# Control, raising and case: from the perspective of passives

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## 1   Introduction

In this paper we examine the definitions of raising and control in relation to passives in German and Dutch. Both languages have two (non-stative)[1] passives; in German we distinguish the "agentive" passive with the auxiliary *werden* and the dative passive with the auxiliaries *erhalten*, *bekommen* and *kriegen*. Arguments in accusative case become the subject of an agentive passive, whereas arguments in the dative case can become subject of a dative passive. In Dutch we distinguish an agentive passive with the auxiliary *worden* and a secondary object passive with the auxiliary *krijgen* (the *krijgen*-passive). Direct objects become subject of an agentive passive, secondary objects become subject of a *krijgen*-passive. The (Dutch) example in (1) reveals an active sentence in (a), its agentive passive in (b) and its *krijgen*-passive in (c).

(1)   a.   Peter       biedt  hem       een biertje     aan.
           Peter-SUBJ offers him-OBJ2 a     beer-OBJ PART

           "Peter offers him a beer."

      b.   Hem       wordt   (door   Peter) een biertje      aangeboden.
           him-OBJ becomes (through Peter) a     beer-SUBJ offered

           "A beer is offered to him (by Peter)."

      c.   Hij       krijgt (van   Peter) een biertje     aangeboden.
           He-SUBJ gets   (from Peter) a     beer-OBJ offered

           "He is offered a beer (by Peter)."

In the first part of this paper, the Dutch *krijgen*-passive will be compared to the German dative passive (henceforth the dative passive and *krijgen*-passive will be refered to as *passive2*). It will be argued that both Dutch and German passive2 differ from the English *get*-structure. Additional evidence supporting this claim for Dutch will be provided.

Previous analyses of the German and Dutch passive2 by (Müller 2002) (for German) and (van Noord and Kordoni 2005) (for Dutch) have shown that these passives are raising structures. The second part of this paper will provide a description of the treatment of raising in HPSG. It will be shown that current assumptions concerning the syntax of raising in combination with the standard vision of structural case do not allow these passives to be analysed as pure raising structures. Different solutions to this problem which do not alter the treatment of raising have been proposed by (Gunkel 2003) and (van Noord and Kordoni 2005). We will discuss these solutions, and in addition, provide an alternative that will reconsider the syntactic behaviour of raising.

The conclusion and outlook will present the advantages and disadvantages of proposals made in the previous part. We will argue that the Dutch and German data presented in this paper suggests that the syntax of raising need to be reconsidered. However, additional research including more languages is necessary to see whether the treatment of raising in HPSG needs to be revised.

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[1]The stative passives in German and Dutch formed with *sein* (German) and *zijn* (Dutch) go beyond the scope of this paper and will not be discussed here.

## 2 The syntax of passive2

### 2.1 The difference between Dutch and German second passives

The German dative passive takes dative arguments and turns them into subjects. The datives that become subjects can be part of a ditransitive, but this is not necessarily so as the example[2] below reveals.

(2) a. Wir      helfen Peter.
     we-NOM help    Peter-DAT
     "We help the man."

    b. Peter      bekommt (von uns) geholfen.
     Peter-NOM gets     (of   us)   helped
     "Peter is helped (by us)."

In general only nominative and accusative are marked in Dutch. Only the third person plural pronoun has three forms, the nominative form *zij* and the forms *hen* and *hun*. Officially, the pronoun *hun* is used for secondary objects and a small set of direct objects, for other direct objects and complements of the preposition *hen* should be used. Therefore, *hun* could be seen as a dative and *hen* as the accusative case. However, most Dutch speakers do not distinguish the two forms and it is often claimed that Dutch does not distinguish dative case. In the Dutch *krijgen*-passive, as was mentioned above, the subject of the sentence corresponds to the secondary object of the active counterpart. Our corpus study has revealed that in approximately 4000 Dutch sentences containing a *krijgen*-passive, the verb has been (at least) ditransitive. Transitive verbs in Dutch cannot occur as the verbal complement of a *krijgen*-passive, even if the direct object should (officially) occur with the 'dative' pronoun *hun*. The Dutch equivalent of (2b) is ungrammatical, as shown in (3b).

