

# Scrambling in Dutch and German

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## 1 Introduction

It has been claimed by Neeleman (1994) and Frey (2001) that  $\bar{A}$ -scrambling in Dutch is associated with the information structural notions of contrastive topic and contrastive FOCUS<sup>1</sup>. Neeleman & Vermeulen (2010) provide further evidence and argue for the independence of contrast as a notion of information structure. In a movement approach to scrambling (as opposed to a base-generation approach), this amounts to the claim that (in Dutch)  $\bar{A}$ -scrambling movement, movement of an argument across another argument<sup>2</sup>, affects the semantics in that it requires a contrastive interpretation of the moved argument.

For German, a widely held assumption is that scrambling is used to mark quantifier scope such that the surface position of QPs reflects their scope relations (see Frey (1989, 1993); Lechner (1996); Krifka (1998) amongst many others). However, there is no consensus on whether this movement is an instance of A-movement (see for example Fanselow (1990)) or an  $\bar{A}$ -movement (see for example Webelhuth (1989); Müller & Sternefeld (1994)). A constituent that is moved across another constituent into a structurally higher position in German thus takes scope over constituents that occupy lower positions.

On the basis of ( $\bar{A}$ -)scrambling in the two languages, this essay tries to answer or at least aim at an answer to the question whether there is a movement in German that is associated with contrast just like the Dutch  $\bar{A}$ -scrambling is. To the extent possible both such movements will be compared with respect to some of their syntactic properties. The background to this comparison is the

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<sup>1</sup>Throughout this paper (contrastive) topics will be marked by double underlining and (contrastive) FOCI by small caps.

<sup>2</sup>In Dutch, only  $\bar{A}$ -scrambling can alter the basic order of arguments. A-scrambling is restricted to alterations in the order of adjuncts and arguments. (cf. Zwart 1993: and references therein)

question whether same semantic effects of movement phenomena necessarily imply syntactically identical movements or whether different movements may be used to yield different semantic effects in different languages.

For sake of simplicity, better comparison and lack of space, I will restrict myself to movement of an object across the subject.

## 2 Is there a movement associated with contrast in German?

This section deals with the question whether the same movement that is found in Dutch, i.e. movement that leads to a contrastive interpretation of the moved element, also exists in German. If such a movement existed, it would give us the possibility to compare it with its Dutch counterpart. Since both yielded the same semantic effects, regarding the overall issue it would be interesting to know, if they were also syntactically the same or not. Furthermore, a test in the opposite direction would be possible. With “usual” German scrambling and supposed contrastive movement having different semantic consequences, it would be worth investigating whether both also differed syntactically.

In Dutch, a constituent that has been scrambled across a subject necessarily receives a contrastive interpretation, as in (1-a) as a contrastive focus, in (1-b) as a contrastive topic, otherwise the sentence is ungrammatical as in (2) (see Neeleman 1994; Frey 2001; Neeleman & van de Koot 2008; Neeleman & Vermeulen 2010). The aim of this section must thus be to check whether a constituent that has been moved across a subject in German is also bound to be interpreted contrastively.

- (1) a. Ik geloof dat [DIT BOEK]<sub>1</sub> Jan Marie t<sub>1</sub> gegeven heeft.  
I believe that this book John Mary given has  
'I believe that John has given this book to Mary.'
- b. Ik geloof dat [zo'n boek]<sub>1</sub> alleen Jan Marie t<sub>1</sub> gegeven heeft.  
I believe that such-a book only John Mary given has  
'I believe that only John has given such a book to Mary.'
- (Neeleman & Vermeulen 2010: 16)
- (2) \*Ik geloof dat [het boek]<sub>1</sub> Jan Marie t<sub>1</sub> gegeven heeft.  
I believe that the book John Mary given has  
'I believe that John has given the book to Mary.'
- (adapted from Neeleman & van de Koot 2008: 272)

In order to exclude the possibility that such a movement is influenced by scope considerations it seems reasonable to preclude sentences containing quantified DPs from this investigation. As contrast implies a negative statement (at the level of utterance for topic but proposition for focus) about at least one of the members of the set of possible alternatives to the respective topic or focus (see Neeleman & Vermeulen 2010), it should not be possible to continue a sentence with a CF or CT to include all the alternatives in a positive statement as in (3-ii).

