Order Preservation, Parallel Movement, and the Emergence of the Unmarked

Gereon Müller (Universität Stuttgart)

1. Introduction

Often, the application of a given syntactic movement operation is not ambiguous: There is only one designated position that the movement operation can target (i.e., the movement operation can apply only once per clause), and there is only one designated item that can be affected by the movement operation; a typical example for this is *wh*-movement in simple (non-multiple) questions in English. However, sometimes ambiguity does show up in the application of a movement operation, either because the movement operation may (or, in fact, must) apply multiply, or because there is more than one item in the clause that can in principle be moved.

A curious but nevertheless prevalent feature of many of these latter instances of rule application is that movement must be order-preserving, i.e., the order of the items that are (potentially or actually) affected by the movement operation must be identical before and after movement. So far, this property of "ambiguous" movement operations does not seem to have been explained in a simple and unified way; and it is the main goal of this paper to give an account of why it should hold. The account is based on the general constraint Parallel Movement (henceforth PAR-MOVE) in (1), which I will try to justify in what follows.

(1) PAR-MOVE:
If α c-commands β at level L_n, then α c-commands β at level L_{n+1}
(where α, β are arguments).

The basic idea is that c-command relations between arguments must be preserved from one level of representation to the next one. Assuming strict binary branching, c-command relations between arguments are necessarily asymmetric. Assuming furthermore (contra Chomsky (1995)) a model of grammar as in Chomsky (1981; 1986) that recognizes three

levels of syntactic representation (D-structure, S-structure, and LF), (1) demands that asymmetric c-command relations between arguments at D-structure must be preserved at S-structure, and that asymmetric c-command relations between arguments at S-structure must be preserved at LF.[1] I will show that PAR-MOVE permits a straightforward account of order preservation with various instances of ambiguous movement (superiority effects in English, multiple *wh*-movement in Bulgarian, Case-driven NP raising, object shift in Danish and Icelandic, pronoun fronting in German, and quantifier raising in German and English).

Before I turn to an illustration of how PAR-MOVE accounts for some recalcitrant facts about multiple (or ambiguous) movement, a fundamental problem should be noted that the constraint appears to raise for non-ambiguous movement operations affecting objects – like, e.g., simple *wh*-movement or topicalization in languages like English (cf. (2)) and German (cf. (3)):[2]

(2) (I don't know) [$_{CP}$ what$_2$ [$_{TP}$ she$_1$ said t$_2$]]

(3) [$_{CP}$ Die Frau$_2$ [$_{C}$ hat] [$_{TP}$ er$_1$ t$_2$ nicht getroffen]]
the woman$_{acc}$ has he$_{nom}$ not met

Both examples clearly violate PAR-MOVE because NP$_2$ is asymmetrically c-commanded by NP$_1$ at D-structure but ends up asymmetrically c-commanding NP$_1$ at S-structure. In view of this, various steps could be taken. First, PAR-MOVE could be rejected immediately. Second, PAR-MOVE could be split up in such a way that it is formulated only for specific movement operations, or only for certain kinds of items.[3] Given that this would

[1]Note that since PAR-MOVE correlates two non-adjacent steps in the derivation (here encoded as levels), this constraint belongs to the class of "global rules" (in the sense of Lakoff (1971)), just like Chomsky's (1981) Projection Principle does.

[2]Throughout the paper, I assume as background the clause structure argued for in Chomsky (1995), with CP dominating TP, TP dominating vP, and vP dominating VP. In the course of the discussion, this view on clause structure will be modified by adding further functional projections.

[3]This second strategy does indeed roughly correspond to construction-specific predecessors of PAR-MOVE that can be found in the literature. Thus, Lakoff (1971), Kroch (1974), Reinhart (1983), and Huang (1982) develop constraints on relative scope assignment that in one way or another incorporate

mean giving up a unified explanation and potentially missing a generalization, I will opt for a third possibility and assume that PAR-MOVE's apparent violability does in fact not disqualify it from being a fundamental constraint that restricts all movement operations.

To execute this idea, I will develop an optimality theoretic approach (cf. Prince & Smolensky (1993) and Grimshaw (1997), among many others) to order-preserving movement that covers both the cases in which (1) seems to be relevant and the cases in which it seems to be irrelevant. The main idea is that PAR-MOVE belongs to the class of Faithfulness constraints that demand identity of input and output of a derivation. The constraint has the following properties: It is (a) violable, (b) universal, and (c) typically ranked low. The last property ensures that its effects are often blurred by higher-ranked constraints and can therefore be observed only under favourable conditions. Thus, the analysis involves a prototypical instance of what McCarthy & Prince (1994) call the "emergence of the unmarked" (also compare Kiparsky's (1982) notion of "elsewhere cases"). On a more general note, what follows can be viewed as an argument for an optimality-theoretic organization of grammar: (i) Different constructions exhibit the same property P; (ii) P can be accounted for by a general constraint C, or by several construction-specific constraints c_1, c_2, etc. (iii) Ceteris paribus, C is to be preferred over c_1, c_2, etc., for reasons of explanatory adequacy. (iv) Since C must be assumed to be violable and ranked, these concepts must play a role in syntactic theory.

I will proceed as follows. In section 2, empirical evidence for PAR-MOVE is accumulated on the basis of a variety of languages and constructions that involve ambiguous

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the gist of PAR-MOVE. Their proposals are confined to the interaction of quantified XPs (on which see subsection 2.7 below), and can be interpreted as requiring multiple quantifier raising to maintain S-structure order. (Lakoff's analysis is formulated in the framework of generative semantics, where D-structure plays the role of logical form, and accordingly, his version of the constraint requires that relative scope at D-structure must be preserved at surface structure.) Clearly, these approaches are not in conflict with the existence of order-changing movement operations as in (2) and (3); but they do not generalize to other instances of order-preserving movement either. Similar conclusions apply in the case of Watanabe's (1992) constraint regulating (anti-) superiority, and in the case of Haegeman's (1995) and Meinunger's (1995) constraints on relation preservation in A-chains.

movement at S-structure or LF; it is also shown that PAR-MOVE must be assumed to be violable. Section 3 then develops an optimality theoretic approach that correctly predicts the circumstances under which PAR-MOVE can be violated, and under which it cannot. Finally, in section 4 a conclusion is drawn, and further issues are briefly discussed.

2. Evidence for Parallel Movement

2.1. Superiority Effects in English

Superiority effects as they show up with *wh*-movement in English can be viewed as a typical example of an a priori unexpected case of non-ambiguity in rule application – in cases in which there is more than one possible candidate for *wh*-movement (i.e., more than one *wh*-phrase), the rule of *wh*-movement can in fact not apply ambiguously to either of the *wh*-phrases. To see this, consider first "standard" superiority effects (i.e., those effects that have been shown to be reducible to the ECP in Aoun, Hornstein & Sportiche (1981) and Chomsky (1981)):

(4) a. I wonder [$_{CP}$ who$_1$ C [$_{TP}$ t$_1$ bought what$_2$]]
b. *I wonder [$_{CP}$ what$_2$ C [$_{TP}$ who$_1$ bought t$_2$]]

As shown by Chomsky (1973), the Superiority Condition that requires the highest *wh*-phrase to undergo overt movement in the case of ambiguity of rule application yields the correct result for (4). Similarly, the Minimal Link Condition (MLC) of Chomsky (1995) (which can ultimately be viewed as a reformulation of the Superiority Condition in terms of feature checking) straightforwardly derives the contrast in (4): who_1 is closer to C$_{[+wh]}$ than $what_2$ in the pre-*wh*-movement structure, and therefore has to undergo movement first.[4] Since English only permits one *wh*-phrase per C$_{[+wh]}$ node at S-structure, the object

[4]The MLC is defined as follows in Chomsky (1995):

(i) MLC:
K attracts α only if there is no β, β closer to K than α, such that K attracts β.

must stay in situ in overt syntax.[5] However, given PAR-MOVE, an alternative solution suggests itself: The derivations (4-a) and (4-b) have identical D-structures, with NP_1 asymmetrically c-commanding NP_2, and these c-command relations are maintained at S-structure in (4-a), but not in (4-b).

Basically the same situation arises with what has become known as "pure" superiority effects (cf. Hendrick & Rochemont (1982) and Pesetsky (1982)), i.e., superiority effects that involve two objects and are, therefore, not reducible to the ECP in an obvious way. Again, these data follow both under an MLC (Superiority) account and under a PAR-MOVE account:

(5) a. Whom_1 did John persuade t_1 [$_{CP}$ to visit whom_2] ?
b. *Whom_2 did John persuade whom_1 [$_{CP}$ t'_2 to visit t_2] ?

For the time being, I will leave it at that, noting that superiority effects in English can be made to follow from either the MLC or PAR-MOVE. However, it is clear that if a PAR-MOVE account is adopted, there is conflicting evidence in the grammar of English. As noted before, PAR-MOVE must be considered violable in view of cases where ambiguity in rule application does not arise and a reversal of D-structure order by S-structure movement is permitted. This holds, e.g., for simple *wh*-movement cases like (6) (= (2)), where a *wh*-object crosses a non-*wh*-subject:

(6) (I don't know) [$_{CP}$ what_2 [$_{TP}$ she_1 said t_2]]

Indeed, the same point can already be made with an example like (5-a): The *wh*-object is moved across an intervening non-*wh*-subject, in apparent violation of PAR-MOVE.

Ideally, "closeness" is to be understood in purely structural terms: β is closer to K than α if β asymmetrically c-commands α.

[5] Depending on whether one assumes LF raising of *wh*-in situ phrases or not, the object either moves later, at LF, or stays in situ throughout the derivation.

2.2. Wh-Movement in Bulgarian

Rudin (1985; 1988) observes that Bulgarian exhibits multiple overt *wh*-movement, in the sense that all *wh*-phrases must be in the domain of $C_{[+wh]}$ at S-structure. This is shown by the contrast in (7):

(7) a. [CP Koj$_1$ kogo$_2$ C [TP t$_1$ vižda t$_2$]] ?
who$_{nom}$ whom$_{acc}$ sees

b. *[CP Koj$_1$ C [TP t$_1$ vižda kogo$_2$]] ?
who$_{nom}$ sees whom$_{acc}$

Interestingly, the moved *wh*-phrases must show up in a fixed order subject $\succ$ object, i.e., reversing object and subject in (7-a) leads to illformedness; cf. (8):

(8) *[CP Kogo$_2$ koj$_1$ C [TP t$_1$ vižda t$_2$]] ?
whom$_{acc}$ who$_{nom}$ sees

As Rudin (1988) shows, in a framework that incorporates the ECP, this effect can be treated more or less analogously to the superiority effect in English, given certain additional assumptions. However, the phenomenon is more general. As observed in Rudin (1985), multiple *wh*-movement of three *wh*-arguments in double object constructions also typically results in a fixed order. This order happens to be the one that is established at D-structure; cf.:[6]

(9) a. [CP Koj$_1$ kogo$_2$ kakvo$_3$ C [TP t$_1$ e pital t$_2$ t$_3$]] ?
who whom what asked

b. *[CP Koj$_1$ kakvo$_3$ kogo$_2$ C [TP t$_1$ e pital t$_2$ t$_3$]] ?

c. *[CP Kakvo$_3$ koj$_1$ kogo$_2$ C [TP t$_1$ e pital t$_2$ t$_3$]] ?

d. *[CP Kakvo$_3$ kogo$_2$ koj$_1$ C [TP t$_1$ e pital t$_2$ t$_3$]] ?

e. *[CP Kogo$_2$ koj$_1$ kakvo$_3$ C [TP t$_1$ e pital t$_2$ t$_3$]] ?

f. *[CP Kogo$_2$ kakvo$_3$ koj$_1$ C [TP t$_1$ e pital t$_2$ t$_3$]] ?

[6] There are some exceptions to this generalization where the order of the moved *wh*-phrases is not completely fixed. I will ignore these exceptions in what follows, assuming that they can be explained away as the result of some intervening factor, such as an option to base-generate different orders in certain cases.

This state of affairs strongly suggests a constraint like PAR-MOVE at work in both (7-a)/(8) and (9). In order to derive the data in (9) by PAR-MOVE, however, an additional assumption is necessary: In contrast to what is postulated by Rudin (1988), it must be assumed that fronting of *wh*-phrases does not proceed via right-adjunction of one NP_1 to another NP_2 that is located in SpecC (or to another NP_2 at an earlier stage in the derivation, when NP_2 is still in situ, as suggested by Ackema & Neeleman (1995) and Grewendorf & Sabel (1996)), as in (10-b), but rather via left-adjunction to CP, as in (10-a); the reason is that there is no simple notion of c-command that would predict that, e.g., NP_1 asymmetrically c-commands NP_2 in (10-b):[7]

(10) a. $[_{CP}$ Koj$_1$ $[_{CP}$ kogo$_2$ $[_{CP}$ kakvo$_3$ C $[_{TP}$ t_1 e pital t_2 t_3]]]] ?

b. *$[_{CP}$ $[_{NP}$ $[_{NP}$ $[_{NP}$ Koj$_1$] kogo$_2$] kakvo$_3$] C $[_{TP}$ t_1 e pital t_2 t_3]] ?