(3) a. Peter      heeft hun      geantwoord.
     Peter-NOM has    them-DAT answered
     "Peter has answered them."

    b. *zij       krijgen geantwoord.
     They-NOM get     answered
     "They were answered."(intended)

Examples (2) and (3) show that the Dutch and German passive2 are different; in German the auxiliary selects an argument based on its case, whereas in Dutch the auxiliary selects the secondary object. Note however that some German speakers do not accept (2b). For these speakers the German dative passive may have the same restrictions as the Dutch *krijgen*-passive.

### 2.2 The Dutch *krijgen*-passive and the English *get*-structure

It has been argued that the German passive2 is not a real passive, and that it behaves like the English *get*-structure. The English *get*-structure allows for the introduction of a new argument, as shown by (Woolford ). Her example is presented in (4) below.[3]

(4) a. Pat got/had three papers accepted.

    b. *They accepted Pat three papers.

The correspondence between a (possible) dative argument and the German dative passive and a secondary object and the Dutch *krijgen*-passive is obligatory. The German dative passive and the Dutch passive2 differ, thus, from the English *get*-structures. Additional evidence for the correspondence between a *krijgen*-passive in Dutch and the presence of a secondary object comes from Dutch causative-movement verbs. Verbs like *werpen* (throw), *schoppen* (kick) and *slaan* (hit) have two subcategorisation frames in Dutch. They are either transitive or they subcategorise for a subject, a direct object, a secondary object and a locative prepositional phrase. Ditransitive structures with these verbs are ungrammatical. As the examples below reveal, the locative is obligatory in case of a *krijgen*-passive as well.

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[2]Several linguists that are native speakers of German (among others (Gerdes 2002)) have shown examples where *helfen* is passivised in a dative passive, but not all German speakers accept them. We use this example here because it is essential for the explanation of (Gunkel 2003)'s analysis.

[3]Example from (Woolford ) (examples (41) and (42), p.17).

(5) a. *Ik werp hem de bal.
       I    throw him  the ball

   "I throw the ball at him." (intended)

   b. *Hij krijgt de  bal  geworpen.
       he    gets   the ball thrown

   "The ball is thrown at him." (intended)

   c. Ik werp hem de  bal  in de  handen.
      I  throw him the ball in the hands

   "I throw the ball in his hands."

   d. Hij krijgt the ball in de  handen geworpen.
      he  gets   the ball in the hands   thrown

   "He receives the ball thrown in his hands."

Examples (5a) and (5d) show that in Dutch the *krijgen*-passive can only occur if the passivised verb takes a secondary object. The fact that all verbs occurring in a *krijgen*-passive structure in the CLEF-corpus[4] are at least ditransitives supports this claim.

# 3 Raising and the Dutch and German passive2

## 3.1 The problem of German and Dutch passive2

Having established that the subjects of these passives correspond to arguments of the passivised verb, the question now rises whether the passive2 of German and Dutch are instances of raising or control. (Müller 2002) provides evidence that in the German dative passive the subject is raised, (van Noord and Kordoni 2005) show that this is also the case for Dutch *krijgen*-passives. Due to lack of space, the evidence provided by them has not been described here. Although the evidence provided by (Müller 2002) is -in our opinion- convincing, the analysis he proposes for the dative passive is not considered a "true" raising analysis under current assumptions in HPSG. In this part we will discuss why the passive2 is problematic for the standard analysis of raising in HPSG.

(Pollard and Sag 1994) discuss various differences between raising and control; the essential (and a well established) difference concerns theta-role assignment. A control verb assigns a theta-role to its controlled argument, whereas a raising verb does not, as stated in the raising principle. Throughout this paper, we will use this criterion to decide whether a construction is an instance of raising or control.