- (3) (Mum and Dad know that John must read five books to prepare for the exam; they are discussing which books he has read so far.)

Mum: John's read *The Selfish Gene*.

Dad: Yes, I know. *THE SELFISH GENE* he's read.

(i) But *THE EXTENDED PHENOTYPE* he hasn't read.

(ii) #In fact, he's read all five books on the reading list.

(Neeleman & Vermeulen 2010: 8)

If movement across the subject in German is associated with contrast, a continuation like (3-ii) should likewise not be possible.

- (4) (A gang of 5 bandits has robbed a bank. A knows that the police went after them.)

A: Was ist mit dem Anführer?

*'What about the gang leader?'*

B: Ich glaube, dass [den Anführer]<sub>1</sub> die Polizei t<sub>1</sub> gekriegt  
I know that the-ACC leader the-NOM police gotten  
hat. Und auch die vier Komplizen haben sie wohl  
has and too the-ACC four accomplices have they well  
verhaften können.  
arrest can.

*'I know that the police got the leader. And they were able to arrest the four accomplices as well.'*

In (4) a continuation is possible at least for neutral intonation. The topic can thus not be contrastive. However, when uttered with a rise-fall accent as in (cf. Krifka 1998), the topic acquires a contrastive reading (and only this) and implicates in (5-a) that only the leader was caught and all of the other bandits managed to escape, and in (5-b) that the other bandits were caught, but not by the police.

- (5) a. Ich glaube, dass den /Anführer die Polizei gekriegt\ hat.

- b. Ich glaube, dass den /Anführer die Polizei\ gekriegt hat.

These examples show that intonation plays an important role for information structuring and the question from above cannot easily be answered by looking at the surface order of arguments alone. Hence, it is worth to take a look at which intonations are possible in sentences with a moved argument, and to which interpretations they give rise. It might be that the moved element is always associated with a certain intonation pattern or exempt from such. Likewise, there might be two different movements each of which may cross the subject and give rise to different semantic effects. In the following I will take a closer look at movement across the subject and its interactions with information structure and intonation in German to check whether there exists a movement that is associated with either of them.

Let us first have a look at focus. It is often assumed that in the answer to a wh-question, the part that corresponds to the wh-element is the focus (see Neeleman & Vermeulen 2010). Rooth (1985, 1992) has argued that this is the case because a focus very much like a wh-question brings to mind a set of possible alternative that might be part of the proposition expressed instead of the focus/wh-element. A wh-question thus presents a set of propositions that differ only in wh-element. A focus works much the same in that it evokes a set of alternative propositions and marks the part that varies between the propositions in this set while the non-focussed parts are constant. Furthermore, focus is associated with main sentence stress in many languages (see e.g. Selkirk 1984, 1996). It seems reasonable then to regard the stressed part of each sentence that answers the wh-questions in (6) as a focus.

- (6) a. Was hat der John gelesen?  
 what has the-NOM John read  
 ‘What did John read?’  
 (i) Ich glaube, dass der John den FAUST gelesen  
 I believe that the-NOM John the-ACC Faust read  
 hat.  
 has  
 ‘I believe that John has read Faust.’  
 (ii) Ich glaube, dass den FAUST der John gelesen hat.
- b. Wer hat den Faust gelesen?  
 who has the-ACC Faust read  
 ‘Who has read Faust?’  
 (i) Ich glaube, dass der JOHN den Faust gelesen hat.  
 (ii) Ich glaube, dass den Faust der JOHN gelesen hat.

As can be seen, the object of a sentence can either stay in its base position (6-i) or move across the subject (6-ii) independent of whether it is a focus (6-a) or not (6-b).

The same pattern holds for contrastive foci. These are used in corrective utterances (cf. Steube 2001) and entail a negation of the truth of at least one element of the set of alternative propositions, namely the one that contains the constituent to be corrected, the corrigendum. The sentences in (6-a) and (6-b) could also be used as corrections of the utterances in (7-a) and (7-b) respectively<sup>3</sup> although the pitch and intensity of the stress then seem to me to be a bit higher than in their non-contrastive use.

