

6 Object Shift and Scrambling

HÖSKULDUR THRÁINSSON

0 Introduction

The purpose of this chapter is to give an overview of the most important descriptive issues involved in the so-called Object Shift (henceforth OS) and Scrambling constructions, and to discuss some of the theoretical implications of the facts. There is an extensive literature on these constructions, written in a number of different frameworks and arguing for quite different analyses.¹ For reasons of space I will concentrate on facts from Germanic languages in the descriptive part of the chapter, mainly the Scandinavian languages for OS, and German and Dutch for Scrambling.²

Since most of the literature on these constructions assumes derivational accounts and movement rules (see e.g. the papers in Grewendorf and Sternefeld 1990b, Corver and Riemsdijk 1994b), I will basically assume that kind of analysis in the presentation of the data.³ I will, however, try to save most of the theoretical issues for the second half of the chapter and make an attempt to keep the first half relatively descriptive and theory-neutral in order to give the reader a reasonable overview.

The relevant constructions are exemplified in (1b) and (2b) (where t_i indicates trace in the position where the “moved” object is generally assumed to have been base generated):

- (1) a. Nemandinn las ekki bókina. (Ic)
student-the read not book-the
b. Nemandinn las **bókina**_i ekki t_i
“The student didn’t read the book.”
- (2) a. Der Student hat nicht das Buch gelesen. (Ge)
the student has not the book read
b. Der Student hat **das Buch**_i nicht t_i gelesen.
“The student hasn’t read the book.”

Under the standard assumption that Icelandic (1b) and German (2b) involve OS and Scrambling, respectively, it is immediately obvious that there are certain similarities between the two constructions, or the two movement rules: both can move objects to the left and across a clause-medial adverb like the negation. In addition, it is frequently possible to find subtle semantic differences between sentences of the b-type and those of the a-type, and these tend to be similar in Icelandic and German, for instance (see section 2.4.1 below). Hence the two constructions/movements are sometimes grouped together under the label of Object Movement (see e.g. Déprez 1989, 1994, Diesing 1997).

Despite this, there are considerable differences between OS in Icelandic and Scrambling in German, for instance. First, the structural conditions appear to be different. As Holmberg was the first to point out (1986), OS in Icelandic only applies when the main verb is finite and has arguably “moved” out of the VP, whereas German Scrambling also takes place in clauses with non-finite main verbs and auxiliaries (like (2b), for instance). Second, Icelandic OS only applies to objects of verbs whereas German Scrambling can also apply to other maximal projections, e.g. prepositional phrases. Third, it has been argued that OS in Icelandic moves the object to a relatively low position (one suggestion is SpecAgrOP, cf. sections 2.1.1 and 2.2.3) whereas German Scrambling appears to move constituents to a higher position, at least in some instances (a common suggestion is adjunction to IP). But if differences of this sort exist, then one would like to know why they exist, what they are related to, whether comparable constructions in other languages have similar properties, and, if so, why that might be. As we will see, the study of OS and Scrambling phenomena in various languages has raised a number of intriguing questions of this sort and shed light on many issues having to do with crosslinguistic similarities and differences, the nature of syntactic structure, and the relationship between syntax, semantics, and phonology.

The organization of this chapter is as follows: in section 1 I outline some of the basic properties of the constructions, summarizing the apparent similarities and differences between OS and Scrambling in section 1.3. Section 2 then discusses some of the theoretical issues that have arisen in recent discussions of OS and Scrambling. These issues concern the nature of syntactic structure and the interaction between syntax, semantics, morphology, and phonology. Finally, section 3 concludes the chapter.

1 Basic Properties of Object Shift and Scrambling

1.1 *Object shift in Scandinavian*

1.1.1 *The movable constituents*

OS in Icelandic was first discussed within the generative framework by Holmberg (cf. Holmberg 1986). As he pointed out, sentences similar to (1b)

can also be found in Mainland Scandinavian (Danish, Norwegian, Swedish, henceforth MSc), provided that the object is a simple, unstressed definite pronoun. This is also true for Icelandic and Faroese, but as illustrated below, pronominal OS tends to be obligatory in Scandinavian,⁴ contrary to the OS of full NPs (or DPs) in Icelandic (the sign % indicates that the sentence may be possible in certain dialects):

- (3) a. *Nemandinn las ekki hana. (Ic)
 *Studenten læste ikke den. (Da)
 *Næmingurin las ekki hana. (Fa)
 %Studenten läste inte den. (Sw)
 student-the read not it
- b. Nemandinn las **hana**_i ekki t_i (Ic)
 Studenten læste **den**_i ikke t_i (Da)
 Næmingurin las **hana**_i ekki t_i (Fa)
 Studenten läste **den**_i inte t_i (Sw)
 student-the read it not
 "The student didn't read it."

It is generally assumed in the literature that Icelandic is the only modern Scandinavian language that has OS of full NPs (DPs) since sentences corresponding to (1b) are bad in the others:⁵

- (4) a. *Studenten læste **bogen**_i ikke t_i (Da)
 b. *Næmingurin las **bókina**_i ekki t_i (Fa)
 c. *Studenten leste **boken**_i ikke t_i (No)
 d. *Studenten läste **boken**_i inte t_i (Sw)
 student-the read book-the not

Similarly, stressed, modified and conjoined pronouns cannot be shifted in MSc or in Faroese, whereas they can in Icelandic. Thus we find contrasts like those in (5) (the other MSc languages would work like Norwegian, cf. Holmberg and Platzack 1995: 162n):

- (5) a. Hún sá **mig**_i/MIG_i/[**mig og þig**]_i/[**þennan á hjólinu**]_i ekki t_i (Ic)
 b. Hun så **meg**_i/*MEG_i/*[**meg og deg**]_i/*[**ham på sykkelen**]_i ikke t_i (No)
 she saw me ME me and you him on the bike not
 "She didn't see me/me and you/him on the bike."

As illustrated, all the objects in question can be fronted in Icelandic, but in Norwegian only the unstressed pronominal object can.

Icelandic OS only applies to objects of verbs, not to objects of prepositions, PPs, or APs (either predicates or secondary predicates), for instance. This is illustrated in (6)–(7):⁶

- (6) a. Jón talaði ekki [_{PP} við Maríu]. (Ic)
 Jon spoke not to Mary(A)
 "John didn't speak to Mary."
 b. *Jón talaði **Maríu**_i ekki [_{PP} við t_i]
 c. *Jón talaði [_{PP} við **Maríu**]_i ekki t_i
- (7) a. Fyrirlestrar hans eru alltaf skemmtilegastir.
 talks his are always most-interesting
 "His talks are always the most interesting ones."
 b. *Fyrirlestrar hans eru **skemmtilegastir**_i alltaf t_i
 c. Jón málaði ekki hurðina dökkgræna.
 Jón painted not door-the dark green
 "John didn't paint the door dark green."
 d. *Jón málaði **dökkgræna**_i ekki hurðina t_i

Pronominal objects of prepositions, or PPs containing (weak) pronouns, cannot be shifted either (see e.g. Vikner 1989: 147, 1991: 287, Holmberg 1986: 199).

All the examples of shifted objects given so far involve definite NPs (DPs) or definite pronouns (personal pronouns). The reason is that indefinite objects can only be shifted when they receive a special interpretation, as will be discussed in section 2.4.1. Thus (8b) is impossible in Icelandic:

- (8) a. Hún keypti ekki kaffi. (Ic)
 she bought not coffee
 b. *Hún keypti **kaffi**_i ekki t_i
 "She didn't buy coffee."

Similarly, it appears that indefinite pronouns do not readily shift, either in MSc or in Icelandic (see also Diesing 1996: 76):

- (9) Nei, jeg har ingen paraply, (No)
 no I have no umbrella
 a. men jeg køper muligens en i morgen.
 but I buy possibly one tomorrow
 b. *... men jeg køper **en**_i muligens t_i i morgen.
 "I don't have an umbrella, but I may buy one tomorrow."
- (10) Ég á ekkert eftir Chomsky. (Ic)
 I have nothing by Chomsky
 a. Átt þú ekki eitthvað?
 have you not something
 b. *Átt þú **eitthvað**_i ekki t_i?
 "I don't have anything by Chomsky. Don't you have something?"

Having looked at the types of constituent that can be moved in Scandinavian OS, we can now consider the structural conditions involved in more detail.⁷

1.1.2 The structural conditions on Scandinavian Object Shift

In this section we will first look at the relationship between Scandinavian OS and verb movement (position of the finite verb) and then the applicability of OS in particle verb constructions and in double object constructions.

As pointed out by Holmberg (1986), OS in Scandinavian is restricted by the position of the main verb. Thus when the main verb is finite and appears to move out of the VP, as it does in all types of clause in Icelandic and in main clauses in MSc, OS is applicable, but it does not apply in auxiliary constructions, when the main verb apparently stays inside the VP, or in MSc embedded clauses where a finite main verb cannot move out of the VP. Thus we get contrasts like the following (cf. Holmberg 1986: 165, Vikner 1989, Josefsson 1992, 1993; *v* indicates the verb's base position):

- (11) a. Af hverju lásu nemendurnir **bækurnar**_i ekki [_{VP} v t_i]? (Ic)
 for what read students-the books-the not
 "Why didn't the students read the books?"
 b. *Af hverju hafa nemendurnir **bækurnar**_i ekki [_{VP} lesið t_i]?
 for what have students-the books-the not read
 c. Hún spurði [_{CP} af hverju stúdentarnir læsu **bækurnar**_i ekki [_{VP} v t_i]]
 she asked for what students-the read books-the not
 "She asked why the students didn't read the books."
- (12) a. Varför läste studenterna **den**_i inte [_{VP} v t_i]? (Sw)
 why read students-the it not
 "Why didn't the students read it?"
 b. *Varför har studenterna **den**_i inte [_{VP} läst t_i]?
 why have students-the it not read
 c. *Hon frågade [_{CP} varför studenterna **den**_i inte [_{VP} läste t_i]]
 he asked why students-the it not read

Since Holmberg's dissertation (1986), the observation that there is a relationship between the position of the main verb and the shiftability of the object in Scandinavian has come to be known as Holmberg's Generalization. We will return to it in section 2.2.5 below.⁸

OS can apply in particle constructions in Scandinavian, for instance in Icelandic (see e.g. Collins and Thráinsson 1996: 429ff).⁹

- (13) a. Hún hefur ekki [_{VP} skrifað upp kvæðið] (Ic)
 she has not written up poem-the
 "She has not written up the poem."
 b. Hún skrifaði **kvæðið**_i ekki [_{VP} v upp t_i]
 she wrote poem-the not up
 "She didn't write up the poem."

Finally, consider the applicability of OS in double object constructions in Scandinavian, beginning with the shift of full NP (or DP) objects in Icelandic. As Collins and Thráinsson (1996) observe, it is not simple to test the

“shiftability” of the objects in double object constructions. The acceptability of the sentences involved is influenced by various independent phenomena, including stress, person, and animacy of the objects, and the so-called Inversion phenomenon (i.e. the ability of certain verbs to allow both the (normal) IO DO order (the Indirect Object preceding the Direct Object, that is) and the (exceptional) DO IO order, cf. Rögnvaldsson 1982, Zaenen et al. 1985, Falk 1990, Holmberg 1991b, Holmberg and Platzack 1995, Ottósson 1991, 1993).¹⁰ These factors are controlled for in the following examples:¹¹

- (14) a. Mannræninginn skilaði aldrei foreldrunum börnunum.
kidnapper-the returned never parents-the(D) kids-the(D)
“The kidnapper never returned the kids to the parents.”
b. Mannræninginn skilaði **foreldrunum**_i aldrei t_i börnunum.
c. *Mannræninginn skilaði **börnunum**_i aldrei foreldrunum t_i
(ungrammatical in the sense: “... never returned the kids to the
parents.”)
d. Mannræninginn skilaði **foreldrunum**_i **börnunum**_i aldrei t_i t_i

As these examples indicate, it is possible to shift the IO (cf. (14b)) or both the IO and the DO but the DO does not seem to be able to shift across the IO (cf. (14c)).

Some puzzling restrictions on the shiftability of objects in double object constructions will be discussed in section 2 below (especially section 2.1.4).

1.1.3 Apparent landing sites involved in Scandinavian Object Shift

In all the examples of Scandinavian OS given above, the “moved” objects have “landed” immediately to the left of a sentential adverb or the negation. The standard assumption is that these adverbs are left-adjoined to VP in Scandinavian (see e.g. Vikner 1995, Holmberg and Platzack 1995, Jonas 1996a, 1996b, Bobaljik 1995, Jonas and Bobaljik 1993, Collins and Thráinsson 1996, Bobaljik and Thráinsson 1998, and references cited by these authors). If we accept that assumption, we only have evidence so far for the objects shifting “just out of” the VP and not to some higher position. As a matter of fact, it seems very difficult to find evidence for any “long OS” in Scandinavian, e.g. one where the shifted object has landed to the left of a postverbal subject, say in a Topicalization structure. Observe (15):

- (15) a. Þá máluðu allir strákar **nir** stundum bílana rauða.
(Ic)
then painted all boys-the(N) sometimes cars-the(A) red(A)
b. Þá máluðu allir strákar **bílana**_i stundum t_i rauða.
“Then all the boys sometimes painted the cars red.”
c. *Þá máluðu **bílana**_i allir strákar stundum t_i rauða.