(Pollard and Sag 1994) also point out a syntactic difference between raising and control, mainly based on work on Icelandic by (Sag, Karttunen, and Goldberg 1992). It is assumed that in the case of raising, the entire synsem of the raised argument is structure shared with an argument of the verbal complement, whereas in the case of control merely the *content* of the NP is token identical. However, as noted in (Pollard and Sag 1994), this syntactic difference is not as well established as the semantic difference. Some Icelandic speakers for instance, accept sentences in which the controlled argument has kept the case assigned by the lower verb.[5] We will maintain the idea that raising and control differ in theta-role assignment. The syntax of raising may differ from the syntax of control in the sense that it always entails full structure sharing, but this is still an open question.

The idea that raising involves structure sharing of the entire synsem and control does not has been generally adopted by researchers dealing with these phenomena in HPSG. Token identity of the synsem of an NP entails token-identity of the case it bears. Many languages have matrix verbs that trigger subject-to-object raising, where an argument normally bearing nominative case occurs in accussative case when it is raised. In order to account for these structures, the distinction between structural and lexical case previously used in theories like GB has been introduced in HPSG. An argument bearing a structural case may change its case when raised to a different syntactic position. If an argument bearing a lexical case is raised, its case will be preserved. Following (Przepiórkowski 1999), we will assume that structural cases are assigned according to their position on the dependency list, and that raised arguments, marked [RAISED +] are exempt from this case

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[4]The Dutch CLEF corpus was formed during the CLEF (Cross-Language Evaluation Forum) workshop in 2001. It consists of over 4 million sentences coming from newspaper articles (coming from NRC handelsblad and Algemeen Dagblad) published in 1994, 1995.

[5]In the meantime, additional evidence from other languages has shown that control indeed may or may not exhibit case transmission, and thus can behave like raising on the syntactic level.

assignment principle. This analysis allows for structural cases to change when an argument is raised. Lexical cases will be preserved, because they are not assigned by a case assignment principle.

(Heinz and Matiasek 1994) show which cases in German are structural and which cases are lexical. They show that accusative, nominative and genitive cases are generally structural, though both accusative and genitive may be lexical as well. The dative is a lexical case in German. (van Noord and Kordoni 2005) provide evidence that, under the definition of lexical case as it is used in (Heinz and Matiasek 1994), the Dutch secondary object bears a lexical case as well. If the German and Dutch passive2 are instances of raising, as has been proven by (Müller 2003) and (van Noord and Kordoni 2005), the raised argument should keep its lexically assigned case. However, as the examples in section (2) have shown, the subjects of the Dutch and German passive2 bear a nominative case. It is therefore not possible to analyse these passives as true raising structures under standard assumptions of HPSG. The next section will present solutions to this problem.

## 3.2 How to analyse German and Dutch passives as raising

There are several ways to solve the problem presented in the previous section which differ from a theoretical point of view. One solution may be to maintain the assumptions concerning the syntax of raising as well as the definitions of structural and lexical case. In this case an additional mechanism must be introduced to allow for the passive2 to be analysed as a true raising structure. Such a mechanism has been proposed by (van Noord and Kordoni 2005). Another solution, which has been persued by (Gunkel 2003) for German, maintains the syntactic analysis of raising, but changes the status of the dative case in German and the case of the secondary object in Dutch: if these cases are structural instead of lexical, they are expected to change into a nominative when the argument is raised to a subject position. A third way this problem may be solved would be to abandon the assumption that raising necessarily involves structure sharing of the complete synsem. To our knowledge this solution has not been proposed before, though if the analysis of the auxiliary *bekommen* proposed by (Müller 2002) is to be taken as a true raising analysis, it has been adopted implicitly in (Müller 2002).

This section will briefly present the first two solution, the third solution will be presented in section (3.3). Advantages and disadvantages of each proposal will be discussed. During the discussion we will respect the following assumptions: firstly, it depends on theta-role assignment whether a structure is an instance of raising or control. It is an empirical question whether they reveal different syntacitc behaviour as well. Secondly, we assume that the syntactic behaviour of raising may universally involve structure sharing of the entire synsem, but this may as well be a language specific property, or it may depend on the raising verb. Thirdly, if a verb has an argument which bears a lexical case, this case is by default maintained when a raised (or controlled) argument has a token-identical synsem. Furthermore, we assume that "agentive" passives and the passive2 ought to be analysed in a similar way.