- (7) a. John hat die Unendliche Geschichte gelesen.  
John has the-ACC never-ending story read  
'John has read the Never-Ending Story.'
- b. Peter hat den Faust gelesen.  
Peter has the-ACC Faust read  
'Peter has read Faust.'

These data suggest that there is no association between focus and movement in German. Neither does movement across the subject force a focus reading for the moved constituent nor does its status of focus trigger such a movement. This holds for the notion of contrast as well. Rather, the data hint that this notion is somehow linked to a higher and more intense stress, at least in contrastive foci.

However, there seems to be an intonation that has an influence on the movement pattern, namely the famous hat-contour (cf. Krifka 1998). This intonation is characterised by a rise in pitch at the beginning and a fall in pitch at the end of it yielding a hat-like shape when visualised, as here with a stroke and a backslash.

- (8) a. Ich glaube, dass der /John den Faust\ gelesen hat.  
b. Ich glaube, dass den /Faust der John\ gelesen hat.

In general, both orders of subject and object are possible with the hat-contour. Nevertheless there is a difference depending on the context in which they occur. In (9-a), the sentence where the object has moved across the subject seems odd. It appears that the movement is somehow blocked. The base order of arguments,

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<sup>3</sup>One might want to put an explicit negation before the sentences in (6) to emphasise their corrective use, such as *Nein, du irrst dich!* 'No, you're wrong!'

however, is absolutely fine. (8-b) exhibits the opposite pattern. Here, the base order is odd, whereas the one derived by movement across the subject is fine. Hence it seems that movement of the object is forced by the context.

- (9) a. Was ist mit Peter? Was hat er gelesen  
 what is with Peter what has he read  
 ‘What about Peter? What did he read?’  
 Keine Ahnung. Aber ich glaube,  
 no idea but I believe  
 (i) dass der /John den FAUST\ gelesen hat.  
 (ii) #dass den /FAUST der John\ gelesen hat.
- b. Was ist mit der Unendlichen Geschichte? Wer hat die  
 what is with the never-ending story who has that  
 gelesen?  
 read  
 ‘What about the Never-Ending Story? Who read that?’  
 Keine Ahnung. Aber ich glaube,  
 (i) #dass der /JOHN den Faust\ gelesen hat.  
 (ii) dass den /Faust der JOHN\ gelesen hat.

As mentioned above, the wh-question induces a (contrastive) focus reading of the element that corresponds to the wh-part. *Faust* in (9-a) and *John* in (9-b) are thus foci. From (9) one might conclude that foci in German can never form the rise part of a hat-contour. The context rather forces the first part of the hat-contour to be interpreted as a contrastive topic as defined by Neeleman & Vermeulen (2010) based on Reinhart (1981). A topic in that definition is what a sentence is about. That is, the topic of a sentence is the part for which the speaker asserts that the proposition expressed is true. For example in B’s answer in (10), the topic of the sentence is *John* and B asserts that as for John the proposition that he went out shopping is true.

- (10) A: What about John?  
 B: John went out shopping.

A contrastive topic is then one that evokes a set of alternative propositions (that deviate from each other only with respect to the topic constituent). And the same assertion that has been made for the original proposition cannot be made for at least one of those. The difference between contrastive topics and contrastive foci is thus one of the level on which the negation is implied, the proposition for foci ( $p$  vs.  $\neg p$ ) and the utterance for topics (ASSERT  $p$  vs.  $\neg$ ASSERT  $p$ ). In general, one might say that a contrastive topic narrows down or

changes and hence implies that no assertions can be made about the current discourse topic or at least a subpart of it.

The rise part of the hat-contour, as Frey (2004) has mentioned already, thus seems to be associated with contrastive topics and the oddness of (9-a-ii) and (9-b-i) is due to the fact that what is marked as a contrastive topic by the rise in pitch does not correspond to what should be the contrastive topic according to the context. However, there are sentences where both constituents under the hat-contour are foci. In (11), the double wh-question induces a focus interpretation of both arguments in the answer.

(11) Was hat wer gelesen?  
What has who read  
'Who read what?'

- a. Ich glaube, dass der /PETER den FAUST\ gelesen hat.  
I believe that the-NOM Peter the-ACC Faust read  
  
has  
'I believe that Peter has read Faust.'
- b. Ich glaube, dass den /FAUST der PETER\ gelesen hat.