Indeed, adopting (10-a) seems to be compatible with the main bulk of evidence that Rudin (1988) presents in support of right-adjunction to SpecC (most of which suggests that *wh*-fronting in Bulgarian moves all *wh*-phrases to the left of C, unlike what is the case in, e.g., Polish). In addition, closer inspection reveals that the kind of *wh*-cluster formation that is envisaged by Rudin (1988) raises a number of conceptual and empirical problems: For instance, right-adjunction of one argument NP_2 to another argument NP_1 (that does not dominate NP_2 in the pre-movement structure) invariably violates the Strict Cycle Condition of Chomsky (1995) as an instance of syntactic lowering, irrespective of whether NP_1 is in situ or in SpecC at the point at which right-adjunction applies.[8] A

[7]Of course, more intricate notions of c-command may technically do the job here; see Watanabe (1992) and Kayne (1994), among others. (Note also that, on Kayne's (1994) assumptions, NP_3 would be in SpecC (actually, adjoined to CP) in (10), NP_2 would be adjoined to NP_3, and NP_1 to NP_2.) However, whereas these more elaborate concepts of c-command in principle would make it possible to reconcile the demands imposed by PAR-MOVE with the existence of *wh*-cluster formation, the arguments against *wh*-cluster formation that will be presented directly shed doubt on such a move.

[8]The technical implemention of the Strict Cycle Condition in Chomsky (1995) is as follows: Overt movement is viewed as obligatorily triggered by a strong feature on the head of the landing site, movement operations and structure-building (Merge) operations alternate systematically, and strict cyclicity demands that overt movement can only be triggered by non-embedded heads. As soon as an NP_1 is

related problem is posed by the fact that adjoining NP_2 to NP_1 yields a configuration in which c-command of t_2 in the strict sense is not available anymore (cf., e.g., Koster (1987) and Stechow & Sternefeld (1988)). Furthermore, it is shown in Stechow (1996) and Beck (1996) that genuine *wh*-cluster formation (as in (10-b)) poses problems for a strictly compositional determination of the semantics of multiple questions, in contrast to what is the case with (10-a). Finally, it seems that assuming adjunction operations as in (10-b) to be possible yields a number of undesirable consequences for languages with ample use of adjunction operations; in particular, it is shown in Müller (1998, ch. 4) that permitting structures of the kind in (10-b) leads to substantial overgeneration problems with scrambling in German. To sum up: If we assume that the linear order of the fronted *wh*-phrases in (9) implies asymmetric c-command, PAR-MOVE directly accounts for the fixed order property of multiple *wh*-movement in Bulgarian, in the same way that it accounts for superiority effects in a language like English. And whereas alternative accounts of order preservation in Bulgarian multiple questions are of course conceivable, an alternative unified approach to this phenomenon that immediately extends to superiority effects is by no means straightforward.[9]

In the general formulation that PAR-MOVE takes in (1), it is not restricted to instances of multiple *wh*-movement in Bulgarian, but also covers single *wh*-movement. In this case, however, PAR-MOVE clearly makes wrong predictions, just as we have seen in the case of single *wh*-movement in English. This is shown by (11), where a *wh*-object is moved across a non-*wh*-subject, in apparent violation of PAR-MOVE:

(11) $[_{CP}$ Kakvo$_2$ pravi$_V$ $[_{TP}$ Ivan$_1$ t_V t_2 $]]$?
what does Ivan

present in, say, SpecX, adjunction of another NP_2 to NP_1 is barred because the feature on N_1 that might trigger adjunction of NP_2 is necessarily embedded in XP. Hence, at this step of the derivation, movement can only be triggered by a feature on X.

[9]See, e.g., the economy accounts developed by Richards (1997) and Mulders (1997), where the MLC (that derives superiority effects in English) is augmented by another economy constraint that derives Bulgarian data like (9).

In addition, and independently of the issue of single versus multiple *wh*-movement, Bulgarian has scrambling (see Molxova (1970) and Rudin (1985), among others), which can also violate PAR-MOVE; compare (12-a)/(12-b) with (12-c):[10]

(12) a. če [$_{TP}$ Ivan$_1$ [$_{VP}$ otvori vratata$_2$]]
that Ivan opened door-the

b. če [$_{TP}$ Ivan$_1$ [$_{VP}$ vratata$_2$ [$_{VP}$ otvori t_2]]]
that Ivan door-the opened

c. če [$_{TP}$ vratata$_2$ [$_{TP}$ Ivan$_1$ [$_{VP}$ otvori t_2]]]
that door-the Ivan opened

For the time being, we can conclude that, while there seems to be strong evidence for PAR-MOVE in Bulgarian multiple *wh*-movement constructions, there is also counterevidence in abundance.

2.3. Pronominal Object Shift in Danish

Next, consider multiple object shift in Scandinavian. Object shift is a clause-internal A-movement operation that is restricted to pronouns in Mainland Scandinavian languages like Danish (which I will focus on first). Object shift is dependent on leftward raising of the main verb to a higher position (i.e., on V/2 movement in Danish, which lacks overt V-to-I movement; see Vikner (1990)); furthermore, if V raising has applied, object shift is normally obligatory for pronouns (see Holmberg (1986), Vikner (1990; 1994), Deprez (1994), and Roberts (1995), among others).[11] A pair of examples that illustrates the obligatoriness of object shift in Danish is given in (13) (cf. Vikner (1994)):

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[10]Note in passing that the existence of scrambling-derived free word order in Bulgarian is in itself an interesting phenomenon, since Bulgarian has an impoverished system of overt Case marking that, in fact, closely resembles the English one. Hence, Bulgarian poses a problem for any theory of free word order that relates the existence of order-changing scrambling in a given language to the availability of rich Case morphology.

[11]It seems that object shift can only fail to apply in this context if the pronoun shares stress properties with full lexical NPs; in this case, it is plausible to assume that it has lost the relevant features that trigger object shift; see below.

(13) a. *Hvorfor købte$_V$ Peter – ikke t$_V$ den$_1$?
why bought Peter not it

b. Hvorfor købte$_V$ Peter den$_1$ ikke t$_V$ t$_1$?
why bought Peter it not

If two object pronouns show up in a double object construction, both have to undergo object shift. Interestingly, multiple object shift must preserve the D-structure order of arguments (cf. Vikner (1990) and Johnson (1991)). This is shown by the data in (14):

(14) a. Peter viste hende$_1$ den$_2$ jo t$_1$ t$_2$
Peter showed her it indeed

b. *Peter viste den$_2$ hende$_1$ jo t$_1$ t$_2$

c. *Peter viste – – jo hende$_1$ den$_2$

d. *Peter viste – – jo den$_2$ hende$_1$

e. *Peter viste hende$_1$ – jo t$_1$ den$_2$

f. *Peter viste – den$_2$ jo hende$_1$

This pattern is familiar by now; it is exactly what we would expect, given PAR-MOVE. Alternative approaches, however, do not suggest themselves in any obvious way.[12]

Note furthermore that simple object shift of a pronominal direct object across a lexical indirect object NP is blocked, in contrast to object shift of an indirect object in the presence of a non-pronominal direct object; cf. (15) (from Vikner (1990)):

[12]Vikner (1990) and Johnson (1991) propose that the two object pronouns form one small clause-like constituent at D-structure (called δP or DP), and that this constituent undergoes object shift in (14-a), which explains why the D-structure order is maintained. A potential problem of this analysis is that it does not offer a straightforward account of the fact that the purported δP/DP constituent (that includes the direct and the indirect object and excludes the verb) can never undergo any kind of movement where unambiguously only one XP landing site can be involved in Danish, such as *wh*-movement or topicalization. Here, otherwise unmotivated assumptions appear necessary; cf., e.g., Johnson's (1991) elaborate system of Case assignment that is designed to account for the problem at hand. – An alternative account of the fixed word order property of multiple object shift might rely on hierarchically stacked Case positions for indirect and direct object. On this, see below.

(15) a. *Peter viste den$_2$ jo Marie$_1$ t$_2$
Peter showed it indeed Marie

b. Peter viste hende$_1$ jo t$_1$ bogen$_2$
Peter showed her indeed the book

Again, these data follow from PAR-MOVE – the S-structure representation in (15-b) preserves the argument order established at D-structure, which the S-structure representation in (15-a) does not.[13]

Given what has been said in the preceding subsections, it comes as no surprise that PAR-MOVE creates problems in other domains of Danish syntax. For instance, simple *wh*-movement and topicalization can freely violate PAR-MOVE, as shown in (16) (from Vikner (1990)):

(16) a. [$_{NP}$ Hvilken bog]$_2$ har Peter$_1$ læst t$_2$?
which book has Peter read

b. [$_{NP}$ Denne bog]$_2$ har Peter$_1$ læst t$_2$
this book has Peter read

2.4. Object Shift of Full NPs in Icelandic

Similar facts hold for multiple object shift of full NPs in Icelandic which, unlike pronominal object shift in Danish, is optional; cf. Holmberg (1986), Vikner (1990), and Collins & Thráinsson (1996), among others. This is shown by the following data involving multiple object shift of full NPs in double object constructions (from Collins & Thráinsson (1996)):[14]

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[13]Note that one cannot argue that the presence of the indirect object in (15-a) turns VP into an island for extraction. As shown in (i) (Sten Vikner (p.c.))

(i) Denne bog$_2$ viste Peter ikke Marie$_1$ t$_2$
this book showed Peter not Marie

the direct object may cross the indirect object if it undergoes some other kind of movement, such as topicalization.

[14]Here and in what follows, I abstract away from the issue of intonation, which slightly complicates the overall picture.

(17) a. Ég lána Maríu$_1$ bækurnar$_2$ ekki t_1 t_2
I lend Maria the books not

b. *Ég lána bækurnar$_2$ Maríu$_1$ ekki t_1 t_2
I lend the books Maria not

Interestingly, even though object shift is in principle optional for full NPs in Icelandic, it is blocked if the shifted item is the direct object, and the indirect object stays in situ. The indirect object, on the other hand, can shift even if the direct object stays in situ. This is shown in (18):

(18) a. *Ég lána bækurnar$_2$ ekki Maríu$_1$ t_2
I lend the books not Maria

b. Ég lána Maríu$_1$ ekki t_1 bækurnar$_2$
I lend Maria not the books

Again, the contrasts in (17) and (18) are correctly predicted by PAR-MOVE in a uniform way, whereas an alternative account of order preservation after multiple object shift is by no means obvious.[15]

[15]Collins & Thráinsson (1996) and Collins (1997, ch. 3) argue that the fact that multiple object shift – viewed there as an instance of Case-driven NP raising – respects D-structure order follows from the MLC, which indeed it does in cases like (17) in Icelandic and (14) in Danish if certain assumptions are made. These assumptions concern, inter alia, the base position of argument NPs in double object constructions, and the precise definition of the notion of closeness in the MLC (which turns out to require an additional concept of minimal domain/equidistance in this approach, cf. Chomsky (1995) and below). The basic idea is that, due to the concept of equidistance, a derivation of double object shift constructions such as (17-a) is permitted in which first the direct object moves to a position in the same minimal domain as the indirect object, and then the indirect object moves to a higher position. If, however, the indirect object is moved to the lower target position first, and the direct object then raises to a higher position (crossing both the indirect object and its trace), as in (17-b), the MLC is violated because the second movement operation is not sufficiently local anymore. This approach works well for cases like (17) and (14); however, it does not automatically extend to (18) in Icelandic and (15) in Danish. The problem is that the ill-formed examples (18-a) and (15-a) correspond to intermediate steps in the derivation of the well-formed examples (17-a) and (14-a), and hence cannot violate the MLC for principled reasons. Therefore, it seems necessary to introduce additional assumptions that are not related to the MLC; and this is indeed done by Collins & Thráinsson (1996, 420-424). These assumptions may or may not be

Again, however, it is not difficult to find conflicting evidence suggesting that PAR-MOVE can be violated in Icelandic, e.g., simple topicalization constructions such as (19):

(19) aδ Maríu$_2$ hefur Helgi$_1$ aldrei kysst t_2
that Maria has Helgi never kissed

2.5. Case-driven NP Raising

Assuming with Chomsky (1995) that NPs are base-generated VP-internally and must raise to an external specifier position to check structural Case, a well-known problem arises: Why does NP raising (be it overt or covert) of, e.g., a subject NP and an object NP in a simple transitive structure result in the subject asymmetrically c-commanding the object, and not vice versa? In other words, why does NP raising maintain order? For the sake of concreteness, suppose, following Chomsky (1995), that objects are base-generated VP-internally, and that subjects are base-generated in the specifier of a light verb v, as in (20). The question then is why the target of Case-driven subject movement is SpecT, and why the target of Case-driven object movement is a second specifier of v, and not vice versa (note that basically the same problem arises in the framework of Chomsky (1993) that employs AGR-phrases as landing sites for Case-driven raising).[16]

(20) $[_{\text{TP}} - [_{\text{T'}}\ \text{T}\ [_{\text{vP}}\ \text{Spec}_2\ [_{\text{v'}}\ [_{\text{Spec}_1}\ \text{NP}_{Subj}\ ]\ [_{\text{v'}}\ \text{v}\ [_{\text{VP}}\ \text{V}\ \text{NP}_{Obj}\ ]]]]]]$

One might expect this to follow from the MLC, but Chomsky (1995) observes that the MLC does not predict these movements without additional assumptions. Since NP_{Subj}

considered theoretically attractive; what is important in the present context is that such an approach invariably deprives us of the possibility to account for order preservation violations in (14) & (17) on the one hand, and in (15) & (18) on the other, in a uniform way, in contrast to an approach in terms of PAR-MOVE.