(van Noord and Kordoni 2005) propose an object-to-subject raising function which allows for the case to change when raising occurs.Their function is presened in (Figure 3.2) below.

- raise_to_subject
$$\left( \begin{bmatrix} \text{LOC} & \begin{bmatrix} \text{CAT} & \begin{bmatrix} \text{HEAD} & [\text{CASE } case] \\ \text{SUBCAT} & \boxed{1} \\ \text{LEX} & \boxed{2} \end{bmatrix} \\ \text{CONTENT} & \boxed{3} \\ \text{CONTEXT} & \boxed{4} \end{bmatrix} \\ \text{NONLOC} & \boxed{5} \end{bmatrix} \right) \longrightarrow$$

$$\begin{bmatrix} \text{LOC} & \begin{bmatrix} \text{CAT} & \begin{bmatrix} \text{HEAD} & [\text{CASE } nom \vee acc] \\ \text{SUBCAT} & \boxed{1} \\ \text{LEX} & \boxed{2} \end{bmatrix} \\ \text{CONTENT} & \boxed{3} \\ \text{CONTEXT} & \boxed{4} \end{bmatrix} \\ \text{NONLOC} & \boxed{5} \end{bmatrix}$$
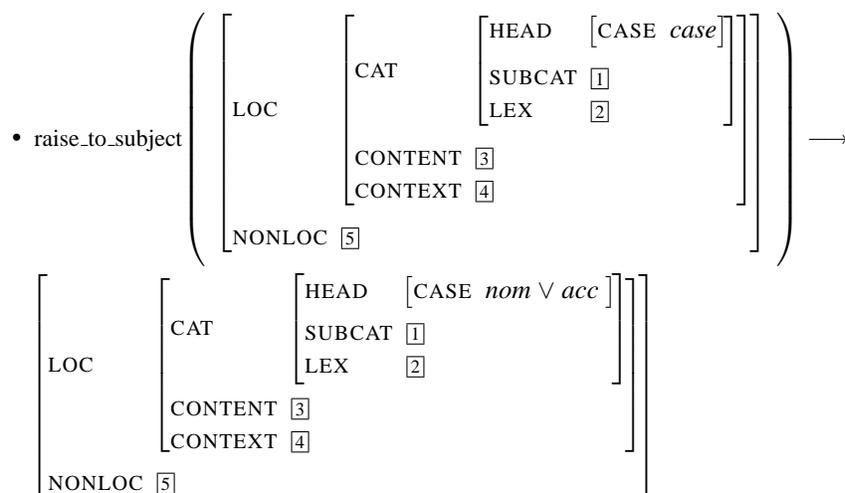
Figure 3.2: Definition of the function raise_to_subject()

When the raise-to-subject function applies, all features of the synsem are structure shared, except for the case value. Linguists who have criticised this analysis have argued that this analysis is a computational trick. This might be true, but

it is the only way to analyse the German and Dutch passive2 as true raising structures under current HPSG assumptions. Moreover, if we want to maintain that the complete synsem is shared in raising, their analysis describes exactly what is going on: all values of the synsem are token-identical, but somehow the case value "slips through" this unification constraint and the case changes. On the other hand, the passive2 is a raising structure and the lexical case of the raised argument is not maintained, contrary to the prediction made by full structure sharing. Therefore, this passive may indicate that either assumptions about raising, or assumptions about the case of the raised argument are not correct. The other proposal presented here, as well as the proposal made in the next section, assume that the passive2 provides evidence for one of these two claims.

Lutz Gunkel proposes an analysis that assumes that a dative in German may be structural. A difficulty with this assumption, when assigning structural case as proposed by (Przepiórkowski 1999), is that structural case is assigned according to the position of the argument on the dependency list. In general, it would be possible to assume that the structural dative is assigned to the secondary object, but as the example (2b) above has shown, a dative passive may also occur with a transitive verb.