Here both orders of the arguments are possible and fine. It can thus not be the case that the rise part of this intonation is always associated with contrastive topics. Rather, both arguments seem to receive a contrastive interpretation under the hat-contour regardless of whether they are topics or foci. The badness of the examples in (9) may then stem from the general requirement that foci must be interpreted internally to topics. Since German has been claimed not to have the possibility of covert movement the surface order of arguments must be one where the topic precedes the focus. If there are a topic and a focus in a sentence (which is the case in (9)) the first argument must thus be interpreted as the topic and the second one as the focus.

However, this does not give rise to the statement that movement across the subject is associated with contrastive topics like Dutch  $\bar{A}$ -scrambling is with contrast because not every constituent moved in such a way is necessarily a contrastive topic as we have seen for example in (6-a-ii) where a focus object moves across the subject. But nonetheless one might suspect that there is a movement different from the usual scrambling in German, and that this movement is in some way linked to contrastive topics.

At this point it seems worth taking a look at Frey (2004) who argues that there is a special movement for topics in the German middle field. He states that:

“In the middle field of the German clause, directly above the base position of sentential adverbials (SADVs), there is a designated position for topics: all topical phrases occurring in the middle field, and only these, occur in this position.” (Frey 2004: 158)

Thus it should not be possible for a topic or a contrastive topic to appear below an SADV in an embedded clause at least if the adverbial takes scope over the whole proposition. Frey claims that this prediction is borne out on the basis of sentences of the kind in (12).

- (12) Ich erzähl dir mal was über John.  
*I'll tell you something about John.'*
- a. #Ich habe gehört, dass angeblich der John den Faust  
 I have heard that allegedly the-NOM John the-ACC Faust  
 gelesen hat.  
 read has  
*I have heard that John allegedly has read Faust.'*
- b. Ich habe gehört, dass der John angeblich den Faust gelesen hat.
- c. #Ich habe gehört, dass angeblich den John eine reiche  
 I have heard that allegedly the-ACC John a rich  
 Norwegerin heiraten wird.  
 Norwegian marry will  
*I have heard that John will allegedly be married by a rich norwegian  
 woman.'*
- d. Ich habe gehört, dass den John angeblich eine reiche Norwegerin  
 heiraten wird.

He also shows that there is a further position above the topic position but below the complementiser which can only be occupied by contrastively focussed non-topics with a rise accent that is part of a rise-fall intonation.

Taken together with what we have seen so far, an interesting prediction arises concerning the position of SADVs in the sentences with hat-contour and a topic as well as a focus. SADVs should be positioned to the right of a topic and to the right of a contrastive focus as well. This is tested in (13) with the SADV between, preceding and following both arguments. Although to me the judgements are subtle and sometimes a reinterpretation of arguments as topics easily fixes the oddness I still think that this pattern emerges.

- (13) a. Was ist mit Peter? Welches der drei Bücher hat er  
 what is with Peter which the-GEN three books has he  
 gelesen  
 read  
 ‘What about Peter? Which of the three books did he read?’  
 Keine Ahnung. Aber habe gehört,  
 no idea but I have heard  
 ‘I’ve no idea! But I have heard’
- (i) dass der /John angeblich den FAUST\ gelesen  
 that the-NOM allegedly the-ACC Faust read  
 hat.  
 has  
 ‘that John has allegedly read Faust.’
- (ii) #dass den /FAUST angeblich der John\ gelesen hat.  
 (iii) #dass angeblich der /John den FAUST\ gelesen hat.  
 (iv) #dass angeblich den /FAUST der John\ gelesen hat.  
 (v) #dass der /John den FAUST\ angeblich gelesen hat.  
 (vi) #dass den /FAUST der John\ angeblich gelesen hat.
- b. Was ist mit der Unendlichen Geschichte? Wer von den dreien  
 what is with the never-ending story who of the three  
 hat die gelesen?  
 has that read  
 ‘What about the Never-Ending Story? Which of the three guys read  
 that?’  
 Keine Ahnung. Aber ich habe gehört,
- (i) #dass der /JOHN angeblich den Faust\ gelesen hat.  
 (ii) dass den /Faust angeblich der JOHN\ gelesen hat.  
 (iii) #dass angeblich der /JOHN den Faust\ gelesen hat.  
 (iv) #dass angeblich den /Faust der JOHN\ gelesen hat.  
 (v) #dass der /JOHN den Faust\ angeblich gelesen hat.  
 (vi) #dass den /Faust der JOHN\ angeblich gelesen hat.