[16]Instead of a second specifier, one might assume that the Case position in question is actually a vP-adjunction site; in fact, I will tacitly presuppose such a view in what follows, assuming that specifiers are always unique. This question does not bear at all on the issues currently under discussion and is mainly a terminological one from the present perspective; however, for reasons of clarity and compatibility, I continue to use the term "second specifier" in this subsection.

asymmetrically c-commands NP_{Obj}, the MLC in its standard formulation blocks raising of NP_{Obj} to $Spec_2$ of v, crossing NP_{Subj}. In view of this situation, two alternatives are pursued in Chomsky (1995). First, one might assume that closeness is in fact not defined via strict c-command, but rather by invoking the more liberal notion of "same minimal domain" (i.e., equidistance): On this view, NP_{Obj} can move to $Spec_2$ in (20) because $Spec_1$ and $Spec_2$ are in the same minimal domain; and whereas NP_{Subj} can undergo raising to SpecT, NP_{Obj} cannot, due to the MLC – neither NP_{Subj} and NP_{Obj} are in the same minimal domain, nor SpecT and $Spec_1$. This approach correctly derives the fact that Case-driven raising of subjects and objects maintains the pre-movement order, but it crucially relies on an otherwise unmotivated assumption, viz., that the notion of equidistance plays a role in the definition of closeness. A second possible approach envisaged in Chomsky (1995) evades this objection, i.e., the MLC is simply defined via closest c-command. To derive the order preservation property of Case-driven movement, it is proposed that the base position of a subject is indeed not below the Case position of the object, as in (20), but rather above it, as in (21):

(21) $[_{TP} - [_{T'} T [_{vP} [_{Spec_2}\ NP_{Subj}\ ] [_{v'} Spec_1 [_{v'} v [_{VP} V\ NP_{Obj}\ ]]]]]]$

NP_{Obj} targets the inner specifier $Spec_1$ of v, and NP_{Subj} is raised to SpecT, as before. This way, the two movement paths do not overlap; they are "stacked" (cf. Bobaljik (1995, ch. 3), which also contains a comparative discussion of the two options). Clearly, this second alternative does not pose a problem for the MLC; on the contrary, the MLC correctly predicts that NP_{Subj} will have to c-command NP_{Obj} after Case-driven raising as it does before. Note, however, that this approach also relies on an otherwise unmotivated assumption, viz., that the Case position of one argument NP is lower than the base position of another. As a result, there is no constituent anymore that contains only the verb and its argument positions at LF, which potentially creates problems – or at least complications – for interpretation. What is more, since paths of Case-driven raising now tend to become very small (in the case of objects), one might argue that the idea of Case-driven movement itself is in the danger of being rendered vacuous. Be this as it may, there is a much simpler third possibility to derive the order preservation property of Case-

driven movement. This solution does not rely on the MLC and allows us to maintain the D-structure representation in (20) without invoking a concept like equidistance: NP_{Subj} raising to SpecT accompanied by NP_{Obj} raising to $Spec_2$ of v in (20) respects PAR-MOVE, whereas NP_{Subj} raising to $Spec_2$ accompanied by NP_{Obj} raising to SpecT does not.

Further evidence for such an approach comes from the consideration of Case-driven movement in double object constructions in German. It is proposed in Müller & Sternefeld (1994) that an indirect object bearing structural dative Case overtly raises out of the VP into the specifier of a functional projection (called μP; cf. Pesetsky (1989) and Johnson (1991)) that intervenes between TP and vP.[17] Furthermore, it is argued that the base position of the indirect object is below the base position of the direct object, just as assumed for English by Larson (1988), and that the direct object does not undergo Case-driven raising at S-structure in German.[18] Finally, I will assume that unlike indirect objects, which must move to Specμ, and unlike direct objects, which cannot raise overtly, subjects in German are optionally raised to SpecT in overt syntax in German (see Grewendorf (1989) and Diesing (1992), among others). If the subject is raised to SpecT, we thus obtain the following derivation for a typical double object construction in German.[19]

(22) a. *D-structure*:

daß [$_{TP}$ – [$_{\mu P}$ – [$_{vP}$ $Fritz_1$ [$_{VP}$ das $Buch_2$ [$_{V'}$ (an) $Maria_3$ sandte]]]]]
that $Fritz_{nom}$ the $book_{acc}$ (to) $Maria_{dat}$ sent

b. *S-structure*:

daß [$_{TP}$ $Fritz_1$ [$_{\mu P}$ $Maria_3$ [$_{vP}$ t_1 [$_{VP}$ das $Buch_2$ [$_{V'}$ t_3 sandte]]]]]
that $Fritz_{nom}$ $Maria_{dat}$ the $book_{acc}$ sent

[17] I tacitly adjust irrelevant differences between Müller & Sternefeld (1994) and the present approach.

[18] If correct, this implies that the base order of direct object and indirect object in typical double object constructions in German is different from that found in, e.g., Danish and Icelandic. I will address this issue in the following subsection.

[19] Note in passing that, due to the existence of order-changing scrambling (see below), there can only be theory-internal evidence for these postulated overt Case-driven movement operations in German – the surface structure itself does not have to correspond to something like (22-b).

Case-driven raising of the indirect object NP_3 in (22-b) is inherently problematic for either of the two MLC-based approaches envisaged in Chomsky (1995). On the one hand, equidistance alone does not help because the target position of NP_3 is not in the same minimal domain as either the subject NP_1 or its trace t_1; on the other hand, a stacking of Case paths, as in (21), is incompatible with the evidence put forward in Müller & Sternefeld (1994) that suggests that t_3 must be c-commanded by NP_2 in (22-b), whereas NP_2 is in turn c-commanded by NP_3 – in other words, that the indirect object moves across the direct object. It seems that the only possible way out in an MLC-based approach would be to assume that both equidistance and stacking of Case paths play a role; and indeed, such a more elaborate approach has been suggested in the literature; cf., e.g., Collins (1997). Again, however, PAR-MOVE seems to offer a much simpler account of these data: The ambiguity in rule application that results from the fact that both the subject and the indirect object undergo overt raising to an external Case position is resolved by PAR-MOVE, which demands that asymmetric c-command of the indirect object by the subject must be maintained at S-structure. As before, though, it must be assumed that PAR-MOVE is violable: The D-structure order of direct and indirect object is reversed at S-structure. Intuitively, the situation is similar to the one encountered with simple *wh*-movement in English and Bulgarian: PAR-MOVE seems to be relevant only if a movement operation might otherwise apply ambiguously. Since, by assumption, the Case feature on the direct object cannot be checked by overt raising in German, in contrast to the Case features on the subject and on the indirect object, ambiguity can only arise with the latter two arguments, and not with the former. Thus, it seems that PAR-MOVE demands order preservation with Case-driven movement, but only as far as this is possible; if crossing of an argument NP is unavoidable, this appears to be permitted, even at the cost of a PAR-MOVE violation.

For the time being, I will leave it at that, concluding that a violable PAR-MOVE constraint accounts for the tendency of Case-driven movement to preserve order in a straightforward way, which alternative concepts like the MLC do not.

2.6. Pronoun Fronting in German

2.6.1. The Evidence

As noted by, e.g., Lenerz (1977; 1992), Heidolph et al. (1981), and Hoberg (1981), movement of weak (i.e., unstressed) pronouns to Wackernagel positions results in a fixed order in German. As shown in (23), displaced subject pronouns obligatorily precede displaced object pronouns:

(23) a. daß sie$_1$ es$_2$ wahrscheinlich nicht t_1 t_2 lesen wollte
that she it probably not read wanted to

b. *daß es$_2$ sie$_1$ wahrscheinlich nicht t_1 t_2 lesen wollte
that it she probably not read wanted to

Next, (24) illustrates that displaced direct object pronouns precede displaced indirect object pronouns:

(24) a. daß es$_1$ ihm$_2$ der Fritz t_1 t_2 gegeben hat
that it him ART Fritz given has

b. *daß ihm$_2$ es$_1$ der Fritz t_1 t_2 gegeben hat
that him it ART Fritz given has

The question arises of whether weak pronoun fronting to a Wackernagel position in German is an optional movement operation like, e.g., object shift of lexical NPs in Icelandic, or an obligatory movement operation like, e.g., object shift of pronouns in Danish. The data in (25) suggest that the latter view is the correct one: Weak pronouns that show up to the right of VP-adjoined adverbials at S-structure create ungrammaticality, even if they exhibit the fixed order indicated in (24):

(25) a. daß es$_1$ ihr$_2$ der Fritz wahrscheinlich zum Geburtstag t_1 t_2 schenken
that it her ART Fritz probably for the birthday give
wird
will

b. *daß es$_1$ der Fritz wahrscheinlich zum Geburtstag t_1 ihr$_2$ schenken wird

c. *daß der Fritz wahrscheinlich zum Geburtstag es$_1$ ihr$_2$ schenken wird

Given that weak pronoun fronting is in fact obligatory in German, at first sight it looks as though a problem arises with sentences such as those in (26). As before, the fixed

order among direct and indirect object pronouns must be respected, but the pronouns may follow the subject:

(26) a. daß der Fritz$_3$ es$_1$ ihm$_2$ t$_3$ t$_1$ t$_2$ gegeben hat
that ART Fritz it him given has

b. *daß der Fritz$_3$ ihm$_2$ es$_1$ t$_3$ t$_1$ t$_2$ gegeben hat
that ART Fritz him it given has

Thus, there is a striking contrast between the data in (25), which argue for the obligatoriness of pronoun fronting, and the data in (26), which appear to argue against such an assumption. One might speculate that this contrast is due to the fact that the pronouns in (25) follow an adjunct, whereas the pronouns in (26) follow an argument. However, (27) shows that this is not the case:

(27) a. daß der Fritz$_3$ es$_1$ der Maria$_2$ t$_3$ t$_1$ t$_2$ gegeben hat
that ART Fritz it ART Maria given has

b. *daß der Fritz$_3$ der Maria$_2$ es$_1$ t$_3$ t$_1$ t$_2$ gegeben hat
that ART Fritz ART Maria it given has

In (27-a), which is well formed, the direct object pronoun precedes the non-pronominal indirect object NP, whereas it follows that NP in (27-b), which is ill formed. Thus, the correct generalization seems to be that weak pronouns may follow subjects clause-internally, but not non-pronominal objects or adjuncts.[20] This state of affairs finds a natural explanation if we assume that weak pronouns are obligatorily raised to the Wackernagel position, which is μP-external, but actually below SpecT, so that subjects that have undergone optional NP raising in German show up to the left of it. For the time being, these considerations may suffice; I will return to this issue and present a more explicit account in section 3 below.

Finally, if all three arguments in a double object construction are weak pronouns, the order after pronoun movement to the Wackernagel position is subject $\succ$ direct object $\succ$ indirect object; all other permutations are ill formed:

[20]In line with this, the contrast between (25-a) and (25-b) stays the same if the subject NP$_3$ *Fritz* occupies the position immediately right-adjacent to the complementizer *daß*.

(28) a. daß sie_1 es_2 ihm_3 wahrscheinlich zum Geburtstag t_1 t_2 t_3 schenken wird
that she it him probably for the birthday give will

b. *daß sie_1 ihm_3 es_2 wahrscheinlich zum Geburtstag t_1 t_2 t_3 schenken wird

c. *daß es_2 sie_1 ihm_3 wahrscheinlich zum Geburtstag t_1 t_2 t_3 schenken wird

d. *daß es_2 ihm_3 sie_1 wahrscheinlich zum Geburtstag t_1 t_2 t_3 schenken wird

e. *daß ihm_3 sie_1 es_2 wahrscheinlich zum Geburtstag t_1 t_2 t_3 schenken wird

f. *daß ihm_3 es_2 sie_1 wahrscheinlich zum Geburtstag t_1 t_2 t_3 schenken wird

These facts are strongly reminiscent of the situation with pronominal object shift in Danish and therefore suggest a unified approach, which is possible if we adopt PAR-MOVE.[21]

As before, however, if a constraint like PAR-MOVE is to account for these data, it must be violable in the grammar of German. Not only is it the case that movement types like topicalization (cf. (3)) and Case-driven movement (cf. (22-b)) can violate PAR-MOVE (albeit minimally, recall the discussion in subsection 2.5); German also makes ample use of order-changing scrambling operations, in systematic violation of PAR-MOVE. Consider, e.g., (29), where every a priori possible order of the three arguments in a double object construction does indeed result in a well-formed sentence.