As can be seen here, the shifted object *bíla* “the cars” can only shift as far as immediately across the sentential adverb *stundum* “sometimes,” not across the subject *allir strákar* “all the boys.”¹²

All the examples of pronominal OS given so far are also instances of “short OS.” Although this is the general rule, there are some examples of “long pronominal OS” in Modern Swedish dialects and in some older Scandinavian texts. Representative examples are given in (16) (see Holmberg 1986: 230ff, Hellan and Platzack 1995: 58–60, Josefsson 1992):

- (16) a. Varför gömde sig_i barnen t_i? (Sw)
 why hid self children-the
 “Why did the children hide?”
- b. Gav dej_i snuten t_i körkortet tillbaka? (Sw)
 gave you cop-the driver’s-license-the back
 “Did the cop give you your driver’s license back?”
- c. Nu befallde oss_i rånaren t_i att vara tysta. (Sw)
 now ordered us robber-the to be silent
 “Now the robber ordered us to be silent.”
- d. Ekki hryggja mig_i hét þín t_i (OIc)
 not grieve me threats your
 “Your threats don’t disturb me.”
- e. Snart indfandt sig_i dette t_i (No 1833)
 soon presented itself this
 “Soon this presented itself.”
- f. Derfor forekommer mig_i maaske det hele t_i mere (Da 1860)
 therefore seems me perhaps the whole more
 betydningsfuldt.
 important
 “Therefore the whole thing perhaps appears more important to me.”

As can be seen here, the pronominal objects are either reflexive, 1st or 2nd person pronouns and according to Holmberg (1986: 230) and Hellan and Platzack (1995), one could not substitute a 3rd person pronominal object in (16a) or (16c), for instance. The reason for this restriction is unclear.

After this descriptive overview of Scandinavian OS we will now give a parallel overview of German and Dutch Scrambling.

1.2 Scrambling in German and Dutch

1.2.1 The movable constituents

The term Scrambling for a rule describing word order variation originates with Ross (1967a), although the phenomenon was already discussed in a generative framework by Bierwisch (1963). Ross originally proposed this rule to account for so-called “free word order” in languages like Latin and suggested that it be considered a part of the “stylistic component” rather than the transformational

component proper. In recent literature the term is normally used in a more restricted sense, namely to refer to “fronting” (or “raising”) of constituents like objects, indirect objects, and even PPs in various languages (cf. e.g. the discussion in Grewendorf and Sternefeld 1990a, the papers in Grewendorf and Sternefeld 1990b, and in Corver and van Riemsdijk 1994b).

In the so-called Principles and Parameters approach, usually traced to Chomsky (1981), the emphasis has shifted from the description of language-particular rules (cf. e.g. the discussion in Epstein et al. 1996) and a standard claim is that there is only “one transformational rule,” namely “Move α ,” where α is some syntactic constituent. In that sense the “rule” of Scrambling is just “Move α ” and thus not different from, say, the “rule” of OS discussed above. Nevertheless it has been argued that the structures created by (German and Dutch, henceforth GD) Scrambling are different from those created by (Scandinavian) OS. The purpose of this section is to outline some of these properties and compare them to those of the OS just discussed.

What will qualify as Scrambling data in GD depends on one’s assumptions about the underlying order of the main verb and the object in GD. Under the traditional assumption that Dutch and German are OV languages, examples like those in (17) provide no evidence for Scrambling whereas the ones in (18) do (or may). But if we assume with Kayne (1994) that all languages are underlyingly VO, as Zwart (1993a, 1997) and Roberts (1997) do, for instance, then even the sentences in (17) would provide evidence for Scrambling (namely movement of the object to the left across the verb, cf. e.g. Zwart 1997: 30ff; see also Haider et al. 1995: 14ff):

- (17) a. ... dat Jan gisteren Marie gekust heeft. (Du)
 b. ... dass Jens gestern Maria geküsst hat. (Ge)
 that John yesterday Mary kissed has
 “... that John kissed Mary yesterday.”
- (18) a. ... dat Jan **Marie** gisteren gekust heeft. (Du)
 b. ... dass Jens **Maria** gestern geküsst hat. (Ge)
 that John Mary yesterday kissed has
 “... that John kissed Mary yesterday.”

In the following I will for the most part adopt the traditional assumption and only consider GD evidence where the relevant constituents appear to have shifted to the left across (at least) an adverbial phrase of some sort. This means that the trace of the moved objects in (18) would be between “yesterday” and “kissed” whereas the objects in (17) would presumably be in situ.¹³

Assuming this, we can now try to establish what kinds of constituent GD Scrambling may apply to. As shown in (19)–(21), it applies to NPs and PPs but not to (secondary predicate) APs (cf. e.g. Grewendorf and Sternefeld 1990a, de Hoop 1992, Corver and van Riemsdijk 1994a, Neeleman 1994, Vikner 1994b, Haider et al. 1995: 14ff, Costa 1996, Zwart 1997, and references cited by these authors):

- (19) a. ... dass Jens nicht die Bücher kauft. (Ge)
 b. ... dat Jan niet de boeken koopt. (Du)
 that John not the books buys
 c. ... dass Jens **die Bücher_i** nicht t_i kauft.
 d. ... dat Jan **de boeken_i** niet t_i koopt.
- (20) a. ... dass Jens kaum auf meine Bemerkung reagierte. (Ge)
 b. ... dat Jan nauwelijks op mijn opmerking reageerde. (Du)
 that John hardly on my remark reacted
 c. ... dass Jens **auf meine Bemerkung_i** kaum t_i reagierte.
 d. ... dat Jan **op mijn opmerking_i** nauwelijks t_i reageerde.
- (21) a. ... dass Jens morgen die Tür dunkelgrün streicht. (Ge)
 b. ... dat Jan morgen de deur donkergroen verft. (Du)
 that John tomorrow the door dark green paints
 c. *... dass Jens **dunkelgrün_i** morgen die Tür t_i streicht.
 d. *... dat Jan **donkergroen_i** morgen de deur t_i verft.

Thus we see that GD Scrambling is similar to Icelandic OS in that neither applies to APs, but GD Scrambling is different from Scandinavian OS in applying to PPs. The question is how this difference might be explained. I will consider some proposed explanations in section 2 (e.g. 2.2.4 and 2.3.1).

Having compared the movable constituents in GD Scrambling and Scandinavian OS, I will now compare these “rules” in more detail with respect to structural conditions on their application.

1.2.2. *The structural conditions on German and Dutch Scrambling*

As illustrated in section 1.1.2 above, Scandinavian OS appears to be restricted by the position of the main verb. Thus if there is an auxiliary verb in the clause and the main verb is hence non-finite and follows sentential adverbs and the negation, OS cannot apply. As already mentioned, GD Scrambling is not restricted in this fashion. This is illustrated in (22) with a German example (see e.g. Vikner 1994b: 498ff, Zwart 1997: 90ff):

- (22) a. ... dass Jens gestern das Buch gekauft hat. (Ge)
 that John yesterday the book bought has
 b. ... dass Jens **das Buch_i** gestern t_i gekauft hat.
 “... that John bought the book yesterday.”

This is an intriguing difference which has given rise to a number of theoretical proposals, as we shall see in section 2 below (see e.g. 2.2.5).

Since the constituents that can be moved by Scrambling seem to be partially different from those undergoing OS, and also because the structural

conditions on the two constructions appear to be different, one might wonder whether the landing sites (the positions that the constituents move to) could be the same. There appear to be some differences, as we shall now see.

1.2.3 Apparent landing sites

As demonstrated by Vikner (1994b: 487–8), for instance, examples of, say, German Scrambling and Danish (pronominal) OS can look very similar:

- (23) a. I går læste han **dem**_i ikke t_i (Da)
 b. Gestern las er **sie**_i nicht t_i (Ge)
 yesterday read he them not

As readers familiar with work on Germanic languages will notice, the sentences in (23) involve preposing of a non-subject (*i går*, *gestern* “yesterday”), so the finite main verb shows up in second position in both Danish and German since both are Verb-Second (V2) languages. Since the objects *dem*, *sie* “them” precede the negation, the standard assumption is that they have moved to the left and out of the VP. If the negation is left-adjoined to the VP, then the moved objects could be left-adjoined to the VP also (i.e., “on top of” the negation).

There is some evidence, however, that GD Scrambling may move elements “higher” than Scandinavian OS normally does. This is especially true for German (cf. e.g. Grewendorf and Sternefeld 1990a: 9, Czepluch 1990: 174):

- (24) a. ... dass der Schüler **den Lehrer**_i nicht t_i überzeugt. (Ge)
 that the student-Nom the teacher-Acc not convinces
 b. (?) ... dass **den Lehrer**_i der Schüler nicht t_i überzeugt.
 “... that the student does not convince the teacher.”
 c. (?) ... dass die Antwort **den Lehrer**_i nicht t_i überzeugt.
 that the answer-Nom the teacher-Acc not convinces
 d. ... dass **den Lehrer**_i die Antwort nicht t_i überzeugt.
 “... that the answer does not convince the teacher.”
 e. ... dass **den Max**_i jeder t_i kennt.
 that Max everybody knows
 “... that everybody knows Max.”

As shown in (24b, d, e), it is possible in German to scramble an object across a subject, with some variation in acceptability, depending on the nature of the subject and object (cf. Czepluch 1990: 174).¹⁴ As mentioned in section 1.1.3 above, such movement of object across a subject appears to be impossible in Icelandic full NP OS. Thus it seems that German Scrambling can move constituents further to the left than Icelandic OS, perhaps adjoining them to IP (in addition to VP) (cf. e.g. Müller and Sternefeld 1994: 342).

The situation is slightly different in Dutch. There Scrambling of an object across a subject is apparently only possible when a special “focus” reading is

involved, as indicated by contrasts like the following (based on Neeleman 1994: 395–6):

- (25) a. ... dat Jan **die boeken_i** niet t_i koopt. (Du)
 that John the books not buys
 b. *... dat **die boeken_i** Jan niet t_i koopt.
 c. ... dat zelfs Jan **zulke boeken_i** niet t_i koopt.
 that even John such books not buys
 d. ... dat **zulke boeken_i** zelfs Jan niet t_i koopt.

In (25b) we see that a regular object like *die boeken* “the books” cannot be scrambled across the subject, whereas the object *zulke boeken* “such books” can be scrambled across the subject *zelfs Jan* “even John” in (25d). Thus although Dutch Scrambling normally moves elements to a lower position, one could argue that it can exceptionally adjoin them to a higher position (like IP, for instance).¹⁵ Zwart (1997) refers to this special kind of (long) Scrambling in Dutch as “focus Scrambling” and treats it as a different process.¹⁶

As in Scandinavian, movement of unstressed pronominal objects tends to be obligatory in German and Dutch.

1.3 *Summary of similarities and differences observed so far*

Concentrating on Scandinavian OS and GD Scrambling, we can summarize as follows the similarities and differences between the two constructions found so far (with some simplification, as is always involved in tables of this sort – see also the systematic comparison in Vikner 1994):

(26)	Scandinavian OS		GD Scrambling	
	<i>Icelandic</i>	<i>Other Scand. lgs</i>	<i>German</i>	<i>Dutch</i>
Moves full NPs	yes	no	yes	yes
Moves pronominal NPs	yes	yes	yes	yes
Moves PPs	no	no	yes	yes
Moves (secondary) predic. APs	no	no	no	no
Dependent main verb pos.	yes	yes	no	no
Moves to a low (VP-adj.?) pos.	yes	yes	yes	yes

The similarities and differences summarized here call for explanations, and these are bound to differ depending on the theoretical framework assumed. But the particular theoretical approaches will typically also uncover other similarities and differences between the constructions in question, and increase our understanding of and knowledge about syntactic structure in general and the nature of the relationship between syntax, semantics, morphology, and phonology. Some examples are discussed in section 2.

2 Some Theoretical Issues Concerning Object Shift and Scrambling

Studies of OS and Scrambling, including comparison of these two types of construction, have shed light on various theoretical questions, including the following:

- (27) a. What is the nature of constituent structure and how does it vary crosslinguistically?
 b. How can syntactic movement rules be classified, how are they restricted, and what are the possible “landing sites” for movement?
 c. What is the relationship between morphology and syntactic structure in general and syntactic movement rules in particular?
 d. To what extent are syntactic movement rules optional and to what extent do they interact with semantics and/or phonology?

The organization of this section reflects the issues listed in (27) and in some instances they have been broken down into more specific questions.

