Chapter 1
Scrambling, Optionality and Non-Lexical Triggers

1.   Introduction

This paper provides a comprehensive discussion of both the empirical nature and the theoretical implications of scrambling. I argue that the phenomenon of scrambling can only be done justice to if it is recognized that scrambling is subject to both PF- and LF-interface conditions. In particular, I address the claim by Haider&Rosengren (1998), henceforth H&R, that trigger accounts are essentially inappropriate for the phenomenon of scrambling on account of its optional nature. Contrary to H&R, I argue that a trigger account is indeed feasible in a copy theory of movement in which both LF- and PF-conditions determine which copy is to be spelled out.

Furthermore, I argue that one type of trigger for scrambling involves scopal features of arguments. Scopal features are relational syntactic properties of scope taking elements and as such they are inherently non-lexical. I propose an extension of the minimalist framework that allows for the introduction of non-lexical features in the course of the derivation to account for this aspect of scrambling.

The paper is organized in the following way. Section 2 provides a discussion of the properties of scrambling in German. On the basis of these data, I argue in favour of an A-movement analysis of the phenomenon, discarding arguments having been put forth in favour of an A'-movement analysis. The section concludes with a discussion of how the pertinent A/A'-distinction can be drawn independently of the notion of L-relatedness.

In Section 3, I discuss the trigger problem relating to scrambling. In Section 4, I present a solution to the trigger problem. Outlining the distributional properties of definite and indefinite, specific and non-specific, focused and non-focused DPs with respect to the negative marker in German, I argue that scrambling is not optional and show how apparently irregular word order patterns can be explained by the interaction of output conditions that determine the Spell-out of movement copies.

In Section 5, I address the issue of how scopal features representing relational properties of constituents can be handled in a simple trigger account. I propose an extension of the standard minimalist framework and show that the computational complexity of the generalized transformation proposed is sufficiently reduced by the standard economy conditions as to render it an attractive alternative to assuming optionality in syntactic computation. Section 6 briefly summarizes the chapter.

2. The Properties of Scrambling in German

Since it became clear that scrambling cannot be considered a stylistic operation, as was assumed by Ross (1967) who coined the term scrambling, a vivid debate arose about the issue of how the syntactic operation of scrambling can be fitted into the A/A'-dichotomy of movement operations.

Since scrambling does not fit either movement type completely, the question of what type of movement operation scrambling is and whether scrambling should be decribed as the result of movement at all (rather than the result of base-generation), was far from being subject to general consensus for a long time. I cannot go into the details of this historic debate and refer the reader to two volumes that deal extensively with the question sketched above (cf. Grewendorf &Sternefeld 1990, Corver & van Riemsdijk 1994), instead I will provide a discussion of the descriptive properties of scrambling in German and explain why I consider the debate as having been decided in favor of A-movement.

Scrambling has been used as a cover term for different operations that affect word order in the German middlefield. It is important to distinguish two such operations in order to detect the constitutive properties of the operation of word order change that we are interested in here. Depending on whether the moved item bears stress or not, the movement operation displays quite significantly different properties.

The operation of scrambling in which the moved item is stressed shows clear properties of A'-movement: it can affect arguments as well as predicates and is not clause-bound. This operation moves contrastive topics and comes with a special intonation, the so-called hat contour comprising a fall-rise tone on the moved topic and a fall tone on the (constrastive) focus-element in the remainder of the clause. This operation has been called focus scrambling by Neeleman (1994), I-topicalization by Jacobs (1997) and T-scrambling by Haider & Rosengren (1998). Because the moved item bears

stress, we shall use the term S-scrambling. This movement operation is illustrated in (1) and (2), in which letters of stressed syllables are given in small capitals. In Dutch, contrary to German, an object cannot scramble over the subject. However, if the operation is accompanied with the special intonation of a contrastive topic, scrambling of the object across the subject is fine (cf. (1bc)). (2) is an example of long distance S-scrambling in German: the embedded object has been moved into the middlefield of the matrix clause.

(1)   a.   dat Jan de boeken niet koopt
                that Jan the books not buys
        b.*   dat de boeken Jan niet koopt
                that the books Jan not buys
        c.   dat ZULke boeken selfs JAN niet koopt
                that such books even Jan not buys

(2)   Noch gestern haben DIEse Frau alle geglaubt, dass NIEmand einladen wird
        Still yesterday have this women-AKK all believed that nobody invite will
        'Of this woman everyone believed still yesterday that noone would invite her'

Once the distinction is made between S-scrambling and scrambling operations in which the moved element bears no special stress, it can be shown that scrambling proper is restricted to arguments (3) and strictly clause-bound as well (4). In (3), the infinitival predicate has been scrambled across negation leading to ungrammaticality. In (4), long distance scrambling of the embedded object results in ungrammaticality.

(3)   a.   weil jeder oft gewinnen möchte
                since everyone often win wants
        b.*   weil jeder gewinnen oft möchte
                since everyone win often wants
                since everyone often wants to win'

(4)   a.   Gestern hat niemand geglaubt, dass er die Maria einladen wird
                yesterday has nobody believed that he the Maria invite will

b.* Gestern hat niemand die Maria geglaubt, dass er einladen
wird
yesterday has nobody the Maria believed that he invite will
'yesterday nobody believed that he will invite Maria'

Scrambling can create new binding possibilities. In (5a), the quantifier cannot A-bind the pronoun simply for lack of c-command. However, if the direct object quantifier is scrambled across the subject containing the pronoun, the latter can be bound with no WCO-effect being noticible.

(5) a.* weil seine$_i$ Mutter jeden$_i$ liebt
         since his mother-NOM everyone-AKK loves
     b. weil jeden$_i$ seine$_i$ Mutter liebt
         since everyone-AKK his mother-NOM loves

Scrambling CAN lead to scope ambiguities. Stress in the former statement is on the modal *can*, since there seem to be two groups of speakers. For speakers of the first group, scope is solely a matter of surface relations. For these speakers, including myself, the scrambled structure in (6b) is as un-ambiguous as the base structure in (6a), though the scope relations have been inverted by scrambling. For speakeres of the second group, the base structure is unambiguous as well, but the scrambled structure is ambiguous. In (9b), these speakers not only get the reading that results from surface scope (as speakers of the first group do), but also get the reading that re-sults from reconstructing the scrambled object into its base-position.

(6) a. weil [mindestens eine Frau] [fast jeden Mann] liebt
         since at least one woman-NOM almost every man-AKK
         loves
     b. weil [fast jeden Mann] [mindestens eine Frau] t liebt
         since almost every man-AKK at least one woman-NOM
         loves

It is important to note that also for the second group binding relations are strictly read off from surface relations. In German, scrambling may not only create new binding possibilities, it may also destroy binding possibili-ties, as the example adopted from Haider & Rosengren (1998) shows. Even

for speakers of the second group, the unbound anaphor in (7b) cannot be saved by reconstructing it into its base-position.