(Gunkel 2003) proposes that German has two structural cases: the first, *struc1*, is either nominative or accusative, the second, *struc2* is either nominative or dative. Ditransitive verbs as well as transitive verbs like *helfen* select for an argument bearing a *struc2* case. When this argument is not raised, and not placed on the first position on the ARG-ST, it will bear a dative case. When raised to a subject position, it will bear a nominative case. This analysis works, but it renders the perception of case more complicated. It seems that only dative passives support the claim concerning the existence of two structural cases. Unless there is supplementary evidence for these two different kinds of structural cases, an alternative analysis avoiding such a complication would be preferable.

The solutions explained above, both involve a complication of the grammar (by assuming a more elaborate case system in German or by an additional mechanism) in order to maintain the idea that a raising structure must involve structure sharing of the complete synsem. The next section will present a third solution which provides a simple analysis for Dutch and German passives. This analysis consists in a revision of the syntactic behaviour of raising.

## 3.3 Bringing raising and control closer

As was mentioned above, the hypothesis that raising entails token-identical synsems is based on evidence coming from Icelandic quirky cases. In their discussion of this analysis, (Pollard and Sag 1994) suggest that control may (sometimes) have the same properties as raising. In order to solve the problems with the German and Dutch analysis, we suggest to turn this idea around: raising may (sometimes) have the same properties as control. Looking at Dutch and German examples in this paper, it is not clear what can be gained by structure-sharing the complete synsem. It seems to introduce more problems than it solves. It is an empirical question whether the syntactic behaviour of raising in Icelandic is a universal property of raising.

(Przepiórkowski and Rosen 2004) describe the behaviour of raising and control in Czech. Their paper shows that raising generally involves full structure sharing, whereas control may or may not share the complete synsem. However, it does not seem to be the case that raising necessarily involves full structure sharing. (Przepiórkowski and Rosen 2004) observe the following:

"From this perspective, it is worrisome that (...) some speakers of Czech (about 12 percent) accepted the following raising construction without case transmission:

(6) a. ??Bylo vidět dost     lidí     vracet se   od    okénka     nespokonjení.
       was    seen  enough-NOM people-GEN return from counter dissatidfied-NOM

   'One could see quite a few people return from the counter dissatisfied'. "

((Przepiórkowski and Rosen 2004) p.41)

Apparently, not all raising structures entail structure sharing of the complete synsem. If this is the case, the problem presented in (3.1) could be solved by simplifying the analysis of raising and assume that raising – at least in Dutch and German – may involve structure sharing of content only. This would mean that the analysis for the German dative passive remains as proposed by (among others) (Müller 2002), but they will now be considered a"true" raising structure. In order to provide a uniform analysis of passives in Dutch and German without supplementary mechanisms, the analyses proposed for the German agentive passive and for the two Dutch passives are changed. To illustrate the analysis, a part of the lexical

entry for the passive auxiliaries *krijgen* and *worden* are presented in (7) and (8) respectively.

(7)  *krijgen* (secondary object raising auxiliary)

$$
\begin{bmatrix}
\text{SUBCAT} & \left\langle \text{NP}[nom]_{\boxed{1}} \right\rangle \oplus \boxed{2} \oplus \boxed{3} \\[2em]
\text{XCOMP} & \left\langle V \begin{bmatrix} \text{LEX} & + \\ \text{SUBCAT} & \boxed{2} \oplus \left\langle \text{NP}\left[dat\right]_{\boxed{1}} \right\rangle \oplus \boxed{3} \\ \text{XCOMP} & \langle\rangle \end{bmatrix} \right\rangle
\end{bmatrix}
$$

(8)  *worden* (object raising auxiliary)

$$
\begin{bmatrix}
\text{SUBCAT} & \left\langle \text{NP}[nom]_{\boxed{1}} \right\rangle \oplus \boxed{2} \oplus \boxed{3} \\[2em]
\text{XCOMP} & \left\langle V \begin{bmatrix} \text{LEX} & + \\ \text{SUBCAT} & \boxed{2} \oplus \left\langle \text{NP}\left[acc\right]_{\boxed{1}} \right\rangle \oplus \boxed{3} \\ \text{XCOMP} & \langle\rangle \end{bmatrix} \right\rangle
\end{bmatrix}
$$

