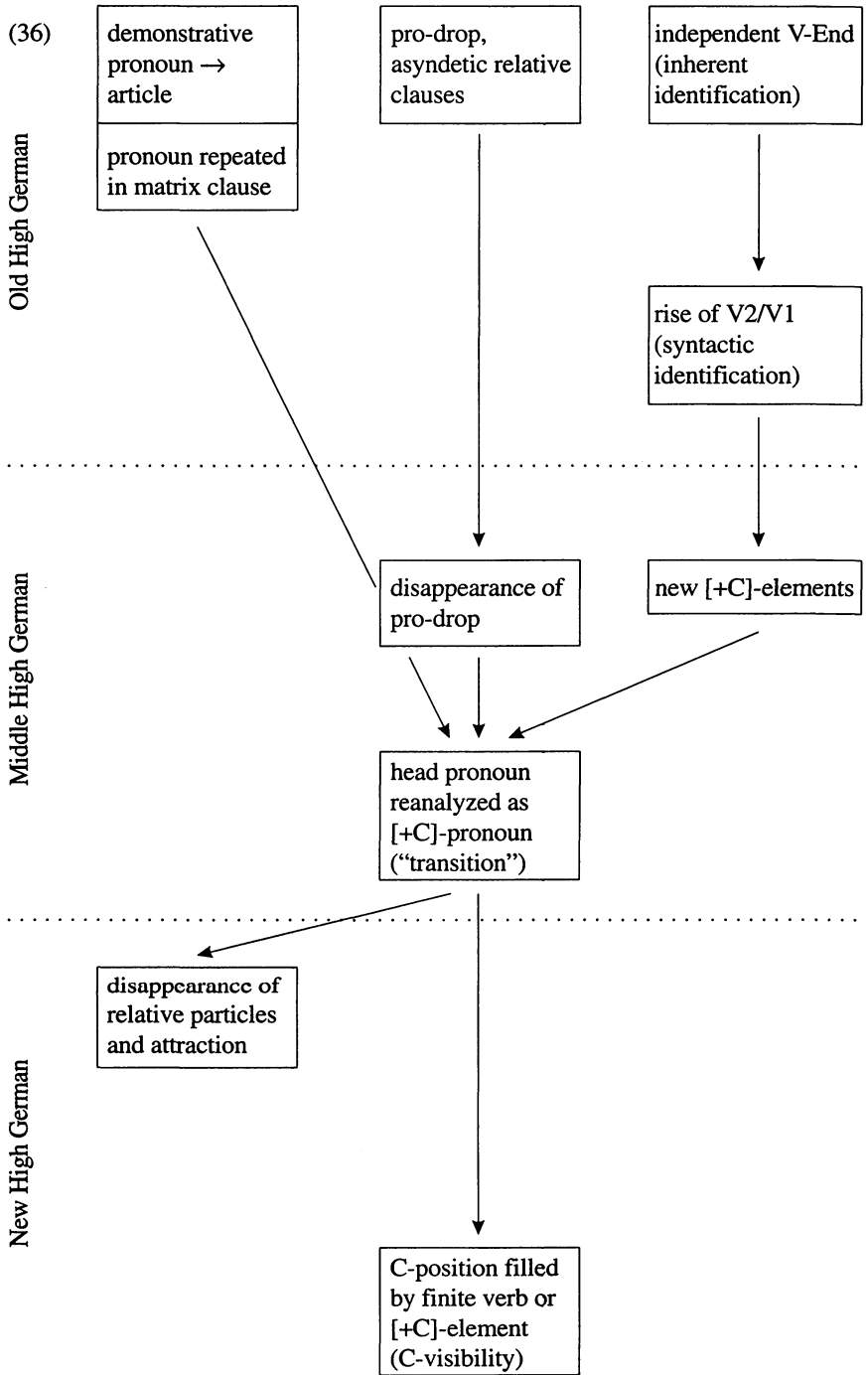
Deletion of either relative pronoun or head pronouns were shown to be subject to a condition called Case visibility that is sensitive to a language specific Case hierarchy, which for all varieties of German is nominative > accusative > other. Case visibility was argued to be a condition for the identification of *pro* by co-indexed NPs.

In the final section diachronic changes related to C-visibility were discussed. C-visibility was explained as one way to make D-structure information about modal roles of clauses visible. A scenario for the changes discussed in this article was given.

The conditions of C-visibility and Case visibility and their interaction were shown to account for the diachronic and dialectal variation that relative clauses exhibit in several varieties of German.

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