(7) a. dass der Mann die Bilder einander anglich
         that he the pictures-AKK each other-DAT made-alike
     b.* dass der Mann einander die Bilder t anglich
         that he each other-DAT the pictures-AKK made-alike
     c. einander hat der Mann die Bilder angeglichen
         each other-DAT has he the pictures-AKK made-alike

To sum up, the fact that scrambling is a) restricted to arguments, b) clause-bound and c) can create new binding possibilities, speaks in favor of an analysis in terms of A-movement. Moreover, the fact that scrambling cannot be reconstructed for reasons of binding speaks against an analysis in terms of A'-movement, since as is shown in (7c), an anaphor that has been A'-moved into [Spec,CP] can be bound via reconstruction. Thus, there is little reason to assume that scrambling in German should not be A-movement.

2.1. Discarding Arguments for A'-movement

One argument that played an important role in the debate on the nature of scrambling was the observation that scrambling can license parasitic gaps. If parasitic gaps can only be licensed by A'-movement, as seems to be the case in English, then scrambling ought to be A'-movement, so the argument went.

Neeleman (1994) provides an excellent discussion of this argument and convincingly argues that the evidence that is given by examples of the type of (11a) has been overrated. It is sufficient here to present his strongest argument, namely the observation that the so-called parasitic gap in (8a) can also be licensed by A-movement. In (8b), the presumed parasitic gap is licensed by a passive subject. This observation also holds for German (cf.(8c) and (8d)). Given Neeleman's observation, the argument coming from the licensing of (so-called) parasitic gaps is mute.

(8) a. dat Jan het boek [zonder pg in te kijken] aanprijst
         that Jan this book [without at to look] offers
         'that Jan offers this book without looking at it'

b. dat [de boeken] door Jan [zonder in te kijken] angeprijst
    worden
    that the books by Jan without at to look offered were
    'that the books were offered by Jan without looking at
    them'
c. dass Hans die Buecher ohne zu lesen weitergegeben hat
    that Hans the books without to read on-passed has
d. dass die Buecher ohne zu lesen weitergegeben wurden
    that the books without to read on-passed were

In an influential paper, Grewendorf & Sabel (1999) investigate scrambling
in German and Japanese and argue that clause-internal scrambling in Ger-
man, contrary to clause internal scrambling in Japanese, must be A'-
movement. Their claim is decisively based on two arguments/observations.
First, scrambling of a potential binder in German, contrary to scrambling in
Japanese, cannot license an anaphor contained in a DP. Secondly, they
argue that the lack of WCO-effects with scrambling in German should not
be taken as evidence for an A-movement analysis, since clear instances of
A'-movement in German can be found which do not give rise to a WCO-
effect either. I will take up this issue in the following subsection.

    To illustrate their first point, let us look at the data in (9). In (9a), the
anaphor contained in the direct object is licensed by the c-commanding
subject. In (9b), the anaphor contained in the subject cannot be licensed by
the direct object, a potential antecedent, for lack of c-command. If scram-
bling were an instance of A-movement in German, so they argue, then the
direct object in (9c) should be able to license the anaphor, contrary to fact.
Since in the parallel case in Japanese the anaphor is licensed (9df), clause
internal scrambling in German must be an instance of A'-scrambling.

(9) a. weil Peter$_i$ einen Freund von sich$_i$ eingeladen hat
        since Peter-NOM a friend of himself-ACC invited has
    b.* weil ein Freund von sich den Peter eingeladen hat
        since a friend of himself the Peter-ACC invited has
    c.?? weil den Peter ein Freund von sich eingeladen hat
        since the Peter-ACC a friend of himself-NOM einvited
        has
    d.?* [$_{IP}$ otaga$_i$ i-no sensei-ga [$_{VP}$ karera$_i$–o hihansita]] (koto)
        each other-GEN teacher-NOM them-ACC criticized

f.? [$_{IP}$ karera $_i$–o [$_{IP}$ otaga $_i$ i-no sensei-ga [$_{VP}$ hihansita]]]
(koto)

they-ACC each other-GEN teacher-NOM criticized

Note, however, that the postnominal anaphor in German behaves like a long distance anaphor in being strongly subject-oriented, as is shown in (10). In (10), only the subject qualifies as an antecedent for the anaphor within the complex noun phrase. Thus, I would like to contend that (9c) is ungrammatical not because scrambling is not an instance of A-movement in German but because an object does not qualify as an antecedent for the subject-oriented anaphor in German.

(10) weil der Peter $_i$ den Hans$_j$ zu einem Freund von sich $_{i/\ ??j}$ geschickt hat
since the Peter-Nom den Hans-ACC to a friend of himself sent has

Since the binding of anaphors is the only empirical argument they advance in favour of an A'-movement analysis and since clause-internal scrambling in German in their account would stand out compared to clause internal scrambling in Hindi (which has been shown by Mahajan (1991) to be a clear instance of A-movement) and Japanese (which they themselves argue to be an instance of A-movement as well), I feel justified to conclude that the observation in (10) weakens their argument to a degree that it seems ill-advised to base such a strong claim on the sole data of (9).

2.2. Vikner's Argument

Vikner (1994) puts forward an important comparative argument in favor of an A'-movement analysis of scrambling in German. Vikner points out that scrambling in Dutch and object shift in Scandinavian, contrary to scrambling in German, may not permute arguments. For instance, in Icelandic, a definite direct object cannot move across the indirect object, as is shown in (11).

(11) a. Petur keypti bokina ekki
Peter bought book-the not

     b.*   *Petur syndi bokina oft Mariu*
           Peter showed book-the often Mary-DAT
     c.   *Peter zeigte das Buch oft der Maria*
           Peter showed the book often the Maria-DAT

If object-shift is analyzed as A-movement into AgrO, then the contrast in (11) can be explained as a violation of (relatized) minimality (cf. Rizzi 1991): the intervening indirect argument in an A-position would block object-shift of the direct object in (11b). If scrambling in German is A-movement as well, so Vikner argues, then it is surprising that no minimality effect can be observed in this language (11c).

    Vikner concludes that free permutation of arguments in German calls for an account in terms of A'-movement: not only would this account explain the lack of minimality effects, adjunction would also be the most elegant way to derive the great number of possible word-orders in German. (12) shows for the case of three arguments that all possible permutations, namely six, are grammatical. The permutations of the base order in (12a) are most easily derivable by (multiple) adjunction to VP and IP.

(12)   a.   *weil Peter der Maria das Buch zeigte*
               since Peter the Maria-DAT the book-AKK showed
       b.   *weil Peter das Buch der Maria zeigte*
       c.   *weil das Buch Peter der Maria zeigte*
       d.   *weil der Maria Peter das Buch zeigte*
       e.   *weil der Maria das Buch Peter zeigte*
       f.   *weil das Buch der Maria Peter zeigte*
               ,since Peter showed the book to Mary'

Vikner then goes on to challenge the arguments that favor an analysis of scrambling in terms of A-movement. He notes that almost all the arguments are based on the lack of weak cross-over effects in German scrambling. Given that wh-movement does trigger weak cross-over violations (13a), it is argued that scrambling and wh-movement cannot be of the same kind.