2.1 *The nature of constituent structure*

2.1.1 *Hierarchical clause structure, functional projections, and directionality*

Within a syntactic theory that assumes movement of constituents, there are two ways to account for free word order, or variation in word order. One is to assume extensive movement, the other to assume variation in underlying structure. Both approaches, however, raise a similar question: why do languages differ with respect to the ordering of constituents they allow? But within a reasonably rich theory which assumes movement but also allows for some variability in underlying structure, it should be possible in principle to distinguish between word order alternations that derive from different underlying structures and those that are derived by movement. Thus Webelhuth (1992) argues that Scrambling structures obey the so-called island constraints first discussed by Ross (1967a) and that this suggests that movement is involved (cf. also Corver and van Riemsdijk 1994a: 3–4).

A radical approach to crosslinguistic differences with respect to freedom of word order is the non-configurationality hypothesis (see e.g. Hale 1983, 1994; see also Baker’s contribution to this volume). Some linguists have attributed the relatively free word order of languages like German and Old Norse to non-configurationality (see Haider 1988, Faarlund 1990; for different positions see Webelhuth 1984–5, Rögnvaldsson 1995). This approach will not be discussed further here.

Another approach to the crosslinguistic variability observed in OS and Scrambling phenomena is to attribute them to some extent to different underlying

structure of the languages in question. Thus it has been claimed that the reason Modern Icelandic (and Old Norse and the MSc languages in previous centuries) have OS of full NPs may have something to do with a richer functional structure, e.g. because of different (or “stronger”) agreement features associated with IP in Icelandic (and Old Norse etc.), allowing for different licensing of nominal arguments (see e.g. Holmberg and Platzack 1990, 1995), or because of different licensing properties of the argumental positions (see e.g. Jonas and Bobaljik 1993, Jonas 1994, 1996a, 1996b, Bobaljik and Jonas 1996), or else because Modern Icelandic (and Old Norse, etc.) has a more complex functional structure than MSc, allowing for more surface positions of the arguments (see Thráinsson 1996, Bobaljik 1995, Bobaljik and Thráinsson 1998). We will return to issues of this kind in section 2.2 (especially sections 2.2.2 and 2.2.3).

While some of the studies just referred to argue that the crosslinguistic variation in word order frequently attributed to object movement of some sort can be traced to differences in underlying structure and the different movement possibilities resulting from these, a different tack is taken by those linguists who claim that there are only minimal differences (if any) in underlying structure between languages. In particular, these linguists claim that languages generally have VO-order within the VP underlyingly and the observed differences in surface word order result from different movement rules. The basic idea goes back to Kayne’s influential book (1994) and has been applied to “Scrambling” languages by linguists like Zwart (1997; Dutch) and Roberts (1997; older stages of English). If languages like Dutch and German, for instance, are VO-languages, then that obviously means more extensive application of Scrambling (or something like it) to derive the surface word orders, as already mentioned in section 1.2.1 above. Space does not permit further discussion of the theoretical issues involved (but see Thráinsson 1997 for some relevant points).

2.1.2 *Adverb positions*

Studies of OS and Scrambling have forced linguists to look more closely at individual aspects of syntactic structure. One such aspect is the positioning of adverbs, since (sentential) adverbs figure prominently in the study of OS and Scrambling as landmarks of syntactic structure, as seen above.

The basic problem with using adverbs as evidence for the syntactic position of other constituents is the fact that adverbs can typically occur in a number of different positions within the clause (see e.g. Jackendoff 1972, McConnell-Ginet 1982, Higginbotham 1985, Travis 1988, McCawley 1988, Alexiadou 1997, Cinque 1997). But despite attempts to account explicitly for the interaction between the syntax and semantics of adverbs, it seems that most studies of OS and Scrambling assume a relatively unsophisticated theory of adverbs. The crucial assumption in most of these studies is that adverbs that precede the position of the main verb (in a VO-language) must be adjoined no lower than to VP. Consequently, if an object appears to the left of such an adverb in such

like (28c). As indicated above, however, both structures are ungrammatical in Icelandic.

We see then that while a sophisticated theory of adverb placement would certainly be welcomed by those who try to account for the apparent variability in surface positions of verbs and objects, the standard arguments reviewed above are not implausible. But if one assumes, like Zwart (1997), for instance, that Dutch is a VO-language, then one is forced to conclude that the object has not only moved (undergone Scrambling) in (30b) but also in (30a), as indicated by the traces (see e.g. Zwart 1997: 91):

- (30) a. ... dat Jan **gisteren** Marie_i gekust t_i heeft. (Du)
 that John yesterday Mary kissed has
 b. ... dat Jan Marie_i **gisteren** gekust t_i heeft.
 "... that John has kissed Mary yesterday."

Zwart thus has to assume that the object is in the same position in (30a) and (30b) and that it is the adverb *gisteren* which shows up in different places. As Zwart himself points out, this claim bears on theories about the semantic interpretation of shifted and unshifted objects, a topic which we shall return to in section 2.4.1 below. But it also makes clear that it would be nice to have some way of distinguishing between different positions of adverbs. It does not seem implausible, for instance, that a given type of adverb may have a default position within the clause although it can also under certain circumstances appear elsewhere (see e.g. Bobaljik and Thráinsson 1998 for discussion).

One way in which research on OS and Scrambling can tell us something about adverb placement is the following: suppose we have two adverbs which can adjoin to different positions. If one can adjoin to VP and the other to some higher functional projection, we might expect to be able to get the order Adv1–Object–Adv2 if the object shifts to, say, SpecAgrOP. Interestingly, some pairs of adverbs allow this kind of ordering in Icelandic while others do not. This is illustrated in (31)–(32):

- (31) a. Jón las bókina **náttúrulega** **aldrei**.
 John read book-the naturally never
 b. (?)Jón las **náttúrulega** bókina **aldrei**.
 "John naturally never read the book."
- (32) a. Jón las bókina **eflaust** **aldrei**.
 John read book-the doubtlessly never
 "John doubtlessly never read the book."
 b. *Jón las **eflaust** bókina **aldrei**.

As shown here, the object can intervene between *náttúrulega* and *aldrei* but not between *eflaust* and *aldrei*. This may suggest that *náttúrulega* can more easily adjoin to a higher position than *aldrei* can. This is not surprising, since *náttúrulega*

is one of the adverbs that can also intervene between the subject and the finite verb in the so-called V3 construction in Icelandic (see e.g. Thráinsson 1986, Sigurðsson 1986):

- (33) Jón **náttúrulega** las aldrei bókina.
 John naturally read never book-the
 "John naturally never read the book."

Interestingly, the class of adverbial expressions that can "straddle" a moved object does not seem to be the same in the Scandinavian languages and German, for instance, as Vikner (1994b: 493ff) has shown:

- (34) a. ...dass er das Buch **ohne Zweifel nicht** gelesen hat. (Ge)
 that he the book without doubt not read has
 b. ...dass er **ohne Zweifel** das Buch **nicht** gelesen hat.
 "... that he has undoubtedly not read the book."
- (35) a. Peter læste den **uden tvivl ikke**. (Da)
 Peter read it without doubt not
 "Peter undoubtedly didn't read it."
 b. *Peter læste **uden tvivl** den **ikke**.

One possible explanation is that GD Scrambling is adjunction to VP and hence scrambled elements can intervene between adverbs that also adjoin to the VP, whereas Scandinavian OS moves elements out of the VP. Another possibility is that the possible adjunction sites of the adverbial expressions in question are not the same in these languages. Examples like the following show that adverbials seem to have considerable freedom of occurrence in Dutch, for instance (cf. Zwart 1997: 64):

- (36) a. ...dat **gisteren** Jan Marie gekust heeft. (Du)
 that yesterday John Mary kissed has
 "... that John has kissed Mary yesterday."
 b. ...dat Jan **gisteren** Marie **waarschijnlijk** gekust heeft.
 that John yesterday Mary probably kissed has
 "... that John has probably kissed Mary yesterday."

All this indicates that the research on OS and Scrambling has shed light on adverb placement possibilities, although a restrictive and enlightening theory of adverb placement is still needed.¹⁷

2.1.3 *The structure of particle constructions*

As Johnson (1991) points out, there is a striking parallelism between Scandinavian OS and the word order alternations found in the so-called particle constructions in English. Some examples are given in (37)–(38) (the English examples are mostly from Johnson 1991 and references he cites):

- (37) a. Mickey looked up the reference.
 b. Mickey looked the reference up.
 c. *Mickey looked up it.
 d. Mickey looked it up.
 e. Mickey looked up THEM.
 f. Mickey looked up him and her.
 g. Mickey teamed up with the women.
 h. *Mickey teamed with the women up.
 i. Mickey pointed out [that Gary had left].
 j. *Mickey pointed [that Gary had left] out.
 k. Mickey slips up all the time.
 l. *Mickey slips all the time up.
- (38) a. Jón las ekki bókina. (Ic)
 John read not book-the
 b. Jón las **bókina**_i ekki t_i
 c. *Jón las ekki hana.
 John read not it.
 d. Jón las **hana**_i ekki.
 e. Jón las ekki HANA.
 f. Jón hitti ekki hana og hann.
 John met not him and her.
 g. Jón talaði ekki við konurnar.
 John talked not to women-the
 h. *Jón talaði **við konurnar**_i ekki t_i
 i. Jón sagði ekki [að María hefði farið].
 John said not that Mary had left
 j. *Jón sagði **[að María hefði farið]**_i ekki t_i
 k. Jón talaði ekki allan daginn.
 John spoke not all day-the
 "John didn't speak for the whole day."
 l. *Jón talaði **allan daginn**_i ekki t_i

In the (a) and (b) examples we see that a full NP-object can occur on either side of the particle in English and on either side of the sentential adverb (here the negation) in Icelandic constructions where OS is possible. The (c), (d), (e), and (f) examples show that pronouns have to appear to the left of the particle in English, and to the left of the sentential adverb in Icelandic, unless they are stressed (the (e) examples) or conjoined (the (f) examples). The (g) and (h) examples show that prepositional complements cannot occur to the left of the particle in English or to the left of the adverb in Icelandic, and the (i), (j), (k), and (l) examples show that the same is true of clausal complements and of adverbial NPs (adjuncts).

The parallelism just reviewed is truly striking and calls for an explanation. Johnson's (1991) account is that English has OS and verb movement, just like

Scandinavian, although it is not always visible to the same extent. He suggests (1991: 628) that the (main) verb in English may move to T and the object to SpecAgrOP in a complex functional structure.

Despite the parallelism between (English) particle constructions and Scandinavian OS constructions just reviewed, there are interesting crosslinguistic twists to the story. First, restrictions on particle constructions in Icelandic mirror those of Icelandic OS to a great extent, as already pointed out by Rögnvaldsson (1982). Thus compare (39) to (37)–(38):

- | | | | |
|---------|---|------------------------------|------|
| (39) a. | Jón tók | upp bókina. | (Ic) |
| | John picked | up book-the | |
| b. | Jón tók bókina | upp. | |
| | "John picked up the book." | | |
| c. | *Jón tók | upp hana. | |
| | John picked | up it. | |
| d. | Jón tók hana | upp. | |
| e. | Jón tók | upp HANA. | |
| f. | Jón rak | út hana og hann. | |
| | John kicked | out him and her. | |
| g. | Jón hélt | til hjá systrunum. | |
| | John held | to with sisters-the | |
| | "John stayed with the sisters." [e.g. had room and board there] | | |
| h. | *Jón hélt hjá systrunum | til. | |
| i. | Jón tók | fram [að María hefði farið]. | |
| | John took | forth that Mary had left. | |
| | "John explicitly mentioned that Mary had left." | | |
| j. | *Jón tók [að María hefði farið] | fram. | |
| k. | Jón kastaði | upp allan daginn. | |
| | John threw | up all day-the | |
| l. | ?*Jón kastaði allan daginn | upp. | |

As shown by Collins and Thráinsson (1996: 430), however, the "shift" of the object in particle constructions is not dependent on movement of the main verb the way "normal" OS is. Thus the "shifted" versions of (39) are just as good with a finite auxiliary and a non-finite main verb in situ, as illustrated in (40):

- | | | | |
|---------|--------------------------------|------|-------------|
| (40) a. | Jón hefur tekið bókina | upp. | (cf. (39b)) |
| | John has picked book-the | up | |
| | "John has picked up the book." | | |
| b. | Jón hefur tekið hana | upp. | (cf. (39d)) |

This suggests that if some sort of OS is involved in particle constructions, it shifts the object to a lower position than the one involved in "regular" OS. Hence the structure of particle constructions may be more complex than it would seem at first, and this is the tack taken by a number of linguists. Thus

Collins and Thráinsson (1996) tie this in with their analysis of double object constructions (see also section 2.1.4 below). Others have suggested some sort of a biclausal analysis of particle constructions (see e.g. Bolinger 1971, Kayne 1985, den Dikken 1995, Svenonius 1996).