(29) a. daß der Fritz der Maria das Buch gab
that ART Fritz_{nom} ART Maria_{dat} ART book_{acc} gave

b. daß der Fritz das Buch der Maria gab

c. daß der Maria der Fritz das Buch gab

d. daß der Maria das Buch der Fritz gab

e. daß das Buch der Fritz der Maria gab

[21]Note that the above generalizations only hold for *weak*, unstressed pronouns in German; both *strong* (stressed) and *clitic* pronouns behave differently. Simplifying somewhat, strong pronouns behave like non-pronominal NPs, just as in Danish. They do not undergo movement to a Wackernagel position, and they are more or less immune to PAR-MOVE effects, just like non-pronominal NPs (cf. (29) below; i.e., all the data in this subsection become acceptable if the pronouns are stressed). Clitic pronouns, on the other hand, must undergo movement and thereby attach to a lexical host, but the landing site does not have to be in the Wackernagel domain, and the order of the pronouns becomes much less rigid if cliticization is involved.

f. daß das Buch der Maria der Fritz gab

2.6.2. Additional Assumptions

At this point, two premisses must be clarified that a PAR-MOVE account of the rigid order with fronted pronouns in German crucially depends on. First, since we have just seen that scrambling in German may freely change the D-structure order and is immune to PAR-MOVE effects, we have to assume that the weak pronouns that occupy a Wackernagel position in (23)–(28) cannot have been moved there by scrambling. Rather, a different movement type must be involved with pronoun fronting in German, and this has indeed been argued for by a number of people, and on different grounds; cf. in particular Thiersch's (1978, 84) rule C_1 (which affects pronouns, but not lexical NPs), and also Cardinaletti & Roberts (1991), Schmidt (1992), Zwart (1993), and Müller (1998). In what follows, I will take this hypothesis to be correct. More specifically, I will assume that whereas movement of weak pronouns targets a μP-external position, scrambling only involves the μP/vP/VP domain in German; see below.

The second assumption that turns out to be necessary might be viewed as slightly more controversial. If (24)–(28) are to be accounted for in terms of PAR-MOVE, this of course presupposes that the D-structure order of arguments with *give*-type verbs in German is direct object $\succ$ indirect object, in contrast to what I have assumed so far for Icelandic and Danish (where the base order must be indirect object $\succ$ direct object if PAR-MOVE is to correctly predict the data), but in accordance with what was said about Case-driven movement of the indirect object in German in subsection 2.5. Indeed, it seems to me that there are some differences between double object constructions in German and, e.g., Danish that support such a view.[22]

[22]It has sometimes been claimed on the basis of markedness considerations that the relative D-structure order of direct and indirect object in German depends on the choice of verb (see, e.g., Haider (1992) and Fortmann & Frey (1997)), and that verbs like *geben* ('give') induce an order indirect object $\succ$ direct object, whereas verbs like *aussetzen* ('expose') induce the reverse order direct object $\succ$ indirect object. In Müller (1998a) I try to show that this assumption is untenable, and that issues of relative markedness do in fact support the view adopted here, viz., that direct object $\succ$ indirect object is the sole D-structure

To name just one, it has been noted by Grewendorf (1988) that a direct object NP can bind an indirect object anaphor that follows it in German, but not vice versa. This is shown by the data in (30):

(30) a. daß der Arzt den Patienten$_1$ sich$_1$ im Spiegel zeigte
that the doctor$_{nom}$ the patient$_{acc}$ himself$_{dat}$ in the mirror showed

b. *daß der Arzt dem Patienten$_1$ sich$_1$ t$_1$ im Spiegel zeigte
that the doctor$_{nom}$ the patient$_{dat}$ himself$_{acc}$ in the mirror showed

As shown in Müller & Sternefeld (1994), this follows if the direct object is base-generated above the indirect object (given that anaphors, unlike full lexical NPs, have the option of staying in their in situ positions – i.e., postponing Case-driven movement to LF –, for which there is independent evidence.) Simplifying somewhat, (30-b) is then ill formed because it involves an illicit crossover configuration, as indicated. The situation is different in Danish, however: An indirect object can bind a direct object anaphor that follows it; cf. (Sten Vikner (p.c.)):

(31) Jeg viste Jon$_1$ ham selv$_1$ i spejlet
I showed Jon$_{dat}$ himself$_{acc}$ in the mirror

To sum up: Evidence involving pronoun fronting to a Wackernagel position in German lends further support to PAR-MOVE, given that this movement operation cannot be analyzed as scrambling, and that the D-structure order of double object constructions in German is direct object $\succ$ indirect object. Both of these premisses seem to be independently justifiable.[23]

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order in German.

[23]It should not be concealed that there are some additional problems that would have to be solved to make a PAR-MOVE approach to fixed order effects with pronoun fronting in German work for more intricate cases. Thus, as noted by Werner Frey (p.c.), there are a number of constructions that exhibit the same fixed order of fronted pronouns, but where it is less obvious that this order is the D-structure one. This holds, e.g., for psych verb constructions and coherent infinitive constructions. A pair of examples for the latter construction is given in (i):

(i) a. daß es$_2$ ihm$_3$ keiner t$_3$ [$_\alpha$ t$_2$ zu lesen] empfohlen hat
that it$_{acc}$ him$_{dat}$ no-one$_{nom}$ to read recommended has

2.7. Relative Scope and QR in German

Kroch (1974) (basically following Lakoff (1971)) develops an approach according to which relative scope is simply determined by surface word order in the unmarked case. If scope reversal nevertheless takes place in a sentence, this is viewed as a consequence of the presence of one of various intervening factors. Formally, the impact of these intervening factors is handled in terms of repair strategies (that Kroch calls "scope readjustment rules"). Factors that can create a relative scope that differs from S-structure order include specific intonation patterns, inherent properties of quantified expressions, etc. (cf. Kroch (1974), Huang (1982), Liu (1991), Pafel (1993), and Büring (1996), among many others). As far as German is concerned, there is agreement in the literature that S-structure word order is indeed highly relevant for determining relative scope (cf. Frey (1989), Moltmann (1991), Pafel (1993), Büring (1996), and Beck (1996)); however, there is disagreement as to the importance of other factors.

Abstracting away from certain potentially intervening factors (i.e., assuming that neutral intonation is present, and that the quantified items that are involved are not inherently prone to, e.g., wide scope readings), it seems that by far the most natural (perhaps, the only available) reading for the sentences in (32) that involve a subject quantifier and an object quantifier is one that corresponds to the S-structure order of the quantified items.

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b. ?*daß ihm$_3$ es$_2$ keiner t_3 [$_\alpha$ t_2 zu lesen] empfohlen hat
that him$_{dat}$ it$_{acc}$ no-one$_{nom}$ to read recommended has

Assuming that the indirect object NP_3 is base-generated in the matrix clause in (i-ab), and the direct object NP_2 in the embedded infinitive α, it seems that Par-Move would incorrectly predict the ill-formed S-structure order in (i-b) rather than the well-formed S-structure order in (i-a). Thus, under present assumptions, a Par-Move account of the data in (i) seems to minimally require a base-generation approach to coherent infinitives in German that does not postulate the presence of an α constituent in (i) (cf. Haider (1993), among others), so that NP_3 does not asymmetrically c-command NP_2 in the base. An alternative strategy would be to alter certain premisses that have so far been taken for granted. For instance, one might resort to an additional level of representation that intervenes between D-structure and S-structure, viz., the level of NP-structure introduced in van Riemsdijk & Williams (1981); the order in (i-a) would then reflect not the D-structure one, but rather a hierarchy established at NP-structure, in accordance with Par-Move. For reasons of space and coherence, I will not pursue these matters here.

(32) a. daß mindestens ein Gast_1 viele Geschenke_2 mitbrachte
that at least one guest_{nom} many presents_{acc} brought

b. daß viele Gäste_1 mindestens ein Geschenk_2 mitbrachten
that many guests_{nom} at least one present_{acc} brought

c. daß viele Geschenke_1 mindestens ein Gast_2 t_1 mitbrachte
that many presents_{acc} at least one guest_{nom} brought

d. daß mindestens ein Geschenk_1 viele Gäste_2 t_1 mitbrachten
that at least one present_{acc} many guests_{nom} brought

In (32-a) and (32-b), the subject NP_1 precedes the object NP_2, and this order determines relative scope. More interesting in the present context are the examples in (32-c) and (32-d). Here, the object NP_1 is scrambled across the subject NP_2, but relative scope can still be read off the S-structure representation – due to scrambling of the object in front of the subject, the subject does not take scope over the object anymore (assuming as before that a neutral intonation pattern is present, and not one that tends to trigger scope inversion, such as the so-called "I-intonation pattern;" cf. Jacobs (1982) and Büring (1995), among others).

Next, consider the relative scope of direct and indirect object in a double object construction in German, as in (33):

(33) a. daß man mindestens einem Gast_1 viele Geschenke_2 gab
that one at least one guest_{dat} many presents_{acc} gave

b. daß man vielen Gästen_1 mindestens ein Geschenk_2 gab
that one many guests_{dat} at least one present_{acc} gave

c. daß man mindestens ein Geschenk_1 vielen Gästen_2 gab
that one at least one present_{acc} many guests_{dat} gave

d. daß man viele Geschenke_1 mindestens einem Gast_2 gab
that one many presents_{acc} at least one guest_{dat} gave

Again, relative scope corresponds to the S-structure order, irrespective of the base position of the two arguments, and irrespective of how the S-structure order is derived from D-structure. Thus, if an indirect object precedes a direct object, it takes scope over it (cf. (33-a) and (33-b)), and the opposite is the case if the direct object precedes the indirect object at S-structure (cf. (33-c) and (33-d)); note that this way readings can be forced that are not necessarily the pragmatically most plausible ones (this holds, e.g., for (33-c)

and (33-d)).[24]

Let us now make the standard assumption that quantifiers obligatorily undergo quantifier raising (QR) at LF in order to create a λ-abstract and variable binding (see Stechow (1993; 1996) and Heim & Kratzer (1997), among others). It then follows that the data in (32) and (33) show that, in the unmarked case, QR is an order-preserving movement operation, in the sense that it does not change the c-command relations among quantifiers that hold at S-structure. This, of course, immediately follows from PAR-MOVE, in the same way that the order preservation effects with a priori ambiguous movement operations that were discussed in the preceding subsections do. The only fundamental

[24]This assessment of the data is in line with the findings of Moltmann (1991), Pafel (1993), Beck (1996), and Büring (1996). It should be noted that Frey (1989) systematically permits an additional reading in the sentences that involve scrambling of the direct object quantifier. Based on an approach that is similar to the one independently developed by Aoun & Li (1993), he assumes that relative scope can either respect the S-structure order or be reversed (i.e., be determined by the position of the trace) in scrambled structures. Thus, examples like (33-c) and (33-d) are considered to be ambiguous by Frey (1989). However, apart from the fact that a substantial number of native speakers do not share these judgements, it can be noted that the underlying theory depends on a debatable assumption concerning the D-structure order of arguments in double object constructions in German: It must be assumed that indirect objects c-command direct objects with *give*-type verbs at D-structure. On the one hand, this is in conflict with the evidence to be gained from binding theory (see above), which suggests that both the order indirect object $\succ$ direct object in (33-a) and (33-b) and the order direct object $\succ$ indirect object in (33-c) and (33-d) involve argument movement (Case-driven NP raising of the indirect object in the former examples, and a combination of Case-driven NP raising of the indirect object and subsequent scrambling of the direct object in front of it in the latter ones). Assuming these movements, Frey's (1989) theory would in fact predict ambiguity in all of the examples in (33). On the other hand, Haider (1992) argues that with *give*-type verbs in German, both orders permit maximal focus projection, which minimally requires that they have the same status with respect to being derived or non-derived orders. Haider's own conclusion is that both orders can be non-derived ones, but the same result can be achieved in a theory that assumes that both orders are in fact derived via argument movement, as in Müller & Sternefeld (1994). However, should Haider's observation concerning focus projection bear out, it poses a dilemma for Frey's (1989) approach that cannot be resolved straightforwardly (but cf. Fortmann & Frey (1997) for a recent attempt). Also see Beck (1996, 67) for some interesting speculations as to the origin of these differences in data assessment.

difference is that in this case, the evidence concerns the relationship between S-structure and LF, and not between D-structure and S-structure.

2.8. Conclusion

To conclude this section, it has turned out that a variety of movement operations exhibit order preservation effects that are immediately amenable to an account in terms of PAR-MOVE. The crucial observation is that these movement operations differ substantially with respect to a number of properties, the most important of which are listed in the following table:

Movement types that exhibit order preservation effects:

Movement Type	A/A-bar	obl/opt	single/multiple	overt/covert
Wh-movement in English	A-bar	obligatory	single	overt
Wh-movement in Bulgarian	A-bar	obligatory	multiple	overt
Object shift of pronouns in Danish	A	obligatory	single/multiple	overt
Object shift of lexical NPs in Icelandic	A	optional	single/multiple	overt
Case-driven NP raising	A	obligatory	multiple	overt/covert
Pronoun fronting in German	A-bar	obligatory	multiple	overt
Quantifier raising in German	A-bar	obligatory	multiple	covert

Taken in isolation, each of these order preservation effects with a given movement operations can certainly be accounted for in one way or another without resort to a constraint like PAR-MOVE (for instance, in some cases this proved to be possible by invoking Chomsky's (1995) MLC). However, given that order preservation is a recurring pattern among movement operations with otherwise radically different properties, and among various types of languages, it seems that such a strategy misses a simple underlying generalization that can be captured directly by a constraint like PAR-MOVE. Furthermore, by postulating that it is desirable to give a unified account of order preservation effects that is based on a single and maximally simple constraint, there seems to be no getting around the conclusion that this constraint must be a violable one – if PAR-MOVE were to be formulated in such a way that it is inviolable, it would have to be split up into various

subconstraints that are construction-specific and thereby fail to provide a unified explanation. For these reasons, I will develop an optimality theoretic approach in the following section in which the violability of PAR-MOVE does not emerge as a peculiarity, but is indeed to be expected, given that this constraint is typically ranked quite low, i.e., can be violated minimally so as to satisfy higher-ranked constraints.