    However, so Vikner argues, it is not possible to have this kind of weak cross-over violation at all in German and concludes the crucial difference would not seem to be between scrambling and wh-movement but between German and English. As is shown in (13b) not even (local) wh-movement does trigger a weak cross-over violation in German.

(13) a.* *Who$_i$ does his$_i$ mother love?*
      b.   *Wen$_i$ liebt seine$_i$ Mutter nicht?*
           Who-AKK loves his mother-NOM not
           'who is such that his own mother does not love him'
      c.   *Wen$_i$ liebt [t$_i$ [seine Mutter nicht t$_i$]]*

The observation is correct, but the above conclusion is invalid. It is true that no weak cross-over effects are observable in a single clause in German. However, when it comes to long distance movement, we can detect an interesting contrast (cf. Frey 1990). Long distance wh-movement of the embedded object does give rise to a WCO-effect if the pronoun is contained in the matrix subject, but does not if the pronoun is contained in the embedded subject, as is illustrated in (14). If A'-movement in German, as Vikner argues, were exceptionally not subject to WCO, then the contrast in (14) remains unexplainable.

(14) a.   *Wen$_i$ glaubt Peter dass seine$_i$ Mutter t nicht liebt*
           Who-AKK believes Peter that his mother not loves
           'who does Peter believe is such that his own mother
           does not love him'
      b.* *Wen$_i$ glaubt seine$_i$ Mutter daß der Peter t nicht liebt*
           Who-AKK believes his mother that the Peter not loves
           'who does his own mother believe is such that Peter
           does not love him'

However, if we assume that the WCO-effect can be circumvented by prior scrambling of the wh-word (cf. 13c), then the contrast in (14) follows simply from the fact that scrambling is clause-bound. Given this assumption, scrambling can provide an A-binder for the pronoun in the embedded subject but not for the pronoun in the matrix subject. Consequently, wh-movement in (14b) only leads to an A'-bound pronoun in the matrix clause and therefore does give rise to a WCO-violation in as much as wh-movement does in English.

On the other hand, the (well-motivated) assumption that German scrambling is A-movement gives us for free the property that scrambling, contrary to S-scrambling, is clause-bound. Were scrambling indeed an operation of A-bar movement then it would be hard to explain why long distance

scrambling, for instance in (4b) above, cannot make use of [Spec,CP] of the embedded clause as a licit escape hatch. If scrambling is treated as A-movement, then movement via the embedded [Spec,CP] falls prey to the uniformity condition on chains, an option that we may assume is open for the A-bar movement operation of S-scrambling.

At this point, a question concerning the A/A'-dichotomy arises, namely, how the distinction between A- and A'-positions is to be made. It seems ill-advised to me to base the distinction on the L-or non-L-relatedness of the respective head. Due to V2, Spec,CP should count as L-related in German, nevertheless movement to this position clearly and unambiguously has the properties of A'-movement. Furthermore, there are languages in which movement into a designated focus position, an operation that is standardly analysed as A'-movement, is accompanied by verb movement. Thus, I would like to propose to make the nature of movement dependent on the type of feature that is checked in the target head, irrespective of L-relatedness. If the feature checked is an operator feature, [wh], [foc] or [neg] to name a few, then the movement operation will have the properties of A'-movement. If a non-operator feature is checked, for instance, [Specificity] or [Topicality] of an argument, then the movement operation will have properties of A-movement. That is to say, that A-movement will be extended to check other features than just Case. S-scrambling involves movement of a contrastive topic. A contrastive topic presupposes a set of alternatives and by introducing a variable that ranges over the members of the presupposed set, will involve, despite of its topicality, an operator feature. Therefore, S-scrambling counts as A'-movement. In a parallel fashion, the features checked by scrambling (proper) will thus have to be of the non-operator type.

To conclude, Vikner's refutation of the A-movement approach to German scrambling fails.The comparative issue that he raises is important but will not be addressed in this chapter (cf. Hinterhölzl (2002) for a solution in terms of minimality).

2.3. Weak Pronouns and Scrambled DPs

Having argued that scrambling is A-movement, we have to address the question of what the landing positions and the triggers of this type of A-movement are. In this paper, I argue that scrambling in German does not

have a unified trigger but is initiated by two types of triggers, namely Specificity in the sense of Enc (1991)[1] and Scope.

In the following, I want to propose that scrambling of specific DPs, is movement into the Specifier-position of heads licensing clitics. In German object clitics can be licensed in two different positions, one below the subject and one above it, as is shown in (15). Subject clitics are licensed in a position above the position for object clitics, as is shown in (16ab). We thus arrive at the representation in (17).[2]

(15)　　a.　　　weil der Hans ihn gestern t getroffen hat
　　　　　　　　since the Hans him yesterday met has
　　　　　b.　　　weil ihn der Hans gestern t getroffen hat
　　　　　　　　since him the Hans yesterday met has

(16)　　a.　　　weil er ihn gestern getroffen hat
　　　　　　　　since he him yesterday met has
　　　　　b.*　　weil ihn er gestern getroffen hat
　　　　　　　　since him he yesterday met has

(17)　　[C [Cl-S　[Cl-O1[Su [Cl-O2 […]]]]]]

Given the structure in (17), it can be shown that all the orders in (12) above can be derived without adjunction by assuming that scrambled DPs move into the Specifiers of heads licensing clitics. (12a) corresponds to the base order. In (12b), the direct object has moved into the Specifier of the lower clitic-object position, whereas the order in (12c) results from movement of the direct object into the higher clitic-object position. (12d) involves movement of the indirect object into the higher clitic-object position. Finally, in (12ef) both clitic positions above the subject are filled with the two objects in alternating orders.[3] Summing up, the scrambling orders in (12) can be derived without adjunction, simply by using positions which are needed independently for the licensing of weak pronouns.

One argument that could be launched against this account of scrambling is the observation that weak pronouns are subject to conditions that are not observed by scrambled DPs and which are specified in (18).

(18)　　a.　　　weak pronouns appear in the order NOM>ACC>DAT
　　　　　b.　　　weak subject pronouns precede scrambled DPs

Weak pronouns reach their licensing positions by either XP-movement only or by XP-movement (if necessary) and subsequent head movement. In the latter case, they form a cluster and I would like to propose that condition (18a) pertains to clitic clusters, which are licensed in the highest clitic head position. Since scrambled DPs do not form clusters, they are not subject to condition (18a). Furthermore, if weak pronouns 'cliticize' by XP-movement only, they can appear in various orders and different positions, very much like scrambled full DPs. This later option is available in Westflemish (cf. Haegeman 1994) and various German dialects (cf. Gärtner & Steinbach 2000).