The example (13-a-ii, iii, iv) are odd because the topic has not moved to the topic position. (13-a-v) is odd because the contrastive focus is between the topic and the SADV although it should be above the topic. The odd thing is that (13-a-vi) also seems to be not quite right even though the contrastive focus precedes the contrastive topic which in turn precedes the SADV. Such a sequence is possible if the topic is non-contrastive as in (14).

- (14) Welches der Bücher hat der John gelesen?  
 which the-GEN books has the-NOM John read

*'Which of the books did John read?'*

- a. Ich habe gehört, dass der John angeblich den FAUST gelesen hat.
- b. Ich habe gehört, dass den FAUST der John angeblich gelesen hat.

The oddness of (13-a-vi) is thus due to the contrastive interpretation of both topic and focus. One might hence argue that the position above the designated topic position that Frey (2004) claims to be reserved only for contrastive and thereby stressed focus is actually a Dutch-like position that is associated with contrast and contrastive stress. This would explain the oddness of (13-a-vi) because here the topic after having moved to the topic position must move to the contrast position because it is a contrastive topic. The focus then must receive contrastive stress in its current position which gives rise to the hat-contour and the pattern that the rise part of that contour seems to be associated with contrastive topics in (9). However, a contrastive focus does not necessarily have to move to the contrast position; it can also be interpreted contrastively in its base position.

### **3 Dutch vs. German contrast movement**

The existence of a Dutch-type movement in German might be further scrutinised by looking at its syntactic properties and by comparing them to those of the Dutch counterpart and where possible to the “usual” German scrambling that takes place below SADVs. For now, the only sentences that can safely be claimed to be derived by contrastive movement are those which contain either a contrastive topic before an SADV before a contrastive focus as (13-b-ii) or a contrastive focus before a non-contrastive topic before an SADV as (14-b). A further complication is that the German contrast movement may operate either on the base order or on a scrambled order of arguments, it might thus not always be clear whether the observed effects are due to movement for contrast or a preceding scrambling movement.

#### **3.1 Binding**

First, let us consider anaphor binding and syntactic reconstruction and its interaction with movement across the subject. For Dutch, the claim has been made that, since reordering of arguments is  $\bar{A}$ -scrambling, it should not affect binding relations and reconstruct obligatorily for anaphor binding (cf. Neeleman 1994;

Neeleman & van de Koot 2008). As the examples in (15) show, this seems to be the case.

- (15) a. Dat Jan<sub>i</sub> zichzelf<sub>i</sub> in de spiegel gezien heeft.  
 That John himself in the mirror seen has  
 ‘That John saw himself in the mirror.’  
 b. Dat (alleen) [ZICHZELF<sub>i</sub>]<sub>j</sub> Jan<sub>i</sub> t<sub>j</sub> in de spiegel gezien heeft.

The anaphor *zichzelf* can be bound in the base order of the sentence in (15) as well as in the scrambled one even though it is not c-commanded by its binder in the latter.

In German, this seems to be possible as well.

- (16) a. Wen hat John im Spiegel gesehen?  
 who-ACC has John in-the mirror seen  
 ‘Who did John see in the mirror?’  
 (i) Ich glaube, dass [SICHSELBST<sub>i</sub>]<sub>j</sub> der John<sub>i</sub>  
 I believe that himself the-NOM John  
 wahrscheinlich t<sub>j</sub> im Spiegel gesehen hat.  
 presumably in-the mirror seen has  
 ‘I believe that John presumably saw himself in the mirror.’

This shows that movement into the contrast position at least does not bleed binding. Whether it feeds it is hard to test since the anaphors are in general not possible as subjects and the only grammatical contrastive movement order (17-a) that might stem from a ungrammatical base order (17-b) might just as well be derived from a scrambled base order (17-c).