3. An Optimality Theoretic Analysis

3.1. Background

An optimality theoretic grammar has two subcomponents (cf. Prince & Smolensky (1993)). One part of the grammar (called GEN) more or less conforms to standard assumptions: It contains only inviolable constraints, and its main task is to generate the candidates that compete for wellformedness. As for the constraints that make up GEN, I will assume that they include X-bar theoretic restrictions, constraints on θ-assignment, and others. The candidates themselves can either be viewed as bare output representations (such as Grimshaw's (1997) S-structure representations), or as <Input,Output> pairs (as suggested by McCarthy & Prince (1995) for phonology), or indeed as complete derivations (which would be more in line with Chomsky's (1995) assumptions). Here I will adopt the third view and assume that the competing candidates are full derivations.[25] The derivations that are created by GEN are then subjected to a process of "harmony evaluation" in the second, optimality theoretic part of the grammar. This grammatical subcomponent consists of a set of constraints that have the following properties:

(34) a. Constraints can be violated.
b. Constraints are universal.

[25]Not much depends on this in the present context, though. The derivational constraints that will be discussed below, including PAR-MOVE, do of course presuppose that the candidates they apply to are derivations; but these constraints could all straightforwardly be reformulated as representational constraints. However, see Müller (1997) for some arguments in support of a truly derivational view of competing candidates.

c. Constraints are ranked.

Depending on how many constraints it violates, and how these constraints are ranked, a derivation may or may not be optimal in its reference set (or candidate set). Optimality can be defined as follows:

(35) *Optimality*:
A derivation D_i is optimal iff, for every derivation D_j in the same reference set, D_i satisfies the highest-ranking constraint on which D_i and D_j conflict better than D_j.

There are two ways in which one derivation D_i can satisfy a constraint C better than another derivation D_j. First (and obviously), it might be that D_i fulfills C and D_j does not; in that case, D_i clearly satisfies C better than D_j. Second, it might be that both D_i and D_j violate C, but D_j does so more often; again, D_i "wins" against D_j on that constraint. Given the concept of optimality in (35), the notion of wellformedness (or grammaticality) can be defined: An optimal candidate in a reference set is grammatical, all non-optimal candidates are ungrammatical.

The last background notion in need of clarification is that of a reference set (candidate set). Although matters turn out to be a little more complex on closer inspection, it may suffice for present purposes to adopt the concept of reference set developed in Chomsky (1995) that is based on identical numerations (i.e., simplifying somewhat, on identity of lexical material):

(36) *Reference Set (Chomsky (1995))*:
Two derivations D_i and D_j are in the same reference set iff they have an identical numeration.

With these assumptions in mind, I will now turn to the constraints that interact with Par-Move to yield the effects discussed in section 2.

3.2. Constraints

We can distinguish two types of constraints that impose conflicting requirements on candidates (which must then be resolved by a ranking of the constraints). First, there are Faithfulness constraints which ensure that the input and the output of a derivation differ as little as possible, and which thereby minimize the effects of syntactic operations. Among these I take to be a constraint that blocks overt (S-structure) movement, viz., STAY (Derivational Economy):[26]

(37) STAY:

S-structure movement is not allowed.

In contrast, a second class of Markedness constraints demand that the input and the output of a derivation differ; these constraints thereby ensure that movement operations occur in overt or covert syntax. One such constraint is the Wh-Criterion (WH-CRIT), which goes back to May (1985), Lasnik & Saito (1984; 1992), and Rizzi (1991), among others.[27] WH-CRIT forces *wh*-phrases to overtly show up in the domain of $C_{[+wh]}$ (where the notion of "domain" is that of Chomsky's (1993) "checking domain"), either via substitution in the specifier position of a C node that bears a [+wh] feature, or via adjunction to the latter node's maximal projection CP.[28]

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[26]This constraint, which is essentially taken from Grimshaw (1997), is an amalgamation of Chomsky's (1995) constraints Last Resort on the one hand (which prohibits movement in general), and Procrastinate on the other (which classifies covert (LF) movement as less costly than overt movement).

[27]Also compare Grimshaw's (1997) constraint OP-SPEC, which yields partially similar effects. Note furthermore that the actual formulation of WH-CRIT given here is a simplification; I believe that the constraint must to be decomposed into two separate conjunctive statements (one about *wh*-phrases, and one about $C_{[+wh]}$ nodes) if more intricate *wh*-constructions than the ones I am concerned with here are taken into account; cf. Müller (1997).

[28]Under the recursive notion of checking domain adopted in Chomsky (1993), an additional possibility to fulfill WH-CRIT would be adjunction to the specifier of $C_{[+wh]}$. However, recall from subsection 2.2 above that I have assumed this option to be precluded on general grounds, as an instance of anti-cyclic lowering. Given that such lowering is systematically ruled out by a constraint belonging to GEN (e.g., as part of the definition of movement, cf. Chomsky (1995)), candidates with *wh*-adjunction to SpecC are

(38) WH-CRIT:

$XP_{[+wh]}$ is in the domain of $C_{[+wh]}$ at S-structure.

Clearly, STAY and WH-CRIT impose conflicting requirements on derivations, in the sense that the former constraint blocks overt *wh*-movement, and the latter one triggers it. As argued in Müller (1997) (also cf. Ackema & Neeleman (1995) and Legendre et al. (1996) for related analyses), the relative ranking of STAY and WH-CRIT yields the contrast between *wh*-in situ type languages such as Korean, Japanese, and Chinese, and *wh*-movement languages like English and German: If STAY is ranked higher than WH-CRIT in a given language, this language is predicted to lack overt *wh*-movement; if it is ranked lower, fulfillment of WH-CRIT becomes more important for a candidate than fulfillment of STAY, and *wh*-movement is consequently triggered, in (minimal) violation of STAY. To distinguish Bulgarian type languages that exhibit multiple *wh*-movement from English type languages that have only single *wh*-movement even in multiple questions, another constraint is necessary. Assuming that the specifier of C is always unique (or, in fact, that specifiers are in general unique; cf. note 16), it is clear that a maximal satisfaction of WH-CRIT in multiple questions requires adjunction to CP. The constraint that we are looking for must therefore be one that blocks this latter operation. Such a constraint has indeed been argued for on independent grounds by Grimshaw (1997); she dubs it PURE-EP ('Purity of Extended Projection'). The following, slightly modified version of PURE-EP may suffice for present purposes (most importantly, Grimshaw's notion of "highest extended projection" is here replaced by "domain of C").[29]

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not delivered to the optimality theoretic part of the grammar, and therefore do not compete with other derivations.

[29] Also see Vikner (1995). Note that PURE-EP does not only block adjunction to CP, but also (vacuously) to SpecC and (non-vacuously) to C itself. Ultimately, this latter part is responsible for blocking V raising to C via adjunction in embedded questions in English in Grimshaw's approach. Assuming that V raising to C can be substitution in root clauses (where C is arguably radically empty), in contrast to embedded clauses (where C bears selection features), V raising in root questions does not have to violate PURE-EP, which can ultimately account for the well-known root/embedded asymmetry concerning V raising in questions. Cf. Rizzi & Roberts (1989) for related discussion.

(39) PURE-EP:

Adjunction is prohibited in the domain of C at S-structure.

If PURE-EP is ranked higher than WH-CRIT, question formation of the English type is predicted: One *wh*-phrase can undergo overt movement (thereby violating the lower-ranked STAY), but all the other ones must stay in situ, so as to fulfill the higher-ranked PURE-EP (which would be violated after *wh*-adjunction to CP). If, on the other hand, PURE-EP is ranked lower than WH-CRIT, this implies that the violation of PURE-EP incurred by *wh*-adjunction to CP is possible if this leads to maximal satisfaction of WH-CRIT; thus, multiple overt *wh*-movement of the Bulgarian type is derived.

Turning now to PAR-MOVE, it belongs to the class of Faithfulness constraints; like STAY, it minimizes the effects of movement on a given input. The constraint is repeated here.

(40) PAR-MOVE:

If α c-commands β at level L_n, then α c-commands β at level L_{n+1}
(where α, β are arguments).

It now remains to be shown that an adequate ranking of PAR-MOVE with respect to the constraints that trigger movement derives all of the facts in section 2. Abstractly, two cases can be distinguished. Suppose first that PAR-MOVE is ranked lower than the constraint X-CRIT that triggers X-movement (where X is a variable ranging over different movement types, such as *wh*-, Case, topic etc.). In that case, a candidate may violate PAR-MOVE if this is necessary to fulfill X-CRIT, but the violation must be kept minimal: If X-CRIT can be satisfied equally well by more than one derivation, PAR-MOVE forces the choice of the derivation that minimally violates it. Second, it might be that PAR-MOVE is ranked higher than some given X-CRIT constraint triggering movement of a certain type. Now, PAR-MOVE cannot be violated anymore by X-movement, to fulfill X-CRIT. Rather, if X-movement cannot be order-preserving, a derivation will win the competition that avoids X-movement in favour of X-in situ. As we will see, both these cases are attested, and even in a single language (with different movement types, i.e., different X-CRIT constraints).

In what follows, I will address in turn the movement types that were discussed in section 2, beginning with *wh*-movement and superiority effects in English.

3.3. Superiority in English

Consider first a typical example involving *wh*-movement in a simple question in English (= (2)):

(41) (I don't know) [$_{CP}$ what$_2$ C [$_{TP}$ she$_1$ said t$_2$]]

Here, WH-CRIT is in conflict not only with STAY (since it triggers overt movement), but also with PAR-MOVE (since it forces a reversal of the D-structure order of the two arguments). The fact that (41) is nevertheless the optimal candidate (as opposed to a candidate with *wh*-in situ at S-structure, which violates neither STAY nor PAR-MOVE) therefore shows that WH-CRIT must outrank the two Faithfulness constraints in English. Moreover, given that English multiple questions do not involve multiple overt *wh*-movement, we can conclude that WH-CRIT is ranked below PURE-EP. In sum, we obtain the following ranking in English:[30]

(42) *Ranking in English*:
PURE-EP $\gg$ WH-CRIT $\gg$ PAR-MOVE $\gg$ STAY

The competition from which the derivation that generates the S-structure representation in (41) emerges as the optimal candidate in its reference set is illustrated by table T$_1$:[31]

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[30]The relative ranking of PAR-MOVE and STAY is not determined by empirical evidence here – a reverse ranking of these constraints would make identical predictions for the cases at hand.

[31]A few remarks on notation: D$_1$, D$_2$ etc. are the derivations that compete (the candidates from the reference set); following the colon is an abbreviated version of the S-structure generated by the respective derivation. Thus, D$_1$ is a derivation that generates an S-structure with overt *wh*-movement; D$_2$ is a competing derivation that generates an S-structure with the *wh*-phrase in situ; and "..." stands for other possible derivations that are based on the same numeration but excluded as non-optimal for various reasons. Every violation of a constraint by a derivation is indicated by a star. If a violation is fatal for a candidate, the star that is assigned as a consequence of this violation is followed by an exclamation mark. The optimal (grammatical) derivation (according to the definition of optimality in (35) above)

T_1: Simple Wh-Movement in English

Candidates	Pure-EP	Wh-Crit	Par-Move	Stay
⇒D_1: [$_{CP}$ what$_2$ C John$_1$ ... t$_2$]			*	*
*D_2: [$_{CP}$ – C John$_1$ ... what$_2$]		*!		
...				

Next, let us turn to a pair of examples that illustrates the superiority effect in English; cf. (43) (= (4)):

(43) a. I wonder [$_{CP}$ who$_1$ C [$_{TP}$ t$_1$ bought what$_2$]]
b. *I wonder [$_{CP}$ what$_2$ C [$_{TP}$ who$_1$ bought t$_2$]]

The derivations that generate (43-a) and (43-b) have an identical numeration and thus enter the optimality theoretic competition, together with other derivations that, e.g., leave both *wh*-phrases in situ, or that move both *wh*-phrases overtly. The competition is illustrated in table T_2:

T_2: Multiple Wh-Movement in English

Candidates	Pure-EP	Wh-Crit	Par-Move	Stay
⇒D_1: [$_{CP}$ who$_1$ C t$_1$ ... what$_2$]		*		*
*D_2: [$_{CP}$ – C who$_1$ ... what$_2$]		*!*		
*D_3: [$_{CP}$ who$_1$ what$_2$ C t$_1$ ... t$_2$]	*!			**
*D_4: [$_{CP}$ what$_2$ who$_1$ C t$_1$ ... t$_2$]	*!		*	**
*D_5: [$_{CP}$ what$_2$ C who$_1$ ... t$_2$]		*	*!	*
...				

is assigned an arrow ⇒, non-optimal (ungrammatical) derivations are assigned a star. This latter star (which is not to be confused with the star assigned if a constraint is violated), the arrow ⇒, and the exclamation mark are strictly speaking redundant; their only purpose is to simplify exposition.