To account for condition (18b), I will assume that weak subject pronouns always have to move to the highest clitic position and that a clitic-licensing head cannot simultaneously license an element in the head position and another element in its Specifier.

The proposal that one type of scrambling is movement into the Specifiers of heads licensing clitics is supported by cross-linguistic considerations. Alexiadou & Anagnostopoulou (1997) argue that there are some striking resemblances between scrambling in Germanic and clitic doubling constructions in Greek and Romance.

It is interesting to note that in those languages (or dialects) that allow for clitic doubling as in River Plate Spanish and Romanian a typical WCO-violation can be circumvented by the introduction of a clitic (data taken from Suner (1988) and Dobrovie-Sorin (1990), respectively), as is indicated in (19) and (20). In River Plate Spanish (19), the WCO-effect induced by QR at LF is obviated if the quantifier phrase is doubled. Likewise, a WCO-effect induced by the overt operation of Wh-movement in Romanian (20) is obviated by clitic-doubling of the wh-phrase.

(19) a.* Su_i madre quire a $todos_i$
               their mother likes *a* everyone
       b. Su_i madre los quire a $todos_i$
               their mother them likes *a* everyone

(20) a.*   [A cuales de ellos]$_i$ no aguanta ni su$_i$ madre
               a which ones of them not stand even their mother

       b.   [A cuales de ellos]$_i$ no los aguanta ni su$_i$ madre

> *a* which ones of them not them stand even their mother

We have seen above that overt scrambling in German can obviate WCO-effects induced by QR and proposed that the lack of WCO effects in local wh-movement can be explained by assuming that the wh-object first scrambles across the subject containing the pronoun, providing an A-binder for the latter before wh-movement moves the wh-object into SpecCP.

Assuming that scrambling is movement into the Specifiers of clitic positions, will allow us to provide a uniform explanation of the parallel effects of Scrambling in German and Clitic Doubling in Romance (and Greek) with respect to WCO, if we make the assumption, which seems natural, that clitic doubling involves movement of the doubled phrase into the Spec of a functional projection licensing clitics but spells-out the lower copy, which is then only prosodically marked as being part of the background of the sentence (while in German, this is indicated by the overt position of a discourse-anaphoric element via Spell-out of the higher copy).

The data in (19) and (20) provide indirect evidence against Vikner's and Grewendorf & Sabel's (1999) position that WCO-effects are not a good criterion for deciding whether scrambling is A- or A'-movement, since they clearly show that a WCO-effect that is induced by an uncontroversial instance of A'-movement is circumvented by the introduction of clitics which are assumed to be base-generated in or related to an uncontroversial instance of an A-position.

3. The Trigger Problem

H&R argue that scrambling may not be considered as being triggered by a feature that needs to be checked in a designated position. They point out that trigger accounts are often circular in the sense that they postulate features which apparently are only introduced into the theory to just trigger scrambling. Moreover, they argue that accounts which introduce substantive, independently motivated features prove to be either too weak, too strong or both.

A trigger account is too weak if the trigger just involves DP-type features, like Case or a strong [D]-feature, since it does not cover scrambling of PPs and CPs in German. What is needed are substantive features that are independent of the syntactic category of an argument. A number of features that relate to the semantic or discourse properties of an argument have been

proposed in the literature. Such accounts, so H&R argue, are too strong by necessity since they entail that if the respective feature is present scrambling is obligatory, and then they go on to show that scrambling is optional.

Firstly, they argue that the semantic and/or pragmatic effects induced by scrambling cannot be taken to be triggering factor of scrambling, since the interpretation effect that is induced by scrambling is found in unscrambled structures as well. Scrambling seems to reduce, but not to replace, the interpretation potential of a phrase.

As evidence they provide examples in which a generic interpretation (21a), a specific interpretation of an indefinite (21b) and a specific definite interpretation (21c) are applicable to DPs in situ. For instance, in (21a), the definite DP object follows an indefinite pronoun subject. So the generically interpretable DP is likely to be in situ. Analogous considerations apply to (21bc). In (21b), the indefinite is interpreted as specific, given that its reference is picked up by *Maria*, though it seems to occur in its base-position following an indefinite subject. The same holds for the definite DP *her dress* in (21c), which – though occurring in its base position - can have a specific interpretation referring to Maria's dress.

(21)   a.   dass wer die Pockenviren ausrotten sollte
                that someone the pockvirus exterminate should
        b.   wenn wer eine rothaarige Frau sucht dann ist das Maria
                if someone a red-haired woman seeks then is it Maria
        c.   dass er wem ihr Kleid gezeigt hat, hat Maria nicht gefallen
                that he someone her dress shown has, has Maria not pleased

Note that indefinites may not occur in the domain of negation in German (22ab). However, H&R argue that this case of alleged obligatory scrambling rests on a controversial premise, namely that negation universally c-commands the whole VP. They argue that the relevant condition for German and Dutch is that negation only needs to c-command the finite verb in its base position. This condition is fullfilled if negation is adjoined to V below the base position of arguments rendering scrambling of indefinite w-pronouns superfluous in order to derive the grammatical order in (22b).

(22)   a.*   dass jemand nicht wen jagte

> that someone not somebody chased
> b.   dass jemand wen nicht jagte
>   that someone somebody not chased

Note that if this idiosyncratic assumption about the base-position of negation in German is not taken, the data in (21) are not less problematic. Even if we assume that indefinite w-pronouns can scramble in principle, it seems hard to come up with a motivation that has the indefinite argument move across the generically interpreted definite argument.

Other triggers that have been proposed involve semantic-driven movement - like movement of weak DPs into strong-DP positions as in De Hoop (1992) - or pragmatic features like *familiarity* as in the account of Delfitto & Corver (1997). But again, so H&R argue, these accounts prove to be too strong. To illustrate their argument against semantic driven scrambling, consider (23). If indeed scrambling was triggered by a specific interface feature, (23ab) should differ to the extent defined by the absence or presence of that feature. However, (23a) can have the same interpretation as (23b), namely that *Max in general admires primaballerinas*. Therefore, so H&R argue, the claim that a strong "generic" feature triggers scrambling cannot be correct.

(23)   a.   dass ja Max Primaballerinas bewundert
                that PRT Max primaballerinas admires
        b.   dass ja Primaballerinas Max bewundert
                that PRT primaballerinas Max admires

In this case, I find the evidence less convincing. In my judgment, I get an existential reading of the bare plural if the direct object in (23a) receives nuclear stress and a generic reading if the verb is assigned nuclear stress. This latter fact would indicate that the direct object in this reading of (23a) does not occupy its base-position. In this case, it also seems plausible that the definite subject DP *Max* has moved to a high position above the generically interpreted object. This analysis of (23a) presupposes that the modal particle *ja*, which is generally assumed to mark the VP-boundary (cf. Diesing 1992) can occupy a position high up in the clausal domain. Such an analysis, however, is not available to H&R since they exclude string vacuous scrambling in general.