Space does not permit a further discussion of the different proposals about particle constructions and their relationship to OS constructions. But there is an interesting crosslinguistic twist here, potentially relevant for the topic at hand: while all the MSc languages allow pronominal OS but typically not OS of full NPs, Danish and Norwegian allow the “OS” in particle constructions to apply to full NPs (optionally) as well as to pronouns (obligatorily), but neither version applies in Swedish (see e.g. Åfarli 1985, Holmberg 1986: 166, 200, Svenonius 1996, Holmberg and Platzack 1995: 203):

- (41) a. Jeg skrev op nummeret/*det. (Da)
 I wrote up number-the/it
- b. Jeg skrev brevet/det op.
 “I wrote the number/it down.”
- c. Han spiste opp tørrfisken/*den. (No)
 he ate upp dryfish-the/it
- d. Hann spiste tørrfisken/den opp.
 “He ate the dried fish/it up.”
- e. Hon kastade ut Johan/honum. (Sw)
 she threw out John/him
 “She threw John/him out.”
- f. *Hon kastade Johan/honom ut.

This again suggests that the “OS” found in particle constructions may not be exactly the same kind of OS as the one found elsewhere in Scandinavian, despite striking similarities.¹⁸

2.1.4 *The structure of double object constructions*

Studies of OS and Scrambling have also played an important role in the analysis of double object constructions. Here the most important question has been whether and under what circumstances the direct object (DO) can move (shift or scramble) across the indirect object (IO) and what this can tell us about the nature of the relevant structures.

First, Dutch seems to differ from both German and Yiddish in not allowing the DO to scramble freely across the IO.¹⁹ This is illustrated in (42)–(44) (see e.g. Haider et al. 1995: 17–18, Weerman 1997: 431–3, Diesing 1997: 402, etc.):

- (42)
- a. ... dat de vrouw waarschijnlijk de mannen de film toont. (Du)
 that the woman probably the men the picture shows
- b. ... dat de vrouw **de mannen**_i waarschijnlijk t_i de film toont.
 “... that the woman probably shows the picture to the men.”
- c. *... dat de vrouw **de film**_j waarschijnlijk de mannen t_j toont.

- (43) a. ... dass die Firma nicht meinem Onkel die Möbel (Ge)
 that the company not my uncle-Dat the furniture-Acc
 zugestellt hat.
 delivered has
- b. ... dass dies Firma **meinem Onkel_i** nicht t_i die Möbel zugestellt
 hat.
- c. ... dass die Firma **die Möbel_j** nicht meinem Onkel t_j
 zugestellt hat.
 "... that the company has not delivered the furniture to my uncle."
- (44) a. Max hot nit gegeben Rifken dos bukh. (Yi)
 Max has not given Rifken the book
- b. Max hot **Rifken_i** nit gegeben t_i dos bukh.
- c. Max hot **dos bukh_j** nit gegeben Rifken t_j
 "Max has not given Rifken the book."

A couple of comments are in order here. First, it is reported that "marked stress patterns" improve examples like (42c) in Dutch (cf. Zwart 1997: 32, Weerman 1997: 431). Second, not all DOs scramble equally easily across the IOs in German. Thus it seems difficult to scramble an accusative object across another accusative in German, and also to scramble a genitive object across an accusative (cf. Czepluch 1990: 176, de Hoop 1992):

- (45) a. ... dass der Lehrer nicht die Schüler diese Sprache (Ge)
 that the teacher not the students-Acc this language-Acc
 lehrt.
 teaches
 "... that the teacher doesn't teach the students this language."
- b. ??... dass der Lehrer **diese Sprache_i** nicht die Schüler t_i lehrt.
- c. Sie hat wahrscheinlich einen Angestellten des Diebstahls
 she has probably a staff-member-Acc the theft-Gen
 bezichtigt.
 accused-of
 "She has probably accused a staff member of the theft."
- d. ??Sie hat **des Diebstahls_i** wahrscheinlich einen Angestellten t_i
 bezichtigt.

These details aside, it seems clear that there is some difference here between Dutch (and Modern Frisian) on the one hand and German and Yiddish on the other. Weerman (1997) wants to relate it to the loss of morphological case in Dutch. While the Yiddish facts do not refute this hypothesis, it is clear that case considerations cannot be the whole story about possible orderings of IOs and DOs. This is so because (clearly overtly case marked) DOs cannot shift across IOs in Icelandic, as shown by Collins and Thráinsson (1996). Here we get the following possibilities:²⁰

- (46) a. *Ég skilaði ekki manningum bókinni.* (Ic)
 I returned not man-the-Dat book-the-Acc
 b. *Ég skilaði **manninum**_i ekki t_i bókinni.*
 c. *Ég skilaði **manninum**_i **bókinni**_j ekki t_i t_j
 "I didn't return the book to the man."
 d. **Ég skilaði **bókinni**_j ekki manningum t_j**

Similar facts are found in Swedish pronominal OS (cf. Collins and Thráinsson 1996: 421, Holmberg 1991b: 145):

- (47) a. *?Jag gav slutligen Sara den.* (Sw)
 I gave finally Sara it
 "I finally gave it to Sara."
 b. **Jag gav **den**_j slutligen Sara t_j*
 c. *Jag gav **henne**_i **den**_j slutligen t_i t_j*
 I gave her it finally
 "I finally gave it to her."

Here the crucial example is (47b), which shows that a pronominal DO cannot shift over an in situ IO, although both objects can move if both are pronouns, as shown in (47c).

Within a theory which assumes movement, it seems natural to search for an explanation of the crosslinguistic differences observed so far by studying the alleged movements more closely, both their type and the possible landing sites of the movements. The next section gives an overview of that kind of research.

2.2 *Landing sites and movement types*

2.2.1 *Clause-boundedness and landing sites*

Studies of OS and Scrambling have made interesting contributions to the general theory of movement types and landing sites. Thus one of the standard claims about Scandinavian OS and GD Scrambling is that they are "clause bounded." In movement theory terms, this means that the rules in question cannot move constituents out of clauses, in contrast with Topicalization, for instance:

- (48) a. *María telur ekki [að Harald vanti peninga]*
 Mary(N) believes not that Harold-Acc needs money-Acc
 "Mary doesn't believe that Harold needs money."
 b. **María telur **Harald**_i ekki [að t_i vanti peninga]*
 c. ***Harald**_i telur María ekki [að t_i vanti peninga]*
 "Harold, Mary doesn't believe needs money."

Here we see that the embedded (accusative) subject *Harald*²¹ cannot be shifted out of the embedded clause and across the matrix negation *ekki* "not," although

it can be topicalized out of such a clause and moved to matrix-initial position, as shown in (48c). Since (48c) is good, the ungrammaticality of (48b) cannot be attributed to anything like an Icelandic equivalent of the “*that*-trace filter” of Chomsky and Lasnik (1977), as Icelandic does not in general show *that*-trace effects (cf. e.g. Maling and Zaenen 1978).

Ross (1967a) had already maintained that German Scrambling is clause bounded, as opposed to Topicalization. The phenomenon can be illustrated by examples like the following (see e.g. Grewendorf and Sternefeld 1990a: 9; cf. also Grewendorf and Sabel 1994: 264, Müller and Sternefeld 1994: 338–9, Corver and Riemsdijk 1994a: 4–5, and references cited there):

- (49) a. Ich glaube nicht [dass jeder den Max kennt]
 I believe not that everybody the Max knows
 “I don’t believe that everybody-Nom knows Max-Acc.”
 b. *Ich glaube **den Max**_i nicht [dass jeder t_i kennt]
 c. **Den Max**_i glaube ich nicht dass jeder t_i kennt
 “Max, I don’t believe that everybody knows.”

The object cannot be scrambled out of the finite complement clause in (49), as (49b) shows, although it can be topicalized out of it, as illustrated by (49c). The ungrammaticality of (49b) cannot be due to some kind of a restriction on the Scrambling of objects across subjects since such a restriction does not hold in German in general, as we have seen.

Clause-boundedness does not seem to be a general property of Scrambling (or Scrambling-like processes), however. Thus it has been reported that non-clause-bounded Scrambling is found in languages like Hindi, Japanese, Persian, and Russian, for instance (see e.g. Corver and Riemsdijk 1994a: 4–5, Kitahara 1997: 80ff, with references). In addition, it seems that arguments can be shifted or scrambled out of certain types of non-finite complements in Scandinavian, German, Dutch, and Yiddish. First, the so-called Accusative-with-Infinitive (or Subject-to-Object Raising or Exceptional Case Marking (ECM)) constructions in Scandinavian share some properties with Scandinavian OS (see Holmberg 1986: 220ff), which suggests that they involve movement of the accusative subject out of the infinitival clause (see also Thráinsson 1979). Second, arguments can be scrambled out of some non-finite complements in German, for instance (cf. e.g. Fanselow 1990: 199ff, Grewendorf and Sabel 1994: 264). These constructions will not be discussed further here, but the degree of clause-boundedness of movement rules is clearly among the properties that should be explained in terms of the nature of the rule, such as the possible “landing sites.” We now turn to issues of that kind.²²

2.2.2 *Adjunctions and adjunction sites*

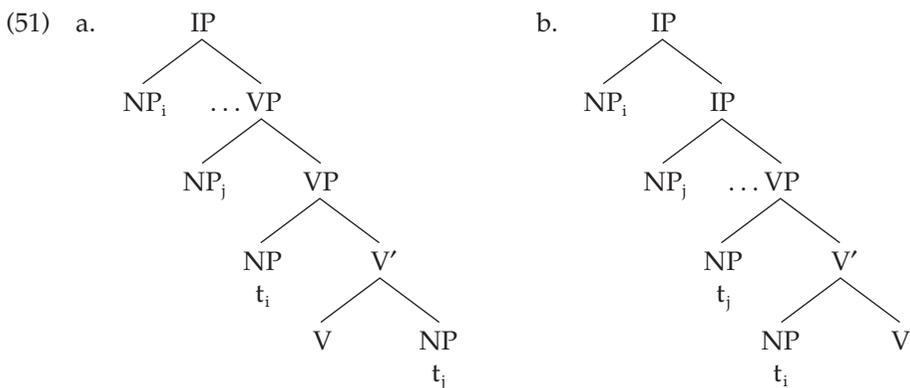
Some of the movement analyses of Scandinavian OS and probably most movement analyses of Scrambling argue (or at least assume) that the movement rules involved adjoin the moved constituents to some maximal projection,

such as VP or IP, for instance. Now we have seen that there appear to be some crosslinguistic differences with respect to the “locality” of the movement rules (cf. sections 1.1.3 and 1.2.3 above). Hence it has been suggested that there is an adjunction site parameter for Scrambling positions such that some languages could allow adjunction to VP only while others could also allow adjunction to IP and even CP (cf. Müller and Sternefeld 1994: 342, also Vikner 1994b: 487ff). But unless the value of this adjunction site parameter is related to something else in the grammar, suggesting this parameter only amounts to stating a descriptive generalization in specific terms.

Without going into the argumentation, we can summarize some recent proposals for the adjunction sites involved in Scandinavian OS and DG Scrambling as in (50):

- (50) a. Scandinavian OS may be adjunction to VP (or possibly some “low” functional projection like ActP), cf. e.g. Vikner (1994b), Holmberg and Platzack (1995: 142ff).
 b. German Scrambling may be adjunction to VP or IP (see e.g. Grewendorf and Sternefeld 1990a: 10ff, see also Müller and Sternefeld 1994: 342) or possibly just to IP (see e.g. Fanselow 1990: 116ff, cf. also Czepluch 1990: 172ff).
 c. Dutch Scrambling may be adjunction to VP (cf. the “traditional” analysis outlined in Zwart 1997: 50 and the references he cites).

This could give partial (and simplified) structures like (51a, b) for Icelandic and German, for instance, when an object has been scrambled (assuming the VP-Internal Subject Hypothesis and the kind of constituent structure adopted by most of the studies under consideration):



Here the displaced object-NP has been adjoined to the VP in Icelandic but to the IP in German.

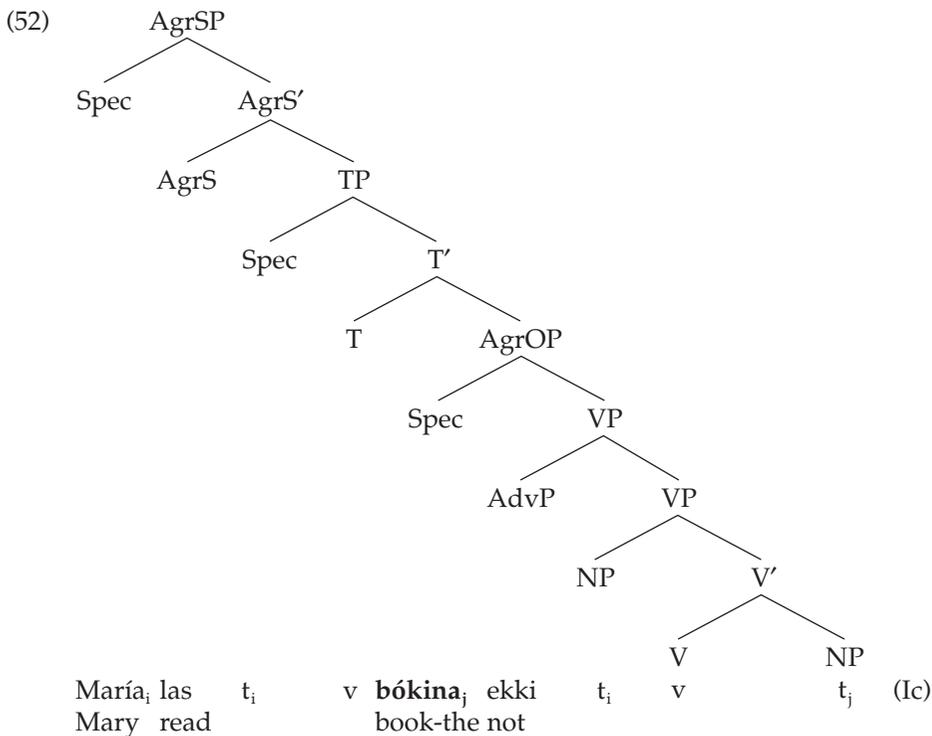
Now if movement involving adjunction has special properties, then these adjunction theories are making claims not only about the possible landing

sites involved but also about the nature of the movement. Similarly, the alternative proposals that Scandinavian OS and GD Scrambling may involve substitution into the specifier position of some functional projection rather than adjunction should make different predictions about the nature of the rules. We will now consider such proposals.