- (17) a. Ich höre, dass den JINGEN<sub>i</sub> der Lehrer angeblich  
 I hear that the-ACC boy the-NOM teacher allegedly  
 sichselbst<sub>i</sub> im Spiegel gezeigt haben soll.  
 himself in-the mirror shown have shall  
 ‘I hear that the teacher allegedly has shown the boy to himself in the mirror.’  
 b. \*Ich höre, dass der Lehrer angeblich sichselbst<sub>i</sub> den JINGEN<sub>i</sub> im  
 Spiegel gezeigt haben soll.  
 c. Ich höre, dass der Lehrer angeblich den JINGEN<sub>i</sub> sichselbst<sub>i</sub> gezeigt  
 haben soll.

As scrambling of the direct across the indirect object does give rise to new binding possibilities, we cannot determine whether the reason for the gram-

maticity of (18-a) is due to contrast movement or to A-scrambling of the direct across the indirect object. Thus, we cannot see if Dutch  $\bar{A}$ -scrambling and German contrast movement show the same or different behaviour with respect to binding and syntactic reconstruction.

### 3.2 Weak crossover

Another point of comparison lies with weak crossover effects. In Dutch, they are not expected to occur, since the movement is pure  $\bar{A}$ -movement and reconstructs obligatorily for binding.

- (18) a. \*Dat  $z'n_i$  zoon [elke vader] $_i$  lief-heeft.  
 That his son every father likes  
*'That every father is liked by his son.'*  
 b. \*Dat [ELKE VADER] $_{i,j}$   $z'n_i$  zoon  $t_j$  lief-heeft.

(18-a) is ungrammatical under the reading of  $z'n$  as a bound variable and does not improve when the object is moved across the subject (18-b). Hence, no weak crossover effects are observable.

In contrast, German does show weak crossover effects at least with the usual type of scrambling which does not cross any SADVs. The unavailable bound variable reading of *seinem* in the base order (19-a) becomes available when the direct object is moved either across the indirect object (19-b) or across the subject (19-c), that is, if it targets a position that c-commands the possessive pronoun.

- (19) a. \*Dass ich  $seinem_i$  Sohn [jeden Vater] $_i$  zeige.  
 That I his son every father show  
*'That I show every father his son.'*  
 b. Dass ich [jeden Vater] $_{i,j}$   $seinem_i$  Sohn  $t_j$  zeige.  
 c. Dass [jeden Vater] $_{i,j}$  ich  $seinem_i$  Sohn  $t_j$  zeige.

The pattern in (19) is quite expected, since movement of the direct across the indirect object can be analysed as A-movement which commonly is assumed to give rise to new binding possibilities.

We might now try to check whether the same holds for contrast movement as well. If there are any weak crossover effects this might lead us to assume that the German movement has binding properties different from those of the Dutch one.

It seems to be the case that movement for contrast does exhibit weak crossover effects. The reading of *sein* as a bound variable which is not available in (20-a)

becomes available in (20-b) where the QP *jedem Kind* has been moved into the contrast position above the non-contrastive topic *das Stadion*.

- (20) a. \*Ich habe gehört, dass das Stadion angeblich sein<sub>i</sub> Vater  
 I have heard that the-ACC stadium allegedly his father  
 [jedem Kind]<sub>i</sub> gezeigt hat.  
 every child shown has  
 'I have heard that the stadium has been shown to every child by his  
 father.'
- b. Ich habe gehört, dass [JEDEM /KIND]<sub>i</sub> das Stadion angeblich SEIN<sub>i</sub>  
 VATER\ gezeigt hat.

However, here again it is possible that the contrast movement has been preceded by scrambling of the indirect object across the subject thereby allowing the bound variable reading as in (19). Thus, we do not know whether the weak crossover effects are due to movement for contrast or just the “usual” scrambling.

### 3.3 Reconstruction for scope

Another means that might give us a deeper insight in the properties of the German contrast movement are scope relations. There is general agreement that in German scope is directly reflected by the surface order of arguments and that no covert movement of quantifier raising that operates in LF exists (see amongst others Frey 1989, 1993; Lechner 1996; Krifka 1998). Scope thus is a direct result of linear precedence, movement and interpretation of indefinites which can be forced to take wide scope by receiving a specific interpretation. The following readings are claimed to be available in German embedded sentences (cf. Krifka 1998).