With the reservations indicated above, I agree with H&R's observations. Also I think that these observations are rather problematic for simple minded trigger-accounts. To summarize the discussion above, we have seen that definite and indefinite specific DPs obligatorily scramble across negation while in other contexts, generics, definites and specific indefinites seem to be allowed to stay in their base position. So the picture we arrive at is rather puzzling.

There is an instance of scrambling that is uncontroversally obligatory. This operation is scrambling for reasons of scope-taking. In German, a quantified object has to scramble across a quantified subject to take scope over it, as is shown in (24).

(24) a. weil jeder mindestens zwei Bücher gelesen hat (SU > OB only)
         since everyone-NOM at least two books-ACC read has
      b. weil mindestens zwei Bücher jeder gelesen hat (OB > SU preferred)
         since at least two books-ACC everyone-NOM read has

Note, however, that the property of obligatoriness does not make it easier to provide a satisfactory trigger account of at least this type of scrambling. The difficulty arises since it is quite inappropriate to assign the respective scopal feature to any specific F-head in the clause. Scopal features - if we introduce the features [w], [n], [i] (for wide, narrow and intermediate scope) for the sake of concreteness - by their very nature are not absolute properties. Scopal properties are relative properties: a DP has wide scope only in relation to another DP. Thus a checking account in terms of privative features seems inadequate for scopal phenomena in principle.

In the account of H&R, the problem does not arise, since scrambling is not considered as movement into a designated position to check the relevant feature. In their account scrambling is the result of the syntactic mechanism of chain formation, applying blindly in the identification domain of the selecting head, which can be exploited at the interface. In this approach, the presumed scopal features [w],[i] and [n] could be treated as interpretable semantic features of scopal elements which do not require syntactic checking and which have to obey the following interface condition at LF which will filter out all derivations/representations that do not conform to it.

(25)   Scopal Wellformedness:
        a) a phrase with the feature [w] must c-command a phrase with
        the feature [n]
        b) a phrase with the feature [i] must c-command a phrase with
        the feature [n] and must be c-commanded by a phrase with the
        feature [w]

Note that this conception of grammar is very much in the spirit of minimalism. It is based on a maximally narrow syntax in which only morphological and a small selected set of formal features drive the derivation, with semantic and pragmatic properties being utilized in the workings of sophisticated interface conditions. In short, the syntactic derivation is not geared by features that relate to semantic or pragmatic properties of constituents. This analysis seems to be a relatively simple and maximally elegant solution to the problem of relational features but it comes with the prize of allowing for optional operations in the syntax.

4.   Coping with Optionality

Taking H&R's observations at face value, we are confronted with two problems. A) There are data which require elements like wh-indefinites to scramble, though the accounts given sofar would have them as non-scramblable elements. B) There are data which suggest that elements which should scramble, like specific DPs, occupy their base position. We will tackle the first problem by proposing that next to [Specificity] there is another factor that triggers scrambling, namely Scope.

H&R assume that wh-indefinites do not scramble. That this assumption is wrong and that wh-indefinites can indeed scramble in German is shown in (26). In (26a), the wh-indefinite is in its expected position following the indefinite (negative) subject. (26a) is unambiguous, meaning "that nobody met anyone does not surprise me." In (26b), the wh-indefinite has scrambled across the subject yielding the interpretation "that there is someone that nobody met does not surprise me."

(26)   a.   dass keiner wen getroffen hat, überrascht mich nicht

that noone-NOM someone-ACC met has, surprises me
not

b.　　　dass wen keiner getroffen hat, überrascht mich
that someone-ACC noone-NOM met has, surprises me

To utter, (26b) the speaker does not need to have a specific individual in mind, it suffices that he has some evidence that there is a person with the relevant property. Thus, the wh-indefinite is only specific in the sense that it is the DP with widest scope, but it is not specific in the sense that it is presupposed, known to the speaker or in any other way anaphorically anchored in the context. This shows that the scopal properties of arguments furnish as a trigger of scrambling and it confirms our former observation .that scrambling in this case is obligatory since the reading of (26b) is only available if the object is scrambled across the subject.

Assuming that scope is a trigger for scrambling, of course, requires explaining how scopal requirements can be dealt with in a feature checking mechanism. This issue will be taken up in Section 5.

In the following, I want to tackle the second problem, namely the issue that definite DPs and the like seem to scramble optionally. That is to address the observation that sometimes they appear to have moved and sometimes they appear to be in their base-position. My answer to the optionality issue is that DPs that have the triggering property always undergo scrambling but that there are intervening factors which prevent the Spell-out of the scrambled DP in its checking position.

To show that the distribution of scramblable arguments is not optional but subject to specific conditions, we will investigate the distribution of arguments with respect to the negative marker. More specifically, we will address the assumption by H&R that the negative marker in German occupies a very low position in clause. This assumption allows them to refrain from assuming obligatory scrambling of specific DPs to account for the unmarked word order in (27). That the negative marker in German occupies a much higher position in the clause is shown in the following section.

(27)　　　weil der Hans die Maria nicht liebt
since the Hans the Maria not loves

4.1. The Syntax of the Negative Marker in German

The negative marker **nicht** (not) obligatorily precedes manner adverbs as is shown in (28). Assuming as is standardly done that manner adverbs are adjoined to the VP, I conclude that the negative marker in German cannot occur VP-internally - adjoined to the verb as is assumed by H&R – but occupies a functional head position in the I-domain of the clause, as is the standard assumption for the syntactic representation of negation in various languages (cf. Haegeman & Zanuttini 1994).

(28) a. weil der Hans das Buch **nicht** sorgfältig gelesen hat
since the Hans the book not carefully read has
"since Hans has not read the book carefully"

b.?? weil der Hans das Buch sorgfältig **nicht** gelesen hat
since the Hans the book carefully not read has

Definite nominal arguments generally precede the negative marker (29). Definites may only then follow the negative marker if they are contrastively focussed (cf. (29b) vs. (29c)). If an indefinite NP precedes the negative marker it is interpreted as specific (30a). If an indefinite NP follows the negative marker, the reading one gets most easily is the one in which the negative marker is interpreted as negating only the nominal argument that follows it, which receives a (negative) contrastive interpretation. Depending on whether it is the determiner or the noun that receives the non-neutral (contrastive) stress, the negative marker negates the (cardinality of the) determiner or the descriptive content of the NP in (30b).

(29) a. weil der Hans das Buch **nicht** gelesen hat
since the Hans the book not read has
"since Hans did not read the book"
b.?? weil der Hans **nicht** das Buch gelesen hat
since the Hans not the book read has
c. weil der Hans **nicht** das BUCH gelesen hat (sondern das Heft)

(30) a. weil Hans <u>ein Buch</u> **nich**t gelesen hat (only specific interpretation)

since Hans a book not read has
"there is a book that Hans did not read"

      b.   weil Hans **nicht** <u>ein Buch</u> gelesen hat
            (sondern zwei; sondern ein Journal)
            since Hans not a book read has (but two; but a journal)
            "Hans did not read ONE book, he read
            TWO books; Hans did not read a
            BOOK, he read a JOURNAL"

It has been argued that in these cases, the negative marker acts as "constituent negation". Because the negative marker can be topicalized together with an argument of the verb, it is assumed that negation in German can simply be adjoined to an XP which it narrowly or exclusively negates (31ab).