2.2.3 *Substitutions and specifier positions*

Before Pollock's influential paper on the structure of the IP (1989), linguists standardly assumed two functional projections above the VP, namely CP and IP. The specifier position of the former was (and is) typically thought to be the landing site for Topicalization and *wh*-movement, whereas Spec-IP was considered the canonical subject position. Since GD Scrambling and Scandinavian OS seemed to move elements to positions different from both Spec-CP and Spec-IP (cf. sections 1.1.3 and 1.2.3 above), linguists who wanted to argue for movement analyses of these constructions were forced to some sort of adjunction analysis, as just outlined. But with the "explosion" of the IP after Pollock's (1989) and especially Chomsky's (1991) papers, new possibilities for substitution analyses opened up.

The earliest attempts to analyze Scrambling and OS as substitution into the specifier position of some functional projection include Mahajan (1990), Wyngaerd (1989), Déprez (1989, see also Déprez 1994) and Moltmann (1990). Mahajan was mainly concerned with Scrambling in Hindi, but also wanted to account for crosslinguistic differences with reference to the properties of object movement (cf. section 2.2.4 below). Wyngaerd mainly discusses Dutch Scrambling, despite the name of his paper. Déprez discusses both GD Scrambling and Scandinavian OS, while Moltmann concentrated on German Scrambling. More recently Zwart (1997) has argued for a substitution analysis of Dutch Scrambling, but it is probably fair to say that adjunction analyses of GD Scrambling have been more common. But a number of linguists have argued for substitution analyses of Icelandic OS, such as Jonas and Bobaljik (1993), Jonas (1994, 1996b), Bobaljik (1995), Thráinsson (1996), Ferguson (1996), Collins and Thráinsson (1996), and Bobaljik and Thráinsson (1998). Details aside, the diagram in (52) gives an idea of the "substitution" operation typically assumed in studies of this kind:



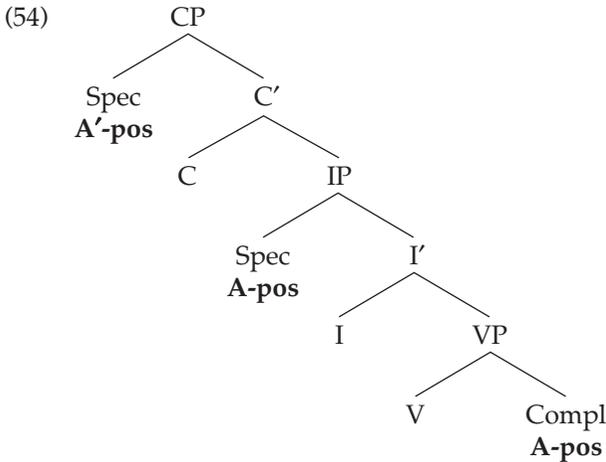
The analyses of Icelandic OS as movement to the specifier position of a functional projection usually argue that the movement is to Spec-AgrOP, as indicated in (52). Since there is some evidence that the landing site for GD Scrambling can be higher than that for Scandinavian OS (cf. sections 1.1.3 and 1.2.3 above), Déprez originally assumed (1989: 283) that German Scrambling can move constituents to different specifier positions above the VP. But how could one distinguish between adjunction and substitution? One potentially relevant theoretical notion is discussed in 2.2.4.

2.2.4 *A- or A-bar-movement?*

In studies written in the Government Binding (GB) framework, one of the most heavily debated theoretical issues concerning OS and (especially) Scrambling is whether the movement involved is “A-movement” (like e.g. Passive) or “A-bar-movement” (like e.g. Topicalization). Here the basic question is whether the landing site of the movement has the properties of an argument position (A-position) or a non-argument position (A-bar, \bar{A} , A’) in the sense of Chomsky (1981). Chomsky’s original definition of an argument position was as follows (cf. Chomsky 1981: 47):

(53) An A-position is a potential theta-role position.

This means that an A-position is one that *can* be assigned a thematic role, although it need not have one in all instances. Thus the canonical subject and object positions will be A-positions.²³ For Chomsky (1981), then, the main A-positions and A'-positions would be the ones shown in (54):



The basic idea behind this is that different structural positions have different properties. Some have the properties of an A-position, others do not. Obviously, the question of whether the landing site of OS and Scrambling is an A- or A'-position ties in with the question discussed in the preceding section: is the landing site some specifier position (like SpecAgrOP) or is it an adjoined position? Thus it has sometimes been assumed that no adjoined positions are A-positions (cf. below) whereas some specifier positions are, as we have seen. This is one of the reasons why linguists have tried to find out whether the landing site of OS and Scrambling has A- or A'-position properties. A huge body of literature deals with questions of this sort, especially with reference to Scrambling in German, Dutch, Hindi, Japanese, and other languages (see e.g. the overviews in Grewendorf and Sternefeld 1990a: 6ff, Corver and van Riemsdijk 1994a: 5ff, Haider et al. 1995: 15–16, Webelhuth 1995a: 64–9, with references), but also in connection with pronominal and non-pronominal OS in Scandinavian (see e.g. Vikner 1994b: 488–91, Holmberg and Platzack 1995: 145ff). This research has shed light not only on the nature of OS and Scrambling constructions but also more generally on the nature of movement processes and properties of different structural positions.

The standard strategy is to compare OS and Scrambling to typical A- and A'-movements (e.g. Passive vs. Topicalization) and ask to what extent they are similar to or different from these. Some of the tests or questions asked have been formulated in terms of properties of the moved constituent, others in terms of properties of the resulting construction or even the movement process itself:

- (55) a. Is the movement **clause bounded**?
 b. Does the moved constituent license a **parasitic gap**?
 c. Does the movement influence **binding relations**?
 d. Does the movement induce **weak crossover** violations?
 e. Does the movement have something to do with **case** (or Case)?

We have already discussed the clause-boundedness issue in section 2.2.1. It is mentioned here because it is standardly believed that A-movement rules (such as Passive) are typically clause bounded whereas A'-movement rules are not. As we have seen, OS is basically clause bounded whereas the clause-boundedness of Scrambling seems to vary somewhat from language to language. The argument would be, however, that to the extent OS or Scrambling is clause bounded, it is not a typical A'-movement rule.

Licensing of "parasitic gaps" is probably the most hotly debated issue in connection with OS and (especially) Scrambling. As originally shown by Engdahl (cf. Engdahl 1983), a parasitic gap is a gap which is dependent on the presence of another gap. A classic illustration is given in (56) (where the relevant gap is indicated by *e*):

- (56) a. Did Harold sell the book_{*i*} without reading it_{*i*}/**e*_{*i*}?
 b. Which book_{*i*} did Harold sell t_{*i*} without reading it_{*i*}/*e*_{*i*}?

The gap in the object position of *reading* is impossible in (56a) but possible in (56b). As indicated, there is another "gap" (or non-overt element) in (56b), namely the trace of the *wh*-moved NP *which book*. Thus it seems that the gap in the object position of *reading* is dependent on the preceding one and we can say that they are both licensed by (and coindexed with) the *wh*-moved NP. This indicates, then, that *wh*-moved constituents license parasitic gaps. Examples like (57) suggest that passivized elements do not:

- (57) The book_{*i*} was sold t_{*i*} without reading it/**e*.

More generally, it is standardly believed that A-moved constituents do not license parasitic gaps whereas A'-moved constituents do. Hence licensing of parasitic gaps is taken to be an important diagnostic to distinguish between A- and A'-movement.

Turning now to OS and (GD) Scrambling, it has frequently been argued that the former does not license parasitic gaps whereas the latter does (cf. Vikner 1994: 490–1, Holmberg and Platzack 1995: 146, Webelhuth 1989: 356, Zwart 1997: 50, with references):

- (58) a. Pétur bauð **Mariú**_{*i*} aldrei t_{*i*} án þess að sækja hana_{*i*}/**e*_{*i*} (Ic)
 Peter invited Mary not without it to fetch her
 "Peter never invited Mary without picking her up."

- b. Peter inviterede **dem_i** ikke t_i uden at kende dem_i/*e_i på (Da)
 Peter invited them not without to know them in
 forhånd.
 advance
 "Peter didn't invite them without knowing them beforehand."
- c. ... weil er **den Patienten_i** ohne vorher ihn_i?/e_i (Ge)
 because he the patient without first him
 zu untersuchen t_i operierte.
 to examine operated
 "... because he operated on the patient without first examining him."
- d. ... dat Jan **Marie_i** zonder ze_i/e_i aan te kijken t_i gekust (Du)
 that John Mary without her on to look kissed
 heeft.
 has
 "... that John kissed Mary without looking at her."

Some linguists have interpreted this difference as suggesting that OS may be A-movement but (GD) Scrambling A'-movement. But this is not uncontroversial. One problem is that the parasitic gap examples involving Scrambling tend to be less than perfect (cf. the ? on the German example above). It has also been argued that it is sometimes possible for elements in A-positions to license parasitic gaps, e.g. the passive subject in the following Dutch example (cf. de Hoop 1992: 140):

- (59) Ik weet dat **deze boeken_i** gisteren door Peter zonder e_i te lezen
 I know that these books yesterday by Peter without to read
 t_i werden teruggebracht
 were taken-back
 "I know that these books were taken back by Peter without (his) reading (them)."

The arguments based on binding relations are even more problematic than those having to do with parasitic gaps. The relevant question about "influencing" binding relations is sometimes phrased as in (60):

- (60) Do OS and Scrambling create new binding relations or destroy old ones?

This is a somewhat misleading formulation (under standard assumptions all movements of NPs, for instance, "create new binding relations," namely those between the moved NP and its trace) but it is helpful in explaining what is involved. As is well known, standard Binding Theory maintains that anaphors have to be bound and binding obtains between a c-commanding antecedent and a coindexed anaphor. Thus an antecedent in subject position may bind an anaphor (like the reflexive pronoun in English) in object position but not vice versa:

- (61) a. Mary_i has always liked herself_i.
 b. *Herself_i has always liked Mary_i.

The binding relations in (61a) are not destroyed by topicalizing *herself* and thus changing the precede and c-command relations, nor are examples like (61b) improved by topicalizing *Mary* and thus make it precede and c-command *herself*:

- (62) a. Herself_i Mary has always liked t_i
 b. *Mary_i, herself_i has always liked t_i

Thus it is standardly believed that A'-movements like Topicalization can neither "create new binding relationships" in the intended sense nor destroy old ones. Arguably, examples like the following show that A-movements like Raising are different in this respect:

- (63) a. [e] seem to each other_i [they_i to be nice]
 b. They_i seem to each other_i [t_i to be nice]

Here (63a) is the standardly assumed underlying structure for a raising construction like (63b). In (63a) the c-command relations are obviously not appropriate for the binding of *each other* by *they*, which is the subject of the embedded infinitival complement of *seem*. But raising *they* to the matrix subject position of *seem* apparently creates a new binding relationship, since (63b) is good.

With this in mind, it should in principle be possible to test whether OS and Scrambling have A-movement properties or A'-movement properties with respect to binding. Unfortunately, this is not as simple as it might seem. First, we have seen (in sections 1.1.3 and 1.2.3 above) that Scandinavian OS and Dutch Scrambling do not shift objects across indirect objects or across subjects. This makes it difficult to test whether the relevant movement would create new binding relations or destroy old ones in these languages. Second, there are some semantic restrictions on the binders of reflexives and reciprocals. Consider the following examples from Icelandic:

- (64) a. Ég taldi **Harald**_i vera latan, honum_i/*sér_i til mikillar undrunar.
 I believed Harold be lazy, him/self to great surprise
 "I believed Harold to be lazy, to his great surprise."
 b. **Haraldur**_i var talinn t_i vera latur, ?honum_i/sér_i til mikillar
 Harold was believed be lazy, him/self to great
 undrunar.
 surprise
 "Harold was believed to be lazy, to his great surprise."