Given the partial ranking PURE-EP $\gg$ WH-CRIT, multiple overt movement as in D_3 and D_4 is blocked, and given the partial ranking WH-CRIT $\gg$ STAY, a complete *wh*-in situ strategy as in D_2 is excluded. All these candidates incur violations of high-ranked constraints. Most relevant in the present context is the competition of D_1 and D_5. The candidates have an identical constraint profile except for PAR-MOVE, which by itself is ranked fairly low and can in principle be violated by *wh*-movement in English (see table T_1). However, given that, all other things being equal, D_1 respects PAR-MOVE and D_5 does not, D_5 is blocked by D_1, and the superiority effect is accounted for, as involving a fatal violation of the low-ranked constraint PAR-MOVE – a violation of a type that is permitted in other reference sets, where there is no initial ambiguity (i.e., no otherwise identical constraint profile) involved.[32]

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[32]The question arises of how the lack of superiority effects in a language like German is to be explained in this approach; cf. (i):

(i) a. (Ich weiß nicht) [$_{CP}$ wer_1 C was_2 gelesen hat]
I know not who_{nom} $what_{acc}$ read has

b. (Ich weiß nicht) [$_{CP}$ was_2 C wer_1 t_2 gelesen hat]
I know not $what_{acc}$ who_{nom} read has

The problem is that German is otherwise similar to English with respect to the constraints regulating *wh*-movement (but see Müller (1997) for discussion of some differences, mainly pertaining to instances of partial *wh*-movement in German). I will not try to develop a full-fledged account of the lack of superiority effects in German here. It may suffice to point out that exactly the same problem arises under an MLC-based approach to superiority. Consequently, it seems likely that whatever is said about the absence of superiority effects in German in an MLC-based approach can be directly transferred into the present analysis. See, e.g., Fanselow (1997), who argues that German does not exhibit superiority effects with arguments that are clause-mates because *wh*-movement of, say, the object NP in (i-b) may apply not from the in situ position, but rather from a scrambling position in front of the subject – in other words: scrambling may feed *wh*-movement.

3.4. Wh-Movement in Bulgarian

Turning next to Bulgarian, suppose that the only parametric difference to English that is relevant in this context concerns the ranking of WH-CRIT; by assumption, this constraint dominates PURE-EP in Bulgarian, thereby inducing multiple *wh*-movement at S-structure in a multiple question. Otherwise, the ranking is identical:

(44) *Ranking in Bulgarian*:
WH-CRIT ≫ PURE-EP ≫ PAR-MOVE ≫ STAY

Consider again simple *wh*-movement first:

(45) [$_{CP}$ Kakvo$_2$ pravi$_V$ [$_{TP}$ Ivan$_1$ t$_V$ t$_2$]] ?
what does Ivan

PURE-EP is irrelevant in simple questions because *wh*-movement can fulfill WH-CRIT without adjoining to CP, by simply moving the *wh*-phrase to SpecC. Hence, it does not come as a surprise that the derivation generating (45) is optimal for the very same reasons that the derivation generating (41) in English is; table T$_3$ mirrors table T$_1$:

T$_3$: Simple Wh-Movement in Bulgarian

Candidates	WH-CRIT	PURE-EP	PAR-MOVE	STAY
⇒D$_1$: [$_{CP}$ kakvo$_2$ pravi Ivan$_1$ t$_2$]			*	*
*D$_2$: [$_{CP}$ – pravi Ivan$_1$ kakvo$_2$]	*!			
…				

In multiple questions, things begin to differ. The examples in (9) are repeated here:

(46) a. [$_{CP}$ Koj$_1$ kogo$_2$ kakvo$_3$ C [$_{TP}$ t$_1$ e pital t$_2$ t$_3$]] ?
who whom what asked
b. *[$_{CP}$ Koj$_1$ kakvo$_3$ kogo$_2$ C [$_{TP}$ t$_1$ e pital t$_2$ t$_3$]] ?
c. *[$_{CP}$ Kakvo$_3$ koj$_1$ kogo$_2$ C [$_{TP}$ t$_1$ e pital t$_2$ t$_3$]] ?
d. *[$_{CP}$ Kakvo$_3$ kogo$_2$ koj$_1$ C [$_{TP}$ t$_1$ e pital t$_2$ t$_3$]] ?
e. *[$_{CP}$ Kogo$_2$ koj$_1$ kakvo$_3$ C [$_{TP}$ t$_1$ e pital t$_2$ t$_3$]] ?

f. *[$_{CP}$ Kogo$_2$ kakvo$_3$ koj$_1$ C [$_{TP}$ t$_1$ e pital t$_2$ t$_3$]] ?

Due to the partial rankings WH-CRIT ≫ PURE-EP and WH-CRIT ≫ STAY, all *wh*-phrases must undergo overt *wh*-movement in Bulgarian, as they indeed do in (46). It is therefore unavoidable that the optimal candidate in a reference set that includes the derivations generating the S-structure representations in (46) violates PURE-EP twice (because two instances of CP-adjunction must occur, triggered by WH-CRIT), violates STAY thrice (WH-CRIT forces movement of all three *wh*-phrases), and does not violate WH-CRIT at all. Thus, with respect to these three constraints, all the candidates in (46) have an identical profile. It is here that the low-ranked PAR-MOVE becomes relevant again; it discriminates between the candidates and chooses as the sole optimal derivation the one that preserves the D-structure order. All this is shown in table T$_4$:

T$_4$: Multiple Wh-Movement in Bulgarian

Candidates	WH-CRIT	PURE-EP	PAR-MOVE	STAY
⇒D$_1$: [$_{CP}$ koj$_1$ kogo$_2$ kakvo$_3$ ... t$_1$ t$_2$ t$_3$]		**		***
*D$_2$: [$_{CP}$ koj$_1$ ... t$_1$ kogo$_2$ kakvo$_3$]	*!*			*
*D$_3$: [$_{CP}$ koj$_1$ kogo$_2$ ... t$_1$ t$_2$ kakvo$_3$]	*!	*		**
*D$_4$: [$_{CP}$ – ... koj$_1$ kogo$_2$ kakvo$_3$]	*!**			
*D$_5$: [$_{CP}$ koj$_1$ kakvo$_3$ kogo$_2$ ... t$_1$ t$_2$ t$_3$]		**	*!	***
*D$_6$: [$_{CP}$ kakvo$_3$ koj$_1$ kogo$_2$ ... t$_1$ t$_2$ t$_3$]		**	*!*	***
...				

Here, D$_2$ is a derivation that fatally violates WH-CRIT but would have won under the English ranking. Similarly, D$_4$ is a derivation that is excluded by WH-CRIT; this candidate would have been classified as optimal under a Korean type ranking. D$_3$ is a candidate in which two *wh*-phrases undergo movement, and one stays behind in its in situ position; this candidate is predicted to be suboptimal under any ranking of the constraints adopted here. Finally, D$_5$ and D$_6$ are derivations that exhibit *wh*-movement of all three *wh*-phrases but fail to maintain the D-structure order, in contrast to D$_1$, which therefore emerges as

optimal.

In sum, under a partial ranking WH-CRIT $\gg$ PAR-MOVE it is correctly predicted that *wh*-movement must preserve order if it can; but if there is no way in which *wh*-movement may do so, PAR-MOVE can selectively be violated. In the next subsection, I turn to a manifestation of the other conceivable situation – a movement type either respects PAR-MOVE or cannot apply at all.

3.5. Object Shift of Pronouns in Danish

As a starting point, suppose that object shift of pronouns in the Scandinavian languages is triggered by a constraint that is analogous to WH-CRIT. This constraint will be referred to in what follows as the Pronoun Criterion, or PRON-CRIT. PRON-CRIT forces weak pronouns to show up in the domain of a functional head π at S-structure. I will assume that the functional projection πP intervenes between TP and VP (or rather, the μP/vP/VP complex, see above).[33]

(47) PRON-CRIT:

Weak pronouns must be in the domain of π at S-structure.

With this in mind, consider again the data in (14), repeated here in (48):

(48) a. Peter viste hende$_1$ den$_2$ jo t_1 t_2
Peter showed her it indeed

b. *Peter viste den$_2$ hende$_1$ jo t_1 t_2

c. *Peter viste – – jo hende$_1$ den$_2$

d. *Peter viste – – jo den$_2$ hende$_1$

e. *Peter viste hende$_1$ – jo t_1 den$_2$

f. *Peter viste – den$_2$ jo hende$_1$

[33]Here and in what follows, I abstract away from the fact that Scandinavian object shift depends on movement of the main verb to a higher position. This could be integrated into PRON-CRIT by adding the clause "where πP is the sister of V_{main} or its trace," but this move might raise problems for a unified account of object shift in Danish and pronoun movement in German, which does not seem to depend on V raising (see below). The reason for this difference will have to be left open in this paper.

These data can be analyzed in complete analogy to what was said about order preservation in Bulgarian multiple questions in the previous subsection. To fulfill PRON-CRIT, all pronouns in a double object construction undergo overt raising to πP, with one pronoun substituting in Specπ, and the other one adjoining to πP.[34] PRON-CRIT must be ranked higher than STAY in Danish, but whether PAR-MOVE dominates PRON-CRIT or is dominated by it does not play a role for the data in (48). The situation is different in (15-a), though, which is repeated here as (49-a), and augmented by (49-b) (cf. Vikner (1990)):

(49) a. *Peter viste den$_2$ jo Marie$_1$ t$_2$
Peter showed it indeed Marie

b. ??Peter viste – jo Marie$_1$ den$_2$
Peter shows indeed Marie it

(49-a) corresponds to the *wh*-movement cases (41) in English and (45) in Bulgarian in the sense that it involves an instance of single movement that violates PAR-MOVE. However, in this case, ungrammaticality results, and this implies that PAR-MOVE must in fact be ranked higher than PRON-CRIT in Danish. Consequently, the optimal candidate violates PRON-CRIT to fulfill PAR-MOVE, and not vice versa. Hence, it is (49-b) (with the direct object pronoun in situ despite V raising), rather than (49-a), that turns out to be optimal.[35]

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[34]Note that PURE-EP only rules out adjunction to CP, not adjunction to πP, so the fact that Danish does not exhibit multiple *wh*-movement is unproblematic here.

[35]As observed by Vikner (1990), (49-b) is the only way a sentence can be created on the basis of this lexical material, but it is not completely acceptable. The question arises of how the deviance of (49-b) is to be accounted for. The key to a solution of this problem might be Vikner's (1990, section 4.3.3.1) observation that (49-b) improves significantly if the pronoun is stressed. Under present assumptions, stressing the pronoun renders it irrelevant for PRON-CRIT. Thus, the optimal candidate here might in fact not be one which violates PRON-CRIT, but one which respects both PAR-MOVE and PRON-CRIT at the cost of the violation of a lower-ranked Faithfulness constraint that prohibits pronoun "strengthening," i.e., turning an initially weak pronoun into a strong one in the course of the derivation. (The question marks in (49-b) should then not be interpreted as signalling intermediate acceptability, but rather as signalling illformedness if *den* is weak (unstressed), and complete wellformedness if *den* is strong.) On this view, the optimal candidate of the competition underlying (49) (with a weak pronoun in the numeration)

Under these assumptions, we end up with a ranking like (50) for Danish:

(50) *Ranking in Danish*:

PURE-EP ≫ WH-CRIT ≫ PAR-MOVE ≫ PRON-CRIT ≫ STAY

Table T_5 then illustrates the situation with multiple object shift in Danish (cf. (48)):

T_5: Multiple Object Shift in Danish

Candidates	PAR-MOVE	PRON-CRIT	STAY
⇒D_1: V [hende$_1$ [den$_2$ π... t_1 t_2]]			**
*D_2: V [den$_2$ [hende$_1$ π ... t_1 t_2]]	*!		**
*D_3: V [– [– π ... hende$_1$ den$_2$]]		*!*	
*D_4: V [– [– π ... den$_2$ hende$_1$ t_2]]	*!	**	*
*D_5: V [– [hende$_1$ π ... t_1 den$_2$]]		*!	*
*D_6: V [– [den$_2$ π ... hende$_1$ t_2]]	*!	*	*

D_3–D_6 incur violations of PRON-CRIT because they fail to move either one or even both of the pronouns. D_1 and D_2, in contrast, both respect PRON-CRIT via multiple object shift. The constraint profile of these two candidates is identical, except for the fact that D_1 respects PAR-MOVE and D_2 violates it; the latter violation therefore becomes fatal.

The competition in cases of simple object shift of a direct object pronoun in double object constructions in Danish is shown in table T_6 (cf. (49)):

would be identical to the optimal candidate of a minimally different competition in which the pronoun was strong to begin with. See Legendre et al. (1996) and Bakovic (1997) for detailed discussion of this concept of "neutralization." These complications do not, however, affect the main point here.

T_6: Simple Object Shift in Danish

Candidates	PAR-MOVE	PRON-CRIT	STAY
*D_1: V [den_2 π... $Marie_1$ t_2]	*!		*
⇒D_2: V [π ... $Marie_1$ den_2]]		*	
...			