(31)   a.   **[?P Nicht der Hans]** hat das Buch gelesen
               not the Hans has the book read
               "It was not Hans that read the book"
      b.   [DP nicht [DP der Hans]]

The nonspecific (existential) interpretation of an indefinite NP in a negated German sentence is expressed with the determiner **kein** (32a). In this case, the negative marker is non-overt or fused[4] (32b). Thus, we cannot determine in (32) whether a nonspecific indefinite NP has to move across the negative marker. That a nonspecific indefinite NP must at least move up to the negative marker is indicated by the behavior of negative existentials in Upper Austrian. This dialect exhibits, like other Bavarian dialects, the phenomenon of *negative concord* which allows for the Spell-out of the negative marker even in the presence of negative constituents. As (33) shows, the negative existential NP *kein Buch* (no book) has to precede the negative marker **net** (not). In the following, I will assume that a negative existential NP with a **kein**-determiner occupies [Spec,NegP].

(32)   a.   weil Hans **kein Buch** gelesen hat
               since Hans "kein" book read has
               "since its not the case that Hans read a book"
      b.   weil Hans (*nicht) kein Buch (*nicht) gelesen hat
               since Hans not "kein" book not read has
(33)   a.   woei da Hans <u>ka Buach</u> **net** glesn hot

since the Hans "kein" book not read has
"since its not the case that John read a book"

    b.*   woei da Hans **net** <u>ka Buach</u> glesn hot
since the Hans not "kein" book read has

That nonspecific indefinite NPs may not only follow what may be analysed as constituent negation, but may also follow sentential negation can only be shown with more than one indefinite NP.

    If a sentence contains more than one indefinite NP, the highest non-specific argument is spelled out with the **kein**-determiner, that is, checks the negative marker in [Spec,NegP]. This is shown in (34). (34a) is a sentence that contains three indefinites. If all three DPs are interpreted nonspe-cifically, the negation of (34a) must be (34b). In (34c), where the indirect object is spelled out with a **kein**-determiner, the higher subject must be interpreted as specific, if we exclude focus-affected and quantificational readings. (34b) in conjunction with (33) and (34c) shows - if we analyze the **kein**-phrase as occupying [Spec,NegP]- that nonspecific indefinites may follow negation. Given these conclusions, (34b) is analyzed as shown in (34d).

(38)   a.   weil ein Mann einer Frau eine Blume schenkte
        since a man a woman-Dat a flower gave
    b.   weil <u>kein Mann</u> einer Frau eine Blume schenkte
        since "kein" man a woman-Dat a flower gave
        "since it is not the case that some man gave some flower to some woman"
    c.   weil ein Mann <u>keiner Frau</u> eine Blume schenkte
        since a man "keiner" Frau a flower gave
        "since a (certain) man did not give some flower to some woman"
    d.   [$_{CP}$ weil [$_{TP}$ [$_{NegP}$ kein Mann [einer Frau eine Blume [$_{VP}$ schenkte]]]]]

Also quantified NPs may follow the negative marker without giving rise to a "constituent negation"-interpretation (35ab). In (35ab), the negative marker can act as sentence negation. As (35c) shows, the negative marker can be construed narrowly with the higher subject NP, which is a typical

property of sentence negation, but is unexpected of constituent negation. Hence, it follows that quantified NPs need not move across negation.

(35) a.   weil der Hans **nicht** <u>viele Bücher</u> liest
              since the Hans not many books reads
              "since it is not the case that Hans reads many books"

      b.   weil der Hans **nicht** <u>jede Frau</u> anbetet
              since the Hans not every woman adores
              "since it is not the case that Hans adores every woman"

      c.   Der HANS hat **nicht** <u>viele Bücher</u> gelesen, der PETER hat viele gelesen
              the Hans has not many books read, the Peter has many read
              "it was not Hans but Peter who read many books"

Let us summarize what we observed so far. Specific NPs obligatorily move across the negative marker while nonspecific indefinite NPs, unless they move into [Spec,NegP] to check sentential negation, remain below the negative marker. Definite NPs may only then remain below the negative marker if they receive a contrastive interpretation. Along the same lines, nonspecific indefinite NPs may defy movement into [Spec,NegP] only if they receive a contrastive interpretation as illustrated in (30b) above. Finally, quantified NPs depending on their scope may stay below or move across the negative marker. A QP below the negative marker may have a specific or non-specific interpretation. (36a) is an example of a specific, that is, partitive QP that occurs below the negative marker that acts as sentence negation. But if a QP scrambles higher than the negative marker, then it can, like indefinites, only have a specific interpretation as is shown in (36b).

(36) a.   Der HANS hat nicht viele der Bücher gelesen, der PETER hat viele davon gelesen
              the Hans has not many of the books read, the Peter has many thereof read

b.   weil der Hans viele Bücher nicht gelesen hat (only specific interpretation)
since the Hans many books not read has
"since for many of the books it holds that Hans did not read them"

Following the proposal in 2.3, I assume that movement across negation is triggerd by specificity. To get rid of constituent negation, I will take up a proposal by Richard Kayne (p.c.) and assume that there is a Focusphrase just below negation into which contrastively focussed elements move. So-far I have said nothing about where and how arguments are Case-licensed in German. I will assume without discussion that they are licensed outside of the VP in Case-agreement projections as is indicated below. The resultant structure is given in (37) (recall that according to (17) scrambled (specific) DPs can be licensed below or above the subject).

(37)   [$_{CP}$ [$_{IP}$ Specifics (Su) T Specifics [Neg [Focus AgrC [V]]]]]

Given (37), the regularities discussed above can be described in the following way. It seems that a strong Focus-feature blocks the movement of definite NPs into the licensing positions of specifics as well as the movement of the highest nonspecific indefinite into [Spec,NegP]. A specific QP may stay below negation if it is to be read with narrow scope, while a definite NP must (in the absence of any focus-feature) check its specificity feature. It is not evident how to properly express these regularities in a system of feature checking. One possibility is to assume that something like (38) holds.

(38)   Once Case is checked, only the feature of a DP with the closest licensing head is checked overtly

(38) may be okay as a descriptive generalization but it is unsatisfactory as a statement of grammar. Why should it be that the possibility of checking a certain feature is dependent on the presence or absence of certain other features? So, (38) cannot be correct. However, (38) has the virtue of showing that the distribution of arguments and of definite DPs in particular is not optional at all, as claimed by H&R, but subject to specific restrictions. In the following section, I will provide an account in terms of conditions on

the Spell out of copies that allows us to get rid of the generalization in (38) and to solve the problem of optionality.