As shown here, the object *Harald* in (64a) cannot bind a reflexive in the adverbial (or parenthetical) phrase that follows, whereas the (passive) subject

in (64b) can.²⁴ For this reason, it is not surprising that arguments about the nature of OS and Scrambling based on binding relations tend to be inconclusive. The following are based on examples in Holmberg and Platzack (1995: 148–9):

- (65) a. Ég taldi, þeim_i/*sér_i til undrunar, [Ólaf og Martein]_i (Ic)
 I believed them-Dat/self-Dat to surprise Olaf and Martin
 vera jafngóða.
 be equally-good
 “I believed, to their surprise, Olaf and Martin to be equally good.”
- b. Ég taldi [Ólaf og Martein]_i, þeim_i/*sér_i til undrunar, t_i
 I believed Olaf and Martin them-Dat/self-Dat to surprise
 vera jafngóða.
 be equally-good
 “I believed Olaf and Martin, to their surprise, to be equally good.”
- (66) a. Jag ansåg till deras_i/*sin_i besvikelse [Per och Martin]_i (Sw)
 I believed to their/self’s disappointment Per and Martin
 vara lika bra.
 be equally good
 “I believed, to their disappointment, Per and Martin to be equally good.”
- b. Jag ansåg dem_i till deras_i/*sin_i besvikelse t_i, vara (Sw)
 I believed them to their/self’s disappointment be
 lika bra.
 equally good
 “I believed them, to their disappointment, to be equally good.”

Holmberg and Platzack claim that if OS (which they take to be involved in ECM (Exceptional Case Marking) constructions like these, cf. the discussion in 2.2.1 and n. 22) were A-movement, it should make the shifted object a possible binder for the reflexives in the adverbial (or parenthetical) phrase in the (b) examples above (Holmberg and Platzack also give examples with a reciprocal anaphor). So whereas the parasitic gap test above suggested that Scandinavian OS is A-movement, Holmberg and Platzack (1995) argue that binding facts of the type just shown suggest that it is *not* A-movement, which would seem paradoxical. But this is not a very convincing argument. First, Holmberg and Platzack do in fact show that OS in ECM constructions can influence binding relations. This can be seen from contrasts like the following (cf. Holmberg and Platzack 1995: 148, n. 5):

- (67) a. Han ansåg till Marias_i besvikelse henne_i vara för ung.
 he believed to Mary’s disappointment her be too young
 “To Mary’s disappointment, he believed her to be too young.”
- b. *Han ansåg henne_i till Marias_i besvikelse t vara för ung.

Second, it is well known that the binding of reflexives and reciprocals can be semantically restricted, as pointed out above. Hence one needs to test that the relevant object (or subject of an infinitive in this case) in situ would bind a reflexive or a reciprocal contained in a following parenthetical of this kind, but Holmberg and Platzack do not give such examples.²⁵ Thus it is not clear that any kind of paradox is involved or that the status of OS as an A-movement has been refuted. We will return to this issue in section 2.4.2 below.

The above-mentioned restrictions on Dutch Scrambling (no scrambling of DOs across IOs or subjects) make it difficult to test its interaction with binding principles.²⁶ Relevant examples should be easier to construct in German, since German Scrambling is not subject to the same restrictions. The following are based on examples in Müller and Sternefeld (1994: 351ff):

- (68) a. *... dass ich $sich_i$ den Patienten $_i$ im Spiegel zeigte.
 that I self-Dat the patient-Acc in-the mirror showed
 b. ... dass ich **den Patienten $_i$** *ihm $_i$ /(?) $sich_i$ t_i im Spiegel
 that I the patient-Acc him-Dat/self-Dat in-the mirror
 zeigte.
 showed
 "... that I showed the patient to himself in the mirror."

Here the basic idea would be that the DO in situ in (68a) cannot bind the preceding IO reflexive *sich*, whereas scrambling the DO across the IO makes such binding possible (and also rules out the personal pronoun *ihm* in the IO position), as shown in (68b). This would be unexpected if German Scrambling were an A'-movement. But Müller and Sternefeld argue (based on facts from Grewendorf 1988: 58) that the argument is suspect because the IO in sentences of this type does not seem to be able to bind a following DO anaphor but requires a personal pronoun instead:

- (69) ... dass ich dem Patienten $_i$ * $sich_i$ /(?) ihn_i im Spiegel zeigte.
 that I the patient-Dat self-Acc/him-Acc in-the mirror showed

A possible interpretation of facts of this sort would be that a DO-IO order is base generated here (which in turn could explain why German appears to be different from Dutch in allowing Scrambling of DO across IO, cf. section 1.2.3 above).

We can conclude, then, that binding facts do not provide very clear arguments about the nature of OS and GD Scrambling.

Another frequently used argument about the nature of OS and Scrambling, also crucially involving coreference (or coindexation), has to do with so-called weak crossover effects. The basis for this argument is the ungrammaticality of sentences like (70b):

- (70) a. [His $_i$ mother] loves John $_i$.
 b. *Who $_i$ does [his $_i$ mother] love t_i ?

The claim here is that moving an R-expression across a non-c-commanding coindexed pronoun (*his* in (70b)) leads to the observed ungrammaticality (see, e.g., the overview in Huang 1995: 138ff). Now if all and only A'-movement rules give rise to this kind of ungrammaticality, one could use it as a diagnostic for the nature of OS and Scrambling.

Once again, however, the facts are not very straightforward. Since Scandinavian OS and Dutch Scrambling do not shift a DO across an IO or across a subject, it is quite difficult to construct relevant examples. Holmberg and Platzack (1995: 147) give the following examples and judgments, attempting to contrast *wh*-movement and pronominal OS in Swedish:

- (71) a. ?Vem_i tilldelade dom i [hans_i frånvaro] t_i priset?
 who awarded they in his absence prize-the
 b. Dom tilldelade **honom**_i i [hans_i frånvaro] t_i priset.
 they awarded him in his absence prize-the
 "They awarded him the prize in his absence."

According to Holmberg and Platzack, (71a) is "marginal" but (71b) "perfectly grammatical." The problem is, however, that the base position of the (parenthetical) PP *i hans frånvaro* is perhaps not crystal clear. Hence it is not obvious that any OS has taken place in (71b).²⁷

Examples like the following (based on examples in Zwart 1997: 65) show a somewhat similar contrast between *wh*-movement and Scrambling in Dutch, assuming that it is clear that the object (*iederem*) has been scrambled in (72b):

- (72) a. ?Wie_i hebben [zijn_i ouders] t_i onterfd? (Du)
 who have his parents disinherited
 b. Jan heeft **iedereem**_i op [hun_i voorhoofd] t_i gekust.
 Jan has everybody on their forehead kissed
 "Jan kissed everybody on their forehead."

Again, it should be easier to construct the relevant examples in German, due to the more relaxed restrictions on German Scrambling. Thus examples like (73), where a DO has been scrambled across a subject, seem to indicate that German Scrambling does not give rise to weak crossover effects (cf. Müller and Sternefeld 1994: 368):

- (73) ... dass **jeden**_i [seine_i Mutter] t_i mag. (Ge)
 that everybody-Acc his mother-Nom likes

Now this would seem surprising if German Scrambling were an A'-movement. Consequently, weak crossover facts have been used to argue that German Scrambling may be A-movement (see e.g. the discussion in Lee and Santorini 1994: 260ff and references cited there). Müller and Sternefeld (1994: 368ff) argue, however, that weak crossover facts cannot tell us much about the nature of German Scrambling since *wh*-movement does not induce weak

crossover effects either (see also Lasnik and Stowell 1991 on non-quantificational A'-movement not inducing weak crossover effects):

- (74) Wen_i hat [seine_i Mutter] nicht t_i gemocht? (Ge)
 whom-Acc has his mother-Nom not liked

Once again, therefore, the picture is not crystal clear.

The issue of the relationship between OS and Scrambling with case (or abstract Case) is of a different nature and simpler to deal with. A standard GB analysis of A-movement phenomena like Passive and Raising maintains that they are triggered by the need of the relevant NPs to be assigned Case (or to have their Case checked, if one assumes a checking account of the Minimalist type, cf. e.g. Chomsky 1993, 1995b). A'-movements like Topicalization or *wh*-movement, on the other hand, do not seem to have anything to do with Case (or case). This could be the reason why Passive and Raising only apply to NPs whereas Topicalization also applies to PPs, for instance. Now if OS and Scrambling only applied to NPs (or DPs), it would make them similar to the A-movement rules in this respect and different from A'-movement. As shown in sections 1.1.2 and 1.2.2 above, Scandinavian OS only applies to NPs whereas GD Scrambling also applies to PPs. Hence it is clear that GD Scrambling cannot have anything to do with Case, although Scandinavian OS could. We will return to this issue in section 2.3 (cf. especially sections 2.3.1 and 2.3.3).

The picture that has emerged in this section is not very clear. OS and Scrambling do not seem to fall unambiguously into the category of A-movement rules or that of A'-movement rules. Arguably, Scandinavian OS has more in common with typical A-movement rules than GD Scrambling does, but Dutch Scrambling appears to be more like A-movement rules than German Scrambling is. Yet there are linguists who have argued that German Scrambling is an A-movement rule (cf. Corver and van Riemsdijk 1994b: 5ff). How can this be explained?

First, it is possible that the so-called OS and Scrambling rules vary from one language to another and hence it is useless to try to classify them uniformly as A-movement or A'-movement rules. We have already seen that there seems to be some crosslinguistic difference with reference to the possible landing sites of OS and Scrambling (cf. the summary in 1.3) and it has in fact been argued that the alleged A-/A'-difference depends on the landing sites rather than the elements moved (operators or non-operators, for instance, cf. Déprez 1994). A variant of this kind of account is to say, as Lee and Santorini (1994) do, for instance, that the different properties of Scrambling depend on how local the Scrambling operation is, long distance Scrambling (across subject) being more A'-like than local Scrambling. Related accounts have been proposed by Mahajan (1994b) and Merchant (1996), and Fanselow (1990) has also argued that the A-/A'-status of Scrambling varies crosslinguistically.

But we are not only dealing with crosslinguistic variation here. Webelhuth (1989) was one of the first to discover that Scrambling may exhibit paradoxical

A-/A'-properties within a given language (in his case German – Lee and Santorini (1994) try to account for his so-called paradox). Seemingly paradoxical properties of Scrambling phenomena have also been reported for other languages, e.g. Hindi (Mahajan 1990), Korean (see e.g. the overview in Kim 1996), etc. This has made several linguists suspicious of the A-/A'-dichotomy itself. Interestingly enough, recent development in syntactic theory has made it difficult to maintain in its original version, although most linguists would agree that there is something intuitively correct about the distinction. Since we cannot go into any details about the nature and validity of this distinction here, a few comments will have to suffice.

First, consider the original definition of A-position given in Chomsky 1981, repeated from above:

(53) An A-position is a potential theta-role position.

The qualification “potential” is already somewhat suspicious here. More importantly, recall that the “canonical subject position” SpecIP was assumed to be an A-position (see the diagram in (54) above). But if one assumes the widely accepted “VP-internal subject hypothesis” (see e.g. McCloskey 1997, with references), then the subject is generated in the specifier position of VP and (presumably) assigned a thematic role there. This means that SpecIP (or its descendants SpecTP and SpecAgrSP) will not be “assigned a thematic role” any more and thus not be A-positions according to the original definition. This makes it even harder than before to come up with a coherent definition of the concept of an A- vs. A'-position (see also Epstein et al. 1996: 37n). Chomsky (1993: 27–9) has suggested that the notion of L-relatedness (relation to morphological features of lexical items, such as tense, agreement) can be used to define the relevant distinction between structural positions. This would mean, for instance, that the specifier positions of TP (tense phrase) and AgrP (agreement phrase) would be L-related positions but the specifier position of CP would not be (assuming that C does not check morphological features of lexical categories). The question then arises what the status would be of a position adjoined to the projection of a head checking a lexical feature. Chomsky refers to such positions as “broadly L-related” and says that their status has been “debated, particularly in the theory of scrambling” (1993: 29). But if OS is movement to SpecAgrOP, then that should be an L-related position (or “narrowly L-related,” to be exact). The question still remains whether this distinction is relevant in explaining some of the observed differences between OS and Scrambling. We will have reason to return to it in the following section, where we discuss an issue where the A-/A'- or L-related/non-L-related distinction becomes relevant again.

2.2.5 Minimality violations?

A major task in syntactic movement theory has always been to try to determine how movement is restricted: which elements can (or cannot) move where

and why? One observation that has frequently been made can be informally stated as follows:

- (75) Movement to a specific kind of landing site does not skip landing sites of the same type.

The notion “same type” here is standardly taken to include head positions for heads, A-positions for A-movement, and A'-positions for A'-movement, so this issue is related to the distinction discussed in the preceding section. Travis's Head Movement Constraint (1984), Rizzi's Relativized Minimality (1990), and recent attempts to define “Shortest Move” (see e.g. Chomsky 1993, Jonas and Bobaljik 1993, Ferguson 1996, Zwart 1996, with references) are all ways of accounting for this phenomenon.