Here, the optimal candidate is one that violates PRON-CRIT to fulfill the higher-ranked PAR-MOVE (but see the qualification in footnote 35). Thus, we have derived the fact that object shift can never change the order of arguments in Danish – the movement type respects D-structure order or does not apply at all.[36]

Note finally that the partial ranking WH-CRIT ≫ PAR-MOVE ≫ PRON-CRIT yields the result that single *wh*-movement may alter the D-structure order of arguments, in contrast to single object shift (analogous considerations apply in the case of topicalization); cf. (16-a), repeated here as (51):

(51) [$_{NP}$ Hvilken bog]$_2$ har $Peter_1$ læst t_2 ?
which book has Peter read

[36]Another derivation D_3 that generates the ill-formed sentence (i) must also be ruled out.

(i) *Peter viste $Marie_1$ den_2 jo t_1 t_2
Peter showed Marie it indeed

Here, $Marie_1$ and den_2 both undergo object shift, with only two violations of STAY arising (and no violation of either PRON-CRIT or PAR-MOVE). However, such a derivation violates a general and high-ranked constraint (that we may call F-MATCH) which demands that α can be moved to a position β only if α has the right kind of features that are possible (or demanded) in position β; perhaps, this constraint should in fact be viewed as inviolable and belonging to GEN. Among other things, F-MATCH ensures that there is no movement of [–wh] phrases to $SpecC_{[+wh]}$; and it also implies that there can be no object shift of non-pronouns to the π domain in Danish. Alternatively, F-MATCH could be built into the formulation of PRON-CRIT itself, by adding a statement such as "... and only weak pronouns can be in the domain of π." The choice between the two options depends on a number of further assumptions, and the difference is in any case a subtle one.

Thus, table T_6 is identical in all relevant aspects to table T_1 from English:

T_7: Simple Wh-Movement in Danish

Candidates	PURE-EP	WH-CRIT	PAR-MOVE	STAY
⇒D_1: [$_{CP}$ hvilken bog$_2$ C Peter$_1$ ... t_2]			*	*
*D_2: [$_{CP}$ – C Peter$_1$ ... hvilken bog$_2$]		*!		
...				

This basically exhausts the number of ways in which PAR-MOVE can interact with a conflicting constraint X-CRIT that triggers movement: Either X-CRIT is ranked higher, in which case it permits a violation of PAR-MOVE if there is no other way for it to be satisfied (this holds for WH-CRIT in all the languages discussed here); or X-CRIT is ranked lower, in which case the optimal candidate is one without X-movement in the case of conflict (this holds for PRON-CRIT in Danish). All the other pieces of evidence for a constraint like PAR-MOVE that were presented in section 2 follow one of the two patterns that have now been established.

3.6. Object Shift of Lexical NPs in Icelandic

The main difference from pronominal object shift that is relevant in the present context is that non-pronominal object shift in Icelandic is an optional movement operation. As is typical for all syntactic theories employing an economy constraint like STAY, permitting true optionality of rule application initially poses a problem. In line with the standard approach taken in view of this situation (see, e.g., Chomsky (1995)), I will assume that the apparent optionality of object shift of lexical NPs in Icelandic is to be reanalyzed as being due not to a genuine optionality of rule application, but rather to the optional presence of movement-triggering features on lexical items – the movement operation as such is obligatory. Thus, suppose that there is a constraint that obligatorily triggers object shift of lexical NPs bearing a certain feature F ('F-CRIT'), and that F is optionally instantiated on a lexical item in the numeration. What exactly this feature F looks like, and what

position F-CRIT forces F-bearing NPs to move to, depends on further assumptions about which I have nothing to say here; but a clarification of this issue is not necessary for the account of order preservation developed in what follows.[37] The empirical evidence suggests that F-CRIT (unlike, e.g., WH-CRIT) is ranked lower than PAR-MOVE in Icelandic, in complete analogy to the partial ranking PAR-MOVE ≫ PRON-CRIT in Danish. From such a ranking it then follows that object shift of lexical NPs in Icelandic either respects PAR-MOVE or does not apply at all (in contrast to simple *wh*-movement).

(52) *Ranking in Icelandic*:
PURE-EP ≫ WH-CRIT ≫ PAR-MOVE ≫ F-CRIT ≫ STAY

With this in mind, consider again the Icelandic data in (17) and (18), which are repeated here in (53).

(53) a. Ég lána Maríu$_1$ bækurnar$_2$ ekki t$_1$ t$_2$
I lend Maria the books not

b. *Ég lána bækurnar$_2$ Maríu$_1$ ekki t$_1$ t$_2$
I lend the books Maria not

c. *Ég lána bækurnar$_2$ ekki Maríu$_1$ t$_2$
I lend the books not Maria

d. Ég lána Maríu$_1$ ekki t$_1$ bækurnar$_2$
I lend Maria not the books

We have to consider three reference sets. In one reference set, F is present on both the direct and the indirect object. Here, the derivation generating (53-a) (D_3) is the optimal candidate. The competing derivation generating (53-b) (D_4) is blocked due to a fatal PAR-MOVE violation; and the derivations that underlie (53-c) and (53-d) (viz., D_5 and D_2, respectively) involve fatal violations of F-CRIT, since F is present on both objects,

[37]For instance, an approach to Icelandic object shift that can straightforwardly be reconciled with this general view is the one developed by Collins & Thráinsson (1996). They suggest that object shift of non-pronominal NPs in Icelandic is an instance of optional A-movement to a Case position, and that the pertinent feature for object shift can be either strong or weak – strength of this feature would then correspond to the presence of F, in the framework adopted here.

by assumption; cf. table T_8:

T_8: Non-prononimal object shift, with F on indirect object & direct object

Candidates	PAR-MOVE	F-CRIT	STAY
*D_1: – Neg NP_2 NP_3		*!*	
*D_2: NP_2 Neg t_2 NP_3		*!	*
⇒D_3: NP_2 NP_3 Neg t_2 t_3			**
*D_4: NP_3 NP_2 Neg t_2 t_3	*!		**
*D_5: NP_3 Neg NP_2 t_3	*!	*	*

But of course, the string in (53-d) is well formed as such, so there must be a derivation that generates it which is optimal. Indeed, the derivation generating (53-d) emerges as a winning candidate in a second reference set that contains derivations in which the object shift feature is present only on the indirect object; cf. table T_9:

T_9: Non-pronominal object shift, with F on indirect object only

Candidates	PAR-MOVE	F-CRIT	STAY
*D_1: Neg NP_2 NP_3		*!	
⇒D_2: NP_2 Neg t_2 NP_3			*

The relevant derivations that need to be considered here are D_1, in which the indirect object fails to undergo object shift, and D_2, in which it is moved. Clearly, the latter candidate is the only one that fulfills F-CRIT, and it is therefore chosen as the optimal one.[38]

[38]Note that, due to a high-ranked (or inviolable) constraint like F-MATCH (see the previous subsection), we can disregard from the start those derivations that involve an additional and unmotivated movement of the direct object, as in the candidates D_3, D_4 (both with multiple scrambling), and D_5 in T_8. Similar considerations apply with respect to table T_{10} below.

However, (53-c) is blocked as suboptimal in all reference sets. In particular, it is blocked as involving a fatal PAR-MOVE violation in a third reference set that contains the relevant feature F only on the direct object; here, the optimal derivation is one with both object NPs in situ; cf. table T_{10}.[39]

T_{10}: Non-pronominal object shift, with F on direct object only

Candidates	PAR-MOVE	F-CRIT	STAY
⇒D_1: Neg NP_2 NP_3		*	
*D_5: NP_3 Neg NP_2 t_3	*!		*

Thus, just as we have seen to be the case with pronominal object shift in Danish, PAR-MOVE restricts object shift of lexical NPs in Icelandic in such a way that it must not apply if D-structure argument order cannot be preserved. Since D_1 emerges as optimal not only in the reference set underlying T_{10} (with F instantiated on the direct object only), but also in yet another reference set in which F is not instantiated at all, we end up with the result that a sentence with both objects in situ is derivationally ambiguous, in the sense that it can be the winner of two different competitions (i.e., we have another instance of "neutralization," cf. footnote 35).

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[39]Further corroboration of this analysis is provided by Vikner's (1990 (1995, 198-200)) and Bobaljik & Jonas's (1996, 212-214) observation that object shift can never cross the in situ-subject in transitive expletive constructions in Icelandic; cf.:

(i) a. *θaδ* lauk einhver$_1$ verkefninu$_2$
there finished someone the assignment

b. **θaδ* lauk verkefninu$_2$ einhver$_1$ t_2
there finished the assignment someone

Given that the subject NP_1 asymmetrically-commands the object NP_2 at D-structure, the contrast in (i) follows directly from PAR-MOVE, along the same lines as (53-c). That said, it seems that the empirical evidence is not quite as clearcut as one might wish. For instance, a different assessment of data involving object shift in transitive expletive constructions in Icelandic is reported in Collins (1997, 18).

3.7. Pronoun Fronting in German

3.7.1. The Analysis

As shown above, pronoun fronting in German behaves like pronominal object shift in Danish in most respects, which strongly suggests a unified account (e.g., the movement operation targets a VP-external position, it preserves order, and it affects only weak pronouns). However, there are some differences: First, the order of the fronted pronouns is direct object $\succ$ indirect object in German, and indirect object $\succ$ direct object in Danish. I have argued that this is due to a difference in base-generation within VP. Second, at first sight it appears as though the landing site of the two operations is different: In both cases, it must be VP (or μP) external, but object shift targets a position following the subject position, while pronoun fronting ends up in the Wackernagel position, which we have seen can either precede or follow the position of subjects in German. I would now like to suggest that this difference is indeed not a substantial one: Both object shift and pronoun fronting are triggered by PRON-CRIT and end up in the π domain, which *is* the Wackernagel position, and the difference between Danish and German is simply that German subjects may stay in situ, whereas Danish subjects must raise to SpecT at S-structure, thereby strictly precluding adjacency of C and a fronted pronoun.[40] And third, PAR-MOVE can never be violated by object shift in Danish, whereas it can be violated by pronoun fronting in German. This implies that PRON-CRIT must be ranked higher than PAR-MOVE in German, in contrast to what we have seen in Danish. Thus, if pronoun fronting in German leads to a reversal of D-structure argument order with

[40]This does not imply that an in-situ subject NP must follow an indirect object NP (that has undergone Case-driven movement to Specμ) in German if it follows a weak direct object pronoun in Specπ, as in (i-a); rather, the reversed order in (i-b) is also very well possible (in fact, it is less marked):

(i) a. daß es_2 der $Maria_3$ der $Fritz_1$ t_2 t_3 gesandt hat
that it_{acc} ART $Maria_{dat}$ ART $Fritz_{nom}$ sent has

b. daß es_2 der $Fritz_1$ der $Maria_3$ t_1 t_2 t_3 gesandt hat
that it_{acc} ART $Fritz_{nom}$ ART $Maria_{dat}$ sent has

(i-b) can be derived by scrambling of the subject to a μP-adjoined position; see subsection 3.7.2.

non-pronominal NPs, which are not subject to PRON-CRIT, this is permitted; cf. (54) (= (24)):[41]

(54) a. daß es$_1$ ihm$_2$ der Fritz t$_1$ t$_2$ gegeben hat
that it him ART Fritz given has

b. *daß ihm$_2$ es$_1$ der Fritz t$_1$ t$_2$ gegeben hat
that him it ART Fritz given has

The ranking of the relevant constraints in German is given in (55):

(55) *Ranking in German*:

PURE-EP ≫ WH-CRIT ≫ PRON-CRIT ≫ PAR-MOVE ≫ STAY

Table T$_{11}$ shows why (54-a) emerges as the winner of the competition in (54). Both D$_1$ and D$_2$ automatically incur two PAR-MOVE violations because two objects are moved across the subject. The violation that is fatal for D$_2$ is the third PAR-MOVE violation that results from a reversal of the order of the two objects.[42]

[41]There are two further difference about which I have nothing to say here. As noted above, Scandinavian object shift depends on V movement, which German pronoun fronting does not seem to do; and pronoun fronting in German and pronominal object shift in Scandinavian behave differently with respect to the status as A-bar or A-movement (e.g., the former movement licenses parastic gaps, whereas the latter does not).

[42]By assumption, the subject NP *Fritz* stays in situ in the derivations of this reference set; it lacks the relevant strong Case feature that triggers overt raising to SpecT. If there is such a feature in a derivation D$_X$, D$_X$ will belong to a different reference set, and therefore cannot block D$_1$ even if it fares better with respect to PAR-MOVE. If, however, *Fritz* is moved in accordance with PAR-MOVE to a clause-initial position without bearing a strong Case feature, a fatal violation of the high-ranked (or inviolable) F-MATCH will result. – Note also that although D$_5$ is excluded as an ill-formed derivation, the S-structure string as such is indeed well formed (cf. (26) above); however, it is generated by derivation D$_X$ and therefore involves three argument traces (i.e., three STAY violations).