4.2. Conditions on Spell-out

The solution to the problem posed by (38), namely, the fact that certain features can only be checked in the absence of other features (conditional checking) is to assume that feature checking is unconditional but to refrain from positing that the checked category is unconditionally spelled out in the position of the highest feature checked.

   Let us assume as above that specificity is the relevant feature that triggers movement of arguments across negation. Then, we may assume a) that a specific DP (independently of other features) always moves to check its feature in a position above the negative marker and b) that its Spell-out is determined by the conditions in (39).

(39)   a.   contrastive DPs are spelled-out in the focus position
       b.   quantified DPs are spelled-out in their scope position
       c.   de-accented DPs are spelled-out before accented DPs

Condition (39a) captures the facts in (29) and (30) above, that is, the fact that a definite DP unless constrastively stressed appears before negation. Condition (39b) captures the facts in (35) and (36) above, namely the fact that specific QPs are spelled out above negation, unless they are to be interpreted with narrow scope with respect to negation. The notion "scope position" that is used in (39b) will be defined in the following section.While the conditions in (39ab) are related to the LF interface, condition (39c) is a condition related to the PF-interface. While the LF-related conditions are unviolable- we may assume that the heads licensing contrastive focus und scope have a phonological EPP-feature - the PF-related condition is soft. This is illustrated in (40). For the working of condition (39c) I assume that backgrounded and discourse-anaphoric DPs are deaccented. The question in (40) can either be answered with (40a) or with (40b). While (40a) is completely unmarked and the preferred option, (40b) is slightly marked but completely grammatical.

(40)   Q: Wem hat Otto das Buch gegeben?

Who has Otto the book given?

A: a.   Otto hat das Buch dem PETER gegeben
b.   Otto hat dem PETER das Buch gebeben
Otto has (the book) to Peter (the book) given

The marked/unmarked status of the examples of (40) can be ascribed to the workings of an interface condition that determines the mapping between information-structure and prosodic structure. I assume that in both answers the direct object has scrambled (across the indirect object) with the difference following from Spelling-out either the higher or the lower copy.

(41)   Interface Condition:
the phonological phrase containing the focus (main accent) must be rightmost within its intonational phrase (cf. Chierchia 1986,   Hayes & Lahiri 1991, Frascarelli 2000)

As is illustrated in (42), the different status of the answers follows from the prosodic condition in (41). (42) shows the prosodic structure of both answers, where round brackets indicate phonological phrases and *iP* indicates an intonational phrase. We see that (42a) optimally fullfills the prosodic conditon in (41), while (42b) violates this prosodic condition. I propose that this is the reason why (42a) is preferred over (42b). (42b) is repaired by being assigned a stronger pitch accent, while in (42a) the assignment of normal sentence accent suffices to mark the focussed constituent. Thus (42b) is prosodically more marked than (42a), but speakers are free to use the more marked forms for their communicative purposes, whatever they are.

(42)   a.   [$_{iP}$ (Otto hat) (das Buch) (dem PEter gegeben)]
b.   [$_{iP}$ (Otto hat) (dem PEter) (das Buch gegeben)]

In sum, (39c) is a statistical consequence of the workings of the Interface Condition in (41).Note that we managed to restrict optionality to the workings of condition (41) only. By this manoeuvre, optionality is confined to a PF-interface condition that specifies prosodic requirements on the linearization of phonological material. The syntactic computation, however, including the branch leading to the LF-interface is deterministic throughout.

Thus, contrary to optimality theoretic syntax, I assume that surface constraints have no place in the grammar itself. Alternatively, I assume that the grammar specifies a limited set of options (one being the spell-out of copies) that are fixed by the child which has access to (next to general syntactic principles) vobabulary and conditions operative at the interface levels only, which are necessarily 'surfacy'. In short, 'surface constraints' are only relevant for the Spell-out of copies but not for the internal working of syntax that creates the copies.

5. Feature Checking and Scope

In Section 4, we have seen that scrambling for reasons of scope taking, though being non-optional, still poses a problem for trigger accounts because of the relational nature of scope. Also since I showed that scrambling proper is an A-movement operation, we need a flexible mechanism to replace adjunction. That is, we need to devise a mechanism which allows us to check one and the same feature in different positions in different occasions. In this section, I want to sketch a possible account of scope in terms of feature checking and explore its implications for the theory of grammar.

For the sake of discussion, let us assume that the above introduced features [w], [i] and [n] are sufficient to account for scope phenomena and furthermore that these features drive the derivation. One question that arises is whether these features are formal or purely semantic in nature. For sure, these features are non-lexical. Take note of the fact that these features are not in any sense part of the lexical properties of a quantifier. As such these are essentially different from the scopal features that Stowell & Beghelli (1994) abstract from specific (types of) quantifiers to account for their scopal properties. The scopal features we are assuming are essentially independent of the properties of lexical items and are purely relational (or syntactic) in nature. Thus it seems appropriate to assume that they cannot be assigned to a specific lexical or functional head in the numeration.

I will assume that non-lexical features can be assigned to any head in the course of the derivation. To restrict scrambling to the middle field, I assume that scopal features can be assigned to extended projections of the verb. The enrichment of an existing structure with a non-lexical feature is defined as given in (43).

(43)   a) assign the feature to an existing structure (the head at the root) in the course of the derivation

b) assign the feature to (a copy of) a bare functional head and merge the head with the existing structure

Economy of derivation guarantees that operation b) which is more complex than a) will only apply in case the derivation using only a) does not converge. Furthermore, *fewest steps* ensures that these features are not assigned repeatedly to a structure and *shortest step* requires that only the smallest extension that guarantees a convergent derivation will be taken. This is illustrated in (44).

(44)   a. $[_{CP}$ C [QP-Su[w] AgrNom[w] [QP-Ob[n] AgrAcc[n] $[_{VP}$ V]]]

b. $[_{CP}$ C [F[w] [QP-Su[n] AgrN[n] [QP-Ob[w] $[_{VP}$ V]]]]

c. $[_{CP}$ C [F[w]…[F[w] [QP-Su[n] AgrN[n] [QP-Ob[w] AgrA $[_{VP}$ V]]]]]]

d. $[_{CP}$ C [T …[F[w] [QP-Su AgrN[n] [QP-Ob AgrA $[_{VP}$ V]]]]]

e $[_{CP}$ C [F[w]…[T [QP-Su AgrN[n] [QP-Ob AgrA $[_{VP}$ V]]]]]]

In (44a), the scopal features are assigned by operation a) to the respective Case-agreement heads. Assuming that the subject is to be read with wide scope with respect to the object, no extension of the derivation, i.e., no scrambling, is necessary. The scopal features can be checked directly in the Case-positions (I assume that DPs come equipped with the respective scopal features matching the propositional intentions of the speaker). In (44b-e), we assume that the object is to be read with wide scope with respect to the subject. The structures in (44b-e) show possible extensions of the derivation before the direct object moves to check its scope feature. In this case, the derivation (44b) wins out over the derivation in (44c) due to *fewest steps*. In the same vein, the derivation in (44d) will be selected over the derivation in (44e), since the movement of the object in (44d) to check its scope feature will be shorter than its movement in (44e) (*shortest step*). In short, the assignment of scopal features has to obey the regular economy conditions. Furthermore, it has to meet the interface condition in (45).