As shown above, verbs that only allow one order of IO and DO in Icelandic (non-inversion verbs, cf. Collins and Thráinsson 1996, cf. also n. 20 above) only allow the first object to passivize:

- (76) a. *Sjórinn svipti konuna eiginmanninum.* (Ic)
 ocean-the deprived woman-the-Acc husband-the-Dat
 “The ocean deprived the woman of her husband.”
 b. **Konan_i** var svipt *t_i* eiginmanninum.
 woman-the-Nom was deprived husband-the-Dat
 “The woman was deprived of her husband.”
 c. ***Eiginmanninum_j** var svipt *konan t_j*
 husband-the-Dat was deprived woman-the-Nom

Thus we see that the second object of *svipta* cannot be passivized “over” the first object, and it cannot be moved across it by OS either, as we have already seen:

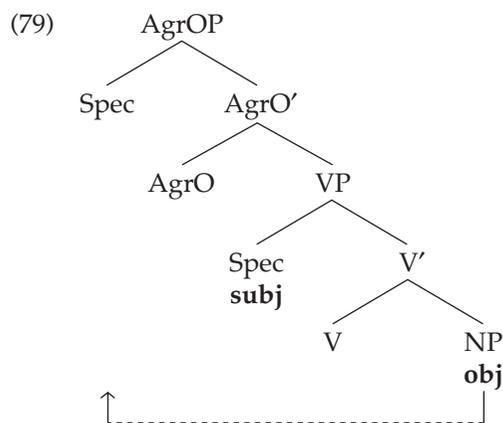
- (77) a. *Sjórinn svipti ekki konuna eiginmanninum.*
 ocean-the deprived not woman-the-Acc husband-the-Dat
 “The ocean did not deprive the woman of her husband.”
 b. *Sjórinn svipti konuna_i ekki t_i eiginmanninum.*
 c. **Sjórinn svipti eiginmanninum_j ekki konuna t_j*

It seems reasonable to assume that these restrictions on Passive and OS are related and it has been argued that they are “Minimality” phenomena in some sense: the object which is seeking an appropriate landing site cannot cross another object position. A similar account could be given of the fact that Dutch DOs do not seem to scramble over IOs (see the discussion in section 2.1.4 above). Now note, however, that DOs can freely topicalize over IOs, e.g. in Icelandic:

- (78) **Eiginmanninum_i** svipti *sjórinn konuna t_i*
 husband-the deprived ocean-the-Nom woman-the-Acc
 “The husband, the ocean deprived the woman (of).”

Thus the intervening object position apparently does not count as a position of “the same type” as the landing site of Topicalization whereas it seems to count as a position of the same type as the landing site of Passive and OS. But here the difference between Dutch Scrambling on the one hand and German and Yiddish Scrambling on the other becomes interesting, since DOs freely scramble over IOs and subjects in German and Yiddish but not in Dutch (cf. e.g. Diesing 1997: 404–7, with references). Should that be taken as evidence that OS and Dutch Scrambling are A-movements whereas German and Yiddish Scrambling have A'-movement properties? And what about the fact that objects must always shift and scramble over a subject position if subjects are base generated in SpecVP, as the VP-internal subject hypothesis maintains?

This last point has been an issue of considerable debate in the recent literature, e.g. in connection with OS in Icelandic. Assume that Icelandic OS is movement to SpecAgrOP, as suggested by Déprez (1989), Jonas and Bobaljik (1993), and later studies. That would give a partial derivation like this:

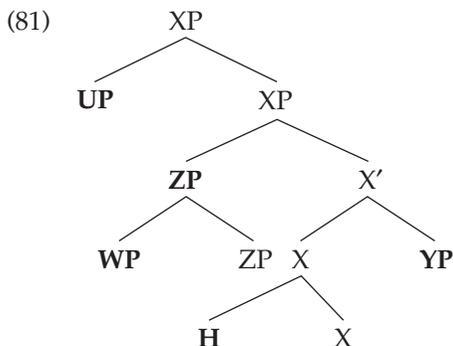


As (79) indicates, OS to SpecAgrOP would move the object across the subject position in SpecVP. In the light of the preceding discussion, this might seem surprising, and it has in fact been used as argument against the claim that Scandinavian OS could be A-movement (cf. Holmberg and Platzack 1995: 147). Others have tried to find a special explanation for this, while still assuming that OS is A-movement. Thus Vikner (1994b: 498) suggests that the base generated subject position does not count as an “intervener” because it is a theta-marked position. Unless some additional evidence is given for such an account, it looks like an ad-hoc stipulation.

An interesting account derives from Chomsky’s (1993: 17–18) notion of shortest move and equidistance. Chomsky defined equidistance like this:

(80) If α , β are in the same minimal domain, they are equidistant from γ .

The minimal domain of a head X includes its complement, its specifier, and also whatever is adjoined to the head, to its specifier, or to its maximal projection (cf. Chomsky 1993: 11–12), namely everything that is in bold type in (81):



The “Shortest Move” version of the Minimality constraint basically maintains that the shortest move possible will be selected (for reasons of economy).

Now if OS moves an element across SpecVP to SpecAgrOP, as illustrated in (79) above, then the question is why that does not count as a violation of Shortest Move, since moving the object to SpecVP would seem to be a shorter move. Here Chomsky argues that if the V-head raises to Agr, the minimal domain of V is extended to include AgrOP (see Chomsky 1993: 18). This will mean that SpecVP and SpecAgrOP will be equidistant from the object position inVP. Thus moving the object across the subject in SpecVP to SpecAgrOP will no longer be a violation of Shortest Move, since this movement is technically not “longer” than the movement to SpecVP would be. Chomsky argues that this is exactly what is found in Scandinavian OS because here OS is dependent on movement of the verb out of the VP (cf. section 1.1.2 above). This approach to Icelandic OS – and the account it implies of Holmberg’s Generalization – was then further developed by Jonas and Bobaljik (1993) and has figured prominently in much recent work on OS in Icelandic (e.g. Bobaljik 1995, Bobaljik and Jonas 1996, Jonas 1996a, 1996b, Thráinsson 1996, Ferguson 1996, Collins and Thráinsson 1996, Kitahara 1997: 43, Bobaljik and Thráinsson 1998; see Déprez 1994: 133ff for a somewhat different account).

As seen above, GD Scrambling is not dependent on verb movement the way Scandinavian OS seems to be. This could be explained if Scrambling were of a different nature, e.g. A’-movement (as Jonas and Bobaljik 1993: 68 assume, for instance) or triggered by the need to check (or attract) a different kind of feature (some sort of an “operator” feature as opposed to an “argument” feature, cf. Kitahara 1997: 78).²⁸ As shown above, there is some evidence for this, especially as far as German Scrambling is concerned. The evidence regarding Dutch Scrambling is weaker (except for the “focus” Scrambling in Dutch which can shift objects around subjects, cf. Zwart 1997: 31). Another possibility would be to say that Holmberg’s Generalization is indeed also valid for Dutch and German, although we do not see the movement involved since it moves formal features only. This has recently been suggested by Zwart (1997: 242–3), but it is rather difficult to test that kind of analysis empirically.

The equidistance account of Holmberg's Generalization does not solve all theoretical and empirical problems concerning OS, Scrambling, and verb movement, however. First, it has nothing interesting to say about the apparent optionality of full NP OS in Icelandic (see section 2.4.1 below). Second, it does not explain why OS in Icelandic applies to both full NP objects and pronominal objects, whereas MSc OS only applies to pronominal objects but yet seems to be just as dependent on verb movement as OS in Icelandic. We will leave these issues aside for the moment and next consider the possible involvement of morphology in OS and Scrambling.

2.3 Morphological aspects

2.3.1 Abstract Case and overt morphological case

Scandinavian OS only applies to nominal objects of verbs whereas GD Scrambling also applies to PPs, as we have seen. This makes it tempting to try to relate OS in some way to the property that characterizes verbal objects: they are in some sense assigned case (and/or Case) by the verb. Relating GD Scrambling to Case does not seem very promising *a priori* (see, however, section 2.3.3). But trying to relate OS to case (or Case) raises questions of empirical and theoretical interest.

In his ground-breaking dissertation, Holmberg (1986) did in fact attempt to relate it to abstract Case and morphological case. An important aspect of this is his attempt to explain the fact that OS applies only to pronominal objects in MSc but also to full NPs in Icelandic. To explain this, he argues that the shifted object would not be assigned Case by any Case assigner. Hence it should violate the Case Filter (which states that all NPs must have Case). The reason no Icelandic NPs violate the Case Filter when they are moved to a non-Case position by OS is supposedly that they do have morphological case. MSc pronominal objects also have morphological case and hence can undergo OS and move to a non-Case position. But since MSc nouns do not have morphological case they cannot undergo OS (cf. Holmberg 1986: 208).

In this connection Holmberg also refers to the "well-known generalization that languages with rich case morphology have 'free word order'" (1986: 214). Similarly, Neeleman (1994: 416ff) wants to relate the fact that German DOs have a greater freedom of occurrence than their Dutch counterparts (they scramble over IOs and subjects, cf. above) to the differences in case distinctions (Dutch nouns do not show morphological case distinctions, German nouns do). But despite the common belief that there is some relationship between rich morphology and freedom of word order, it has proven to be difficult to capture in any formal way.²⁹ We return to this issue in section 2.3.3 below.

There are certain empirical problems with this approach to OS. Holmberg's original idea is that shifted objects will not be assigned any Case (such as Nom by I^o) and that will not cause any problem as long as they are marked by a morphological object case (in Icelandic Acc, Dat, or Gen, cf. Holmberg 1986:

215–16). A similar idea has been expressed by Holmberg and Platzack (1995: 168, *passim*), who add that “nominative Case on a shifted object cannot be licensed (or structurally checked)” but if “the shifted object has a non-nominative m[orphological]-case, it will not be assigned nominative, and can be licensed structurally.” One problem with this is that Icelandic has nominative objects (cf. e.g. Zaenen et al. 1985, Yip et al. 1987, Sigurðsson 1989) and these can undergo OS just as easily as any other objects (see also Thráinsson 1997: 507):

- (82) a. Mér líka ekki þessar bækur.
 me-Dat like not these books
 b. Mér líka þessar bækur_i ekki t_i
 me like these books not
 “I don’t like these books.”

Second, as Vikner (1994b: 502) and others have pointed out, morphological case marking on nouns (or full NPs) does not seem to be a sufficient condition for full NP OS, since Faroese has rich case inflection of nouns (and adjectives) but only pronominal OS. Holmberg and Platzack (1995: 173ff) attempt to account for this by claiming that morphological case in Faroese is of a weaker type than morphological case in Icelandic and thus “does not suffice to provide a DP with inherent Case.” While there are some differences in the behavior of morphological case in Icelandic and Faroese (cf. e.g. Petersen et al. 1998, Thráinsson 1999, Smith 1994), it is not clear that morphological case in Faroese is “weak” in the sense Holmberg and Platzack (1995) need it to be.³⁰

While Holmberg and Platzack (1995) attempt to account for crosslinguistic variation in OS by referring to varying strength of case systems, others have attributed restrictions on object movement within a given language to “weakness” of certain cases. Thus de Hoop (1992: 136ff) maintains that objects that have “weak Case” cannot scramble in Dutch. But since she is basically referring to semantic distinctions (which correlate to some extent with morphological case in other languages, e.g. Turkish, Finnish), we will return to some of the facts she discusses in section 2.4.1.

Finally, several linguists have noted that OS and Scrambling seem to have been lost or become more restricted in the history of various languages, e.g. English and Dutch (cf. Roberts 1997, Weerman 1997, with references). Since the case system has also been simplified in these languages (case distinctions have been lost), it is tempting to try to relate these changes. Thus Weerman (1997: 432–3) points out that DOs could precede IOs in Middle Dutch and in Old English:

- (83) a. so began si oc **getugnesse** hem te geheue. (MidDu)
 so began she also testimony-Acc him-Dat to give
 “so she also began to give him testimony.”
 b. Ac gif we þa **mirran** gode gastlice geoffriað (OE)
 but if we then myrrh-Acc God-Dat spiritually offer
 “but if we offer myrrh to God spiritually”

As we have seen, DOs cannot be scrambled across IOs in Modern Dutch whereas they can in Modern German. Middle Dutch had morphological case distinctions on nouns, as Modern German has, but Modern Dutch does not. Hence Weerman suggests the following generalization (1997: 433):

- (84) The order of indirect object and direct object has to remain constant unless there is a morphological case system.

He then sets out to give a theoretical account of this phenomenon. But this cannot be the whole story since DOs do not shift across IOs in Modern Icelandic, as we have seen, although Modern Icelandic has a rich case system (see also Thráinsson 1997). Old Icelandic, on the other hand, seems to have had a considerably freer word order, allowing word orders reminiscent of Modern German Scrambling (see Rögnvaldsson 1992, 1995, Thráinsson 1997: 506). Yet the case morphology of Icelandic does not seem to have undergone any changes to speak of.