T_{11}: Pronoun Fronting in German with a non-pronominal subject

Candidates	PRON-CRIT	PAR-MOVE	STAY
⇒D_1: es_1 ihm_2 der Fritz t_1 t_2 ...		**	**
*D_2: ihm_2 es_1 der Fritz t_1 t_2 ...		***!	**
*D_3: es_1 der Fritz t_1 ihm_2 ...	*!	*	*
*D_4: ihm_2 der Fritz es_1 t_2 ...	*!	**	*
*D_5: der Fritz es_1 ihm_2 ...	*!*		

Similarly, PAR-MOVE yields the correct results for more complex examples, in which all three arguments in a double object construction are pronouns susceptible to PRON-CRIT; cf. the sentences in (28), which are repeated here under (56):

(56) a. daß sie_1 es_2 ihm_3 wahrscheinlich zum Geburtstag t_1 t_2 t_3 schenken wird
that she it him probably for the birthday give will

b. *daß sie_1 ihm_3 es_2 wahrscheinlich zum Geburtstag t_1 t_2 t_3 schenken wird

c. *daß es_2 sie_1 ihm_3 wahrscheinlich zum Geburtstag t_1 t_2 t_3 schenken wird

d. *daß es_2 ihm_3 sie_1 wahrscheinlich zum Geburtstag t_1 t_2 t_3 schenken wird

e. *daß ihm_3 sie_1 es_2 wahrscheinlich zum Geburtstag t_1 t_2 t_3 schenken wird

f. *daß ihm_3 es_2 sie_1 wahrscheinlich zum Geburtstag t_1 t_2 t_3 schenken wird

It is shown in table T_{12} why the derivation that generates (56-a), which maximally respects PAR-MOVE, is the sole optimal candidate in its reference set, and thereby blocks the derivations that generate the remaining S-structure representations in (56).

T_{12}: Pronoun Fronting in German with a pronominal subject

Candidates	PRON-CRIT	PAR-MOVE	STAY
⇒D_1: sie_1 es_2 ihm_3 ... t_1 t_2 t_3			***
*D_2: sie_1 es_2 ... t_1 t_2 ihm_3	*!		**
*D_3: sie_1 ihm_3 ... t_1 es_2 t_3	*!	*	**
*D_4: sie_1 ihm_3 es_2 ... t_1 t_2 t_3		*!	***
*D_5: es_2 sie_1 ihm_3 ... t_1 t_2 t_3		*!	***
*D_6: es_2 ihm_3 sie_1 ... t_1 t_2 t_3		*!*	***
*D_7: ihm_3 sie_1 es_2 ... t_1 t_2 t_3		*!*	***
*D_8: ihm_3 es_2 sie_1 ... t_1 t_2 t_3		*!**	***

3.7.2. Scrambling in German

At this point, it is necessary to briefly address the one movement type in German that seems to systematically violate PAR-MOVE, viz., scrambling. Relevant data involving scrambling in double object constructions are repeated in (57):

(57) a. daß der Fritz der Maria das Buch gab
that ART $Fritz_{nom}$ ART $Maria_{dat}$ ART $book_{acc}$ gave
b. daß der Fritz das Buch der Maria gab
c. daß der Maria der Fritz das Buch gab
d. daß der Maria das Buch der Fritz gab
e. daß das Buch der Fritz der Maria gab
f. daß das Buch der Maria der Fritz gab

Given that only a subject NP may precede fronted pronominals (by virtue of optional movement to SpecT), we have to conclude that scrambling of lexical NPs may not target the domains of T and π in German. I assume here that scrambling is formally adjunction to any maximal projection in the μP/vP/VP domain. Next, given STAY, scrambling must be triggered by a higher-ranked constraint (or by a set of higher-ranked constraints). Let me briefly consider two approaches that suggest themselves. First, it has been argued that the ultimate rationale behind scrambling in a language like German is to change the order of arguments, in contrast to what is the case with other movement types; see,

e.g., Frey & Tappe (1991) and Haider (1992; 1993), where it is explicitly argued that scrambling in German is licensed only if it reverses the D-structure order of arguments. Under this view, there is an inherent conflict between scrambling and the requirements imposed by PAR-MOVE. In the present system, this could be expressed as follows: There is a constraint PERM (Permutation) which requires that the S-structure order derived by scrambling does not correspond to the D-structure order. If PERM and PAR-MOVE are tied (i.e., if these two constraints are equally ranked; cf. Prince & Smolensky (1993) for the concept, and Pesetsky (1994), Ackema & Neeleman (1995), and Müller (1997) for some applications in syntax), this means that derivations that respect D-structure order and derivations that change the D-structure order have exactly the same constraint profile. Consequently, optimal derivations can be found for all sentences in (57). A second approach to permutation effects with scrambling in German might be somewhat more complex, but it is less stipulative and will, I believe, eventually prove superior. Under this latter view, free word order within the μP/vP/VP domain in German is in fact not attributed to a single constraint like PERM, but rather to various interacting linearization constraints that are all violable and ranked, and that center around notions like focus, specificity, definiteness, animacy, etc. A predecessor of such an analysis can be found in Uszkoreit (1984); for optimality-theoretic approaches of this type, see Choi (1996) and Müller (1998a).

3.8. Other Movement Types

Finally, let me turn to the two remaining movement types that have been shown to exhibit PAR-MOVE effects in section 2, viz. Case-driven NP raising and quantifier raising. Both of these movement types fit directly into the overall picture that has emerged so far. First, consider Case-driven movement. Let us assume, following Chomsky's (1995) reformulation of the Case Filter of Chomsky (1981), that a constraint like (58) triggers Case-driven raising:

(58) CASE FILTER:
An NP with a strong Case feature must be in a Case position at S-structure; an NP with a weak Case feature must be in a Case position at LF.

Suppose furthermore that Case positions are designated positions in the checking domains of certain heads (T, μ, v), and that, in a language like German, the nominative and dative Case features are strong (the former only optionally), and the accusative Case feature is weak. For a double object construction in German, it then follows that the subject NP and the indirect object NP undergo overt raising in accordance with PAR-MOVE, i.e., that the subject NP moves to SpecT, and the indirect object NP moves to Specμ, and not vice versa. Assuming that there is a partial ranking CASE FILTER $\gg$ PAR-MOVE in German, the indirect object can cross the direct object on the way to its Case position; note that under the reverse partial ranking, we would incorrectly expect there to be no overt raising of the indirect object NP in German, contrary to what is argued for in Müller & Sternefeld (1994). Under the assumptions laid out in section 2, subsequent LF raising of the direct object ends up in a vP-adjoined position; since this movement at LF strictly maintains the relative c-command relations between the three argument NPs at S-structure, a violation of PAR-MOVE does not arise for systematic reasons (but even if it did, this would not pose a problem given that the CASE FILTER dominates PAR-MOVE).

As far as quantifier raising (QR) is concerned, it seems natural to assume that there is a semantics-based constraint that strictly forces quantified NPs to undergo LF raising, so as to create a variable bound by a λ-operator. This constraint dominates PAR-MOVE, which implies that the relative S-structure order of different quantified NPs must be preserved with multiple QR at LF, but that intervening non-quantified NPs (e.g., proper names) can be crossed by QR if this is necessary to fulfill the higher ranked constraint that triggers this movement. Furthermore, on this approach intervening factors that create scope reversal (intonation, inherent properties of certain quantifiers, etc.) can be represented as constraints that outrank PAR-MOVE and thus blur its effects.[43]

[43]Also cf. Vikner (1997) for an optimality-theoretic reanalysis of Diesing's (1997) approach to relative scope in constructions involving object shift and a scope-bearing adverbial that employs this basic mechanism. Note in passing that in order to make PAR-MOVE directly relevant for these constructions, we would have to ensure that the notion of 'argument' in the definition of PAR-MOVE is replaced by a more general concept that comprises the notion of argument in overt syntax, and the notion of operator in covert syntax (so that scope-bearing adverbials are subject to PAR-MOVE at LF).

4. Conclusion

Let me summarize the main findings of this article and draw a conclusion. A number of movement types from different languages exhibit order preservation effects; more specifically, order-preserving movement seems to be the "unmarked" case. In view of this, I have argued that a violable PAR-MOVE constraint that is part of an optimality theoretic grammar can account for the order preservation properties of various movement types in a unified way, in contrast to other constraints (like the MLC of Chomsky (1995)).[44]

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[44]It should be noted that the seven movement operations discussed in this paper by no means exhaust the list of movement types that suggest an approach in terms of PAR-MOVE. An obvious candidate that might be investigated from this point of view is cliticization in certain Slavic and Romance languages. For instance, Toman (1986) observes that in cases of multiple cliticization involving direct and indirect object in Czech, the order in the clitic cluster must be indirect object $\succ$ direct object, which he argues to be the D-structure order in Czech. Furthermore, it has been observed by Hoekstra (1984), Zwart (1993), Neeleman (1994), and Haegeman (1995) (among others) that the D-structure order of arguments normally cannot be destroyed by scrambling in Dutch, i.e., NP arguments can be scrambled across adverbials, but cannot undergo permutation (unless an intervening factor is involved, such as an unaccusative predicate, or focussing of the moved item). This state of affairs suggests a treatment that is more or less analogous to object shift of lexical NPs in Icelandic (with the difference that Dutch scrambling does not seem to depend on V movement). In addition, pronoun fronting in Dutch shares many properties with pronoun fronting in German, and at first sight seems amenable to the same analysis. However, a unified account for these data in terms of PAR-MOVE is not as straightforward as one might wish, since the obligatory order among lexical NPs (scrambled and in situ) is indirect object $\succ$ direct object, as in Icelandic and Danish, whereas the strongly preferred order for weak pronouns is direct object $\succ$ indirect object. I believe that this dilemma could be resolved by resorting to an additional label of NP structure (cf. footnote 23 above). As a tentative solution, one might assume that Dutch has the same D-structure as German, and Case-driven raising of lexical NPs takes place in more or less the same way (affecting only subjects and indirect objects), but not at the level of S-structure (as assumed so far), but rather at the level of NP structure. S-structure scrambling of lexical NPs in Dutch must then maintain NP structure order. In contrast, weak pronoun fronting to a Wackernagel position (as required by PRON-CRIT) respects D-structure order directly; this would follow either from the assumption that PRON-CRIT must in fact be fulfilled at NP structure, or that weak pronouns cannot undergo Case-driven NP raising (so that PRON-CRIT can still be assumed to hold at S-structure). Needless to say, whether such an approach ultimately proves tenable can only be determined by further investigation which, however, is beyond the

The extent to which PAR-MOVE has an effect on a given movement type depends on how the constraint that triggers the movement type (X-CRIT) is ranked with respect to PAR-MOVE. Under a partial ranking X-CRIT $\gg$ PAR-MOVE, it follows that X-movement can selectively violate PAR-MOVE; in this case, PAR-MOVE becomes important only if two candidates behave identically with respect to X-CRIT (and otherwise). This situation holds in the case of *wh*-movement in Bulgarian, English, Danish, Icelandic, etc., pronoun fronting in German, Case-driven NP raising, and quantifier raising in German. However, under a reverse partial ranking PAR-MOVE $\gg$ X-CRIT, we obtain the result that X-Movement can never violate PAR-MOVE: In the case of conflict, PAR-MOVE blocks X-movement altogether. This more drastic effect has been argued to show up with object shift of pronouns in Danish, and object shift of lexical NPs in Icelandic.[45]

To conclude, given the observation that order preservation is a common and recurring pattern among movement types that otherwise differ substantially, and that most of these movement types are permitted not to preserve order under certain circumstances, I believe that a case can be made for postulating an underlying constraint that is violable and usually ranked quite low, as I have tried to do here with PAR-MOVE. There seems to be no way to maintain a general, non-construction-specific constraint like PAR-MOVE in a grammar that recognizes only inviolable constraints. Therefore, to the extent that the preceding discussion has made the existence of such a constraint plausible, it can be viewed as a strong argument for an optimality theoretic organization of grammar.

Still, many open questions remain. Some of these have been discussed or at least alluded to in the preceding sections; here, I will confine myself to pointing out one very obvious open question that demands further investigation: Since PAR-MOVE often predicts crossing (rather than nesting) paths with instances of multiple movement, the status

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scope of the present paper.

[45]There is no principled reason why such an effect should not show up with *wh*-movement, topicalization, or a related movement type in some languages. Indeed, it seems that the ban on relativization of anything but the subject in languages like Malagasy (cf. Keenan & Comrie (1977)) could be treated successfully as the result of PAR-MOVE outranking the constraint that triggers overt operator movement. Under such a ranking, relativization maintains asymmetric c-command at D-structure or does not apply at all.

of effects that have sometimes been attributed to a nestedness (or path containment) condition (cf. Fodor (1978), Pesetsky (1982), and May (1985)) is unclear – at first sight, it looks as though the two constraints are incompatible. It is not obvious to what extent the two concepts (order preservation/crossing on the one hand, and nesting on the other) can or should be reconciled. However, I think that three observations are worth bearing in mind when this issue is properly addressed. First, surprising as this may seem at first sight, it has turned out that some effects that have been analyzed in terms of a nestedness condition now actually follow from PAR-MOVE. For instance, this holds for superiority effects in English, which are derived from an illicit crossing of paths in Pesetsky (1982). Second, some of the standard nestedness effects involve different movement types that, consequently, are triggered by different criteria (e.g., topicalization and *wh*-movement, *wh*-movement and *tough*-movement, etc.), about which PAR-MOVE says nothing – in these cases, there is no ambiguity in rule application (topics must be moved to topic positions, and *wh*-phrases must end up in *wh*-positions, irrespectively of whether these movements preserve D-structure order or not). Finally, it should be noted that, under present assumptions, the existence of a constraint like PAR-MOVE in a grammar does not imply that there cannot be another constraint in the same grammar that demands the opposite in certain contexts – after all, violability of constraints is one of the crucial assumptions of optimality theory.

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