Note that *krijgen* and *worden* are analysed in the same manner as *bekommen* is analysed by (Müller 2002). The difference lies in the fact that under our analysis, raising does not entail full structure sharing. Therefore these structures are instances of raising, despite the fact that they do not exhibit case transmission. Another difference between the analysis for *bekommen*, is that no distinction has been made between structural and lexical case. We have not used this distinction in our representation, because we are not convinced that structural and lexical case need to be distinguished in Dutch. A detailed discussion on this matter goes beyond the scope of this paper. If it would turn out to be linguistically motivated, the analysis can easily be adapted to use structural and lexical case.

The analysis presented in this section seems preferable to the analyses presented in (3.2), because it provides a simple uniform account for passives, without using an additional mechanism or a second structural case. It must be noted though, that this analysis can only be used if one abandons the assumption that raising involves full structure sharing. As mentioned in section (3.2), if one wants to maintain the idea that full structure sharing -and thus case transmission- is a universal property of raising, a mechanism as proposed by (van Noord and Kordoni 2005) must be used to account for these passives.

## 4   Conclusion and Outlook

In this paper we have provided a description of Dutch and German passives and introduced corpus based observations of the Dutch *krijgen*-passive. Following (Müller 2002) and (van Noord and Kordoni 2005), we believe that Dutch and German passives are instances of raising. Section (3.1) has shown that it is not possible to analyse these passives as true raising structures, if one wants to maintain the standard vision on the syntax of raising and the status of the German dative and the case of secondary objects in Dutch. Two solutions have been proposed which both maintain the syntactic description of raising given in (Pollard and Sag 1994). The first solution requires the use of an additional mechanism, such as the raising-to-subject function proposed by (van Noord and Kordoni 2005). The second analysis changes the status of the German dative. It has been shown that this analysis results in a more complex case system for German.

Both proposals mentioned above allow for the passives to be analysed as raising structures under the assumption that raising entails structure sharing of case. The solution proposed by (van Noord and Kordoni 2005) is in our opinion preferable to the solution proposed by (Gunkel 2003) for two reasons. Firstly, as mentioned above, there is hardly any evidence for the existence of two structural cases in German. Secondly, when raising must always (universally) entail structure sharing of the complete synsem, a mechanism similar to the object-to-subject-raising function proposed by (van Noord and Kordoni 2005) can be used to account for examples like (6a), which showed that some Czech speakers allow for the lexical case of a raised argument to change.

Section (3.3) has introduced a more radical solution, which would allow for a simple uniform analysis for the four passives. In this solution the syntactic difference between raising and control is abandoned. The advantage of the last

solution is that it provides a simpler and more straightforward account than the other two. If additional research would show that the syntactic behaviour of raising is not universal, we believe that the analysis given in (3.3) provides the best account for German and Dutch passives.

However, as we mentioned above, it is an empirical question whether raising syntactically differs from control and whether it must always involve case transmission. Dutch and German passives seem to indicate that raising and control can be syntactically similar and raised arguments may only share content. On the other hand, Icelandic provides evidence that the complete synsem must be structure shared in raising structures. It has been shown in this paper that, even though sharing of content only seems preferable, it is possible to share the complete synsem in Dutch and German raising with the analysis proposed by (van Noord and Kordoni 2005). Therefore it is too early to completely abandon the hypothesis that the complete synsem should be structure shared.

The Czech data presented by (Przepiórkowski and Rosen 2004) seems to be the best indice for the behaviour of raising at this point: a raising verb tends to raise the complete synsem of the raised argument, but just like control sometimes behaves like raising and shares the entire synsem, raising sometimes behaves like control and does not exhibit case transmission. Raising generally entails structure sharing of the complete synsem, but this property may be universal, it may be language specific, it may depend on the raising verb or even on the speaker. We therefore suggest that the syntactic behaviour of raising should be reinvestigated. Further research will expand the data and look for cross-linguistic evidence to clarify the syntactic behaviour of raising.

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