(45)   Scopal Filter
        a) a head assigned the feature [w] must c-command a head
        assigned the feature [n]
        b) a head assigned the feature [i] must c-comamnd a head
        assigned the feature [n] and be c-commanded by a head
        assigned the feature [w]

For the sake of better illustration, let us discuss the derivation of the sentences in (46). First, the arguments are merged in their thematic position in the VP. Then the Case-checking heads are merged and the arguments move into their Case-licensing positions in a parallel fashion.

(46)   a.   weil jeder mindestens eine Frau liebt
                since everyone-NOM at least one woman-ACC loves
        b.   weil mindestens eine Frau jeder liebt
                since at least one woman-ACC everyone-NOM loves

In (46a), where the Subject is to be read with wide scope with respect to the object, the scopal features can be directly assigned to and checked in the Case-positions, with AgrAcc being assigned and checking [n] and AgrNom being assigned and checking [w]. In (46b), where the object is to be read with wide scope with respect to the subject, only one scopal feature can be assigned and checked in the Case position, since the assignment of [w] to AgrAcc and [n] to AgrNom would violate the scopal filter in (45). Thus, the assignment of [n] to AgrNom, which according to (43) is more economic than not using any Case-position for the checking of scopal features, forces the assignment of the remaining scopal feature [w] to a higher head. Since the direct object in (46) is non-specific – if it were specific the scopal features could be assigned to the head licensing weak pronouns (cf. Section 2.2) – and since the object does not have any other features to check in the I-Domain, the scopal feature is assigned to a bare functional head which is merged with the existing structure. Then, the direct object moves across the subject to check its scopal feature. Finally, the complementizer is merged to complete the derivation of the clause.

    The assignment of a scopal feature to a functional head defines the scope position of an argument. Since according to (39b) quantified DPs have to be spelled-out in their Scope positions, the copies of the two argu-

ments can only be spelled-out in order given in (46), with the wide scope phrase preceding the narrow scope phrase.

Along the same lines it follows that a quantified DP if it is to be read with narrow scope with respect to negation (cf. (35) and (36) above) must be spelled out below negation even if it has a specific (partitive) interpretation. A DP of this type will check its scopal feature in its Case-position below negation, move across negation to check its [Specificity] feature but be spelled out in its scope position below negation. The same considerations apply to contrastively focussed definite and indefinite specifics (cf. (29) and (30) above). The derivation of (29c) is given in (47).

(47)   a.   weil Hans nicht das BUCH gelesen hat
                since Hans not the BOOK read has
       b.   [weil Hans [$_{Spec}$ das Buch [nicht [$_{Foc}$ **das Buch**
                [$_{Case}$ das Buch gelesen hat]]]]]

The direct object in (47b) moves to check first its Case, its focus and then its [Specificity] feature and is spelled out in its Focus-position below negation.

Let us now address the question of whether these scopal features are to be considered as formal or as semantic features. Remember that there are two different dialects concerning the interpretation of quantified expressions. For speakers of the first dialect scrambled structures are unambiguous. That is to say, the scrambled phrase is interpreted in its surface position. For speakers of the second dialect scrambled structures are ambiguous. That is to say, the scrambled phrase can be interpreted in its surface position or in its base position (I am leaving open the question whether it is the Theta- or the Case-position that is relevant here).

Note that the existence of ambiguity in the second dialect is problematic for the assumption that scopal features are semantic features. A phrase that is assigned the feature [w] for wide scope can be interpreted with narrow scope in dialect 2. The scopal features that we assumed here do not determine the semantic interpretation of scopal elements. Rather, they provide a syntactic limit to the interpretation of a scopal element. This property is more akin to the nature of a formal feature (that gears but does not (directly) determine the interpretation of the element it is assigned to). Given the notion of scope, the interpretation of these elements in the two dialects can be characterized rather simply as given in (48).

(48) Dialect 1: A scopal element is interpreted in its scope position
      Dialect 2: A scopal element can be interpreted in its scope or in
      its base position

Again, this characterization of the properties of scrambling in the two dialects highlights the fact that the scopal features that I introduced are rather formal in nature than being purely semantic. Rather than being interpreted directly, they drive the derivation that provides the input for more general principles of interpretation.

To summarize, if we want to refrain from positing an optional mechanism in the syntax like H&R's mechanism of freely creating scrambling chains that can be exploited at the interfaces, we have to extend the computational system and allow for the introduction of non-lexical features in the course of the derivation. The enrichment mechanism I propose obeys cyclicity and is conservative in that it involves either the assignment of non-lexical (=relational) features to pre-existing structure or the introduction of a bare functional head with the feature in question which represents the smallest extension.

6. Conclusions

I have argued that one type of scrambling, namely the one that affects an unstressed or destressed constituent is an instance of A-movement. Furthermore, I showed that there are two types of triggers that drive this movement, namely the discourse related feature [Specificity] and a relational scope feature. I have sketched an account of this type of scrambling - abstaining from the use of adjunction - that has these features checked in the Specifiers of the respective functional projections.

Finally I addressed the issue of optionality connected with scrambling. I have argued that optionality is not a property of the syntactic computation itself, but can be relegated to various options in the Spell-out component that are determined by interface conditions at LF and PF.

Notes

[1] A DP is specific if it denotes a member of a set of individuals introduced in the previous discourse. It has been pointed out that names and generic expressions can scramble even in the absence of a discourse antecedent. Thus, the feature [familiarity] has been proposed which encompasses discourse-antecedency and membership in the common ground (cf. Delfitto & Corver (1997)). I will leave the empirical question open, whether one type of trigger of scrambling is to be characterized with the notion [familiarity] rather than [specificity].

[2] That there are two licensing positions for object clitics (one below and one above the subject) is a relatively conservative assumption. Instead, one could assume that there is only one position for licensing object clitics, which is above the subject and that the subject itself has moved into a higher position in (15a). Since this alternative proposal is neutral with respect to the main argument defended in this section, I will not pursue this issue any further.

[3] Whether all scrambling orders, including those with several adverbs present, can be derived in this manner, is subject to empirical investigation. More specifically, it remains to be seen whether this clitic-licensing heads occupy fixed positions in the tree or whether they can be introduced at various points in the course of the derivation. For how this latter idea can be implemented – albeit for the purposes of checking scopal properties – see section 5.

[4] The determiner *kein* has been analyzed as created by fusing a determiner with existential force with negation (cf. Kratzer (1989))

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