- (21) a. dass jeder Student einen Roman gelesen hat.  
 that every student a novel read has  
 $(\forall > \exists, \exists > \forall)$
- b. dass [einen Roman]<sub>i</sub> jeder Student  $t_i$  gelesen hat.  
 $(\forall > \exists, \exists > \forall)$
- c. dass ein Student jeden Roman gelesen hat  
 $(*\forall > \exists, \exists > \forall)$
- d. dass [jeden Roman]<sub>i</sub> ein Student  $t_i$  gelesen hat  
 $(\forall > \exists, \exists > \forall)$

As exemplified by (21), scrambling of the object across the subject gives rise to a new reading without making the old one inaccessible. The reading of (21-a)

where the existential takes scope over the universal is due to the fact that the indefinite can have a specific interpretation and denotes only one specific novel that every student has read.

The availability of both readings in (21-d) must stem from the movement of the direct object across the subject and the possibility of reconstruction for scope. This scope-taking mechanism has been formulated in the scope principle in (22).

(22) *Scope Principle (simplified version of Frey 1989, 1993)*

If  $\alpha$  and  $\beta$  are operators occurring in a sentence S, then S has a reading in which  $\alpha$  takes scope over  $\beta$  iff:

- a.  $\alpha$  c-commands  $\beta$ , or
- b.  $\alpha$  c-commands a trace of  $\beta$ .

When testing whether contrast movement in German either also enables new scope relations or obligatorily reconstructs for scope we would run into the same problem that we have encountered with binding and weak crossover effects; we cannot exclude that contrast movement may have been preceded by scrambling and that it is actually the scrambling that causes the effects we observe. However, as we have seen above, a contrastive focus may occupy a position higher than a non-contrastive topic. Since it has been claimed that foci always have to be interpreted internally to topics (Neeleman & Vermeulen 2010), we might reason that contrast movement obligatorily reconstructs for scope because otherwise sentences with a CF above a topic should be ungrammatical.

There is one scope phenomenon that is interesting when considering the possibility of a contrast movement in German. Krifka (1998) has observed that the reading  $\forall > \exists$  can be made available in (21-c) when the sentence is uttered with a hat contour, a rise on *ein* and a fall on *jeden*. He suggested that this might be due to a double movement. First, the object scrambles across the subject thereby enabling the second reading. Then a further movement takes place that is associated with the hat-contour somehow which promotes the subject above the object again leading to a surface order that is the same as the base order. This second movement might be our contrast movement that is associated with the rise part of the hat contour when there are two contrastively stressed constituents in a sentence. However, since QPs cannot be topics, the contrastively stressed constituents must be foci. For foci it is not clear whether they actually have to move to the contrast position in order to receive contrastive

stress because there are sentences with a CF in situ and a free contrast position above a non-contrastive topic.

- (23) Was ist mit Peter? Wer von den dreien hat ihn gesehen?  
what is with Peter who of the three has him seen  
'What about Peter? Who of the three guys has seen him?'
- a. Ich glaube, dass den Peter wahrscheinlich der  
I believe that the-ACC Peter presumably the-NOM  
SIMON gesehen hat.  
Simon seen has  
'I believe that Peter has presumably been seen by Simon.'

If the availability of the second reading were really dependent on contrast movement one would expect it not to be available if contrastive stress had been assigned in situ, that is, when a SADV appeared to the left of both focussed constituents. It should be available, if the SADV occurred between them. Unfortunately the wellformedness of sentences containing an SADV is dependent on the position of the topic and not on that of foci. Thus we would have to include a non-contrastive topic and make the sentence ditransitive which complicates the matter and in my experience blurs the intuition about possible readings that is anyway quite unstable already.

#### 4 Conclusion

In summary, we have found some clues to the existence of a Dutch-like contrast movement in German. However, these clues rely on sometimes very uncertain and easily led intuitions about semantic wellformedness. Syntactically it was hard to compare the German and the Dutch movement, since the availability of scrambling in the former makes it difficult to tell which movement has which observable effects. Although it is desirable to attribute Krifka's (1998) inverse scope reading under the hat contour to such a movement it is not entirely clear to what extent if at all contrastive stress assignment is associated with that movement and how it relates in detail to information structure. In my view, further research on this topic could lead to very interesting findings, although judgements about wellformedness should be given by a considerably larger group of speakers than just one, because intuitions about these issues are quite easily influenced and very unstable.

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