2.3.2 *Relation to verbal morphology*

Linguists have also attempted to relate crosslinguistic differences in word order to verbal morphology. A common line of argumentation goes like this: if the functional projections AgrSP (subject-agreement phrase), AgrOP (object-agreement phrase), and TP (tense phrase) have something to do with morphological agreement with subject/object or morphological tense distinctions, as their names would suggest, then one might expect them to figure prominently in the syntactic structure of languages that do have rich verbal morphology but not in languages with poor verbal morphology. This would then imply that we would not expect to find object movement to SpecAgrOP in languages that do not have “rich verbal morphology.” This kind of argumentation can be found in Bobaljik (1995) and Thráinsson (1996) and it is further developed in Bobaljik and Thráinsson (1998). They argue that there is a correlation between rich verbal morphology and “split IP,” namely the presence of the functional projections AgrSP, AgrOP, and TP. In particular, they maintain that Icelandic has “split IP” whereas MSc does not (i.e., it only has IP where Icelandic has AgrSP+TP+AgrOP). If full NP OS in Icelandic is movement of SpecAgrOP, this structural difference between Icelandic and MSc could explain why MSc does not have full NP OS (it has no SpecAgrOP to move full NPs to). This means, however, that Bobaljik and Thráinsson (1998) have to assume that the pronominal OS found in MSc must be of a different nature, presumably some sort of head movement (as suggested, e.g., by Josefsson 1992, 1993, and assumed by Jonas and Bobaljik 1993, Bobaljik and Jonas 1996, Jonas 1996a, 1996b, etc.).³¹

Vikner (1994b: 502ff) also wants to argue that the crucial syntactic difference between Icelandic on the one hand and Faroese and MSc on the other is somehow related to agreement morphology (although he admits that the distribution of full NP OS is still a puzzle (1994: 506)). And while the accounts of OS and Scrambling suggested by many linguists, including Déprez (1989, 1994)

and Mahajan (1990), rely on “a multitude of functional categories related to the agreement system,” Lee and Santorini (1994: 291) argue against such approaches and claim that “the properties of scrambling . . . are strikingly similar regardless of whether a language exhibits both subject and direct object agreement (Hindi), only subject agreement (German), or minimal or no agreement whatsoever (Korean, Japanese).” But if OS and Scrambling are in fact different kinds of movement, in the sense that only the former is movement to SpecAgrOP, then this statement would not be incompatible with the approach advocated by Bobaljik and Thráinsson (1998), for instance.

2.4 *Semantic interpretation, focus, and stress*

2.4.1 *The semantic effects of Object Shift and Scrambling*

As seen above, OS of full NPs in Icelandic and GD Scrambling is “optional” in a sense in which pronominal OS is not: full NP-objects in Icelandic can be left in situ and the same is true of objects in Scrambling languages like German and Dutch. In most cases the movement (OS or Scrambling) does not seem to have any semantic effect, i.e., the objects are interpreted the same way in situ and when they have been shifted. But as observed in Diesing and Jelinek (1993, 1995; see also Diesing 1992, 1996, 1997), this is not so when we pick NPs of a certain kind, such as indefinite or quantificational NPs. This is illustrated in (85)–(86) (most of these examples are based on examples in Diesing’s work):

- (85) a. Nemandinn las ekki þrjár bækur. (Ic)
 student-the read not three books
 “It is not the case that the student read three books.”³²
 b. Nemandinn las þrjár bækur ekki t_i
 student-the read three books not
 “There are three books that the student didn’t read.”
 c. Ég les sjaldan lengstu bókina. (Ic)
 I read rarely longest book-the
 “I rarely read the longest book (whichever it is).”
 d. Ég les lengstu bókina_i sjaldan t_i
 I read longest book-the rarely
 “There is a book that is the longest and I rarely read it.”
- (86) a. . . . weil ich selten jedes Cello spiele. (Ge)
 since I seldom every cello play
 “. . . since I seldom play every cello.”
 (i.e., “It is rarely the case that I play every cello.”)
 b. . . . weil ich jedes Cello_i selten t_i spiele.
 since I every cello seldom play
 “. . . since I play every cello (only) seldom.”
 (i.e., “It holds for every cello that I rarely play it.”)

- c. ... weil ich selten die kleinste Katze streichle. (Ge)
 since I seldom the smallest cat pet
 "... since I seldom pet the smallest cat (whichever cat is the smallest)."
- d. ... weil ich **die kleinste Katze**_i selten t_i streichle.
 since I the smallest cat seldom pet
 "... since I pet the smallest cat (only) seldom."
 (i.e., "There is a cat which is the smallest and I rarely pet it.")

As can be seen from these examples, the differences in interpretation are similar in Icelandic non-OS/OS sentences and German non-Scrambling/Scrambling sentences.

Diesing (1992, and also Diesing and Jelinek 1993, 1995, and Diesing in her later work) wants to try to relate these differences to a particular theory of semantic interpretation developed by Heim (1982) and others. The basic idea is that syntactic structures "map" into semantic structures in a particular fashion, as stated in the Mapping Hypothesis (this formulation is based on Diesing 1997: 373):

(87) **The Mapping Hypothesis**

1. VP maps into the Nuclear Scope (the domain of existential closure).
2. IP [functional projections above VP] maps into the Restriction (of an operator).

Thus in sentences like (85a) the object is inside the VP and hence receives a predicational reading and there is no presupposition of existence. In (85b), on the other hand, the object has moved out of the VP and "into the IP" in some sense and hence receives a specific (or quantificational) interpretation. The interpretational differences in the other pairs in (85)–(86) would be accounted for in the same fashion.

Diesing and Jelinek (1993, 1995) also use this semantic approach to account for other facts about Scandinavian OS and GD Scrambling. First, as shown by examples like (3) above, pronominal OS is obligatory in Scandinavian (except for (dialects of) Swedish). The semantic account for this is supposed to be that the interpretation of unstressed pronouns is incompatible with VP-type interpretation (the "existential closure" interpretation) and hence unstressed pronouns have to shift out of the VP. Focussing or (contrastively) stressing the pronoun, on the other hand, introduces a "novelty" aspect, which is compatible with the VP-interpretation. Hence stressed pronominal objects stay in situ in Scandinavian (cf. the discussion around (5) in section 1.1.1 above). Diesing (1996: 72, 1997: 417) also maintains that definite objects in German tend to get a contrastive reading (aided by stress on the noun) when left in situ in examples like the following, whereas this reading is not present for the scrambled object:

- (88) a. ? ... weil ich selten die Katze streichle. (Ge)
 since I seldom the cat pet
 "... since I seldom pet the cat (and not the dog)."

- b. ... weil ich **die Katze**_i selten t_i streichle.
 since I the cat seldom pet
 "... since I seldom pet the cat."

Finally, Diesing and Jelinek (1993: 23–4) point out interpretational differences like the following:

- (89) a. *Ég las ekki bók.*
 I read not book
 "I didn't read (a single) book."
 b. **Ég las **bók**_i ekki t_i*
 I read book not
 c. *Ég les ekki bækur.*
 I read not books
 "I don't read books."
 d. *Ég les **bækur**_i ekki t_i*
 I read books not
 "I don't read books (I only buy them)."

In (89a) the indefinite singular object *bók* "(a) book" can receive the regular VP-internal existential interpretation but when it is shifted out of the VP, as in (89b), no interpretation is available for it.³³ Similarly, in (89c) the plural indefinite object *bækur* "books" receives an existential interpretation in situ, but when it is shifted out of the VP, as in (89d), it can be interpreted generically: "As for books, I don't read them (but possibly just buy them)."³⁴

In their later work, Diesing and Jelinek (cf. Diesing and Jelinek 1995, Diesing 1997) are more specific about the theoretical implementation of this approach to the syntax of OS and Scrambling. Here the so-called Scoping Condition plays an important role (see Diesing 1997: 375):

- (90) **Scoping:** The scope of operators must be syntactically fixed.

The basic idea is then that the OS and Scrambling are ways of satisfying the Scoping Condition.

The work by Diesing and Jelinek has clearly added an important dimension to the study of OS and Scrambling. But the facts are actually somewhat more complicated than we have made them out to be. A few observations must suffice here for reasons of space.

As Diesing recognizes (see especially Diesing 1997: 419ff), the Diesing and Jelinek approach to Scandinavian OS faces a disturbing complication: although OS is supposed to be driven by the semantics, as it were, it only applies when the syntax allows it to. As the reader will recall, Scandinavian OS is dependent on verb movement: if the lexical verb does not leave the VP, the object cannot shift. Now the Diesing and Jelinek approach maintains that objects move out of the VP for interpretational reasons. But if pronominal objects have to move

out of the VP for interpretational reasons in sentences like (91a) (only the version in (91b) is grammatical), how can they be interpreted inside the VP in sentences like (91c), where they do not (cf. (91d)) undergo OS?

- (91) a. *Nemendurnir lásu ekki hana.
 students-the read not it
 b. Nemendurnir lásu **hana_i** ekki t_i
 students-the read it not
 “The students didn’t read it.”
 c. Nemendurnir hafa ekki lesið hana.
 students-the have not read it
 “The students haven’t read it.”
 d. *Nemendurnir hafa **hana_i** ekki lesið t_i
 students-the have it not read

Similarly, the object *þrjár bækur* “three books” in (92b) can clearly have the specific (or quantificational) reading that it has in (92a), although it has not raised out of the VP in (92b) (and cannot because the lexical verb has not moved):³⁵

- (92) a. Nemandinn las **þrjár bækur_i** ekki t_i
 student-the read three books not
 “There are three books that the student didn’t read (namely . . .).”
 b. Nemandinn hefur ekki lesið þrjár bækur.
 student-the has not read three books
 “It is not the case that the student has read three books.” or:
 “There are three books that the student hasn’t read (namely . . .).”

Complications of this sort force Diesing to assume that some objects move out of the VP at LF when they cannot do so overtly. As she points out herself (1997: 420), this would appear to be a violation of the Procrastinate principle of Chomsky (1993: 30 and later work), which can be stated as follows:

- (93) **Procrastinate:** Delay movement to LF whenever possible.

Obviously, LF-movement of objects cannot be allowed to obliterate relevant scope relations established by overt OS and Scrambling. Without going into the technical details, we can note that although Scoping is stated as a syntactic constraint, it is not a hard constraint which leads to ungrammaticality if it is violated, at least not when it cannot be obeyed for syntactic reasons.

The “softness” of this constraint is reminiscent of the nature of constraints in Optimality Theory (OT). The basic tenet of OT is that constraints are violable and the “best” derivation (of a sentence or a phonological form) is the one that violates the lowest ranked constraints. Thus OT maintains that sentences can be grammatical although they violate certain syntactic constraints. Hence Vikner

(1997b) argues that the violability of the Scoping Condition in Scandinavian OS indicates that an OT approach to Scandinavian OS is superior to a Minimalist approach of the kind proposed by Diesing (1997), for instance. Vikner bases his argumentation on examples of the following type (the examples are somewhat simplified here but the account of the readings is based on Vikner's):

- (94) a. Þau sýna alltaf [viðtöl við Clinton] klukkan ellefu. (Ic)
 they show always interviews with Clinton clock eleven
 "They always show interviews with Clinton at 11 o'clock."
 (existential)
 (i.e., "It is always the case that they show interviews with Clinton at 11 o'clock.")
- b. Þau sýna [viðtöl við Clinton]_i alltaf t_i klukkan ellefu.
 they show interviews with Clinton always clock eleven
 "They show interviews with Clinton always at 11 o'clock."
 (generic)
 (i.e., "Whenever there are interviews with Clinton, they are always shown at 11 o'clock.")
- c. Þau hafa alltaf sýnt [viðtöl við Clinton] klukkan ellefu.
 they have always shown interviews with Clinton clock eleven
 "They have always shown interviews with Clinton at 11 o'clock."
 (ambiguous)
- d. *Þau hafa [viðtöl við Clinton]_i alltaf sýnt t_i klukkan ellefu.
 they have interviews with Clinton always shown clock eleven

Vikner's basic point is that the non-shifted and the shifted indefinite objects in (94a, b) have different readings, but the indefinite object in (94c) is ambiguous because it cannot shift. Basing his semantic account (partially) on Diesing's, he argues that when OS does not apply in sentences like (94a), the adverb (here *alltaf* "always") has scope over the object, but when OS does apply, as in (94b), the object has scope over the adverb. But when an indefinite object cannot move out of the VP, as in (94c) (here the main verb cannot move because there is an auxiliary present and hence OS is impossible), it will have an ambiguous interpretation. Vikner then gives an OT account of this, assuming among other things an OT constraint which is based on Diesing's Scoping Condition:

- (95) **Scoping:** An element has the position in the clause that corresponds to its relative scope.

It should be clear, however, that Vikner's account crucially depends on the claim that a non-moved object which can move will have a narrower scope than an adverb that c-commands it. Diesing (1997) also assumed that if objects with the definite/specific/strong . . . reading could move out of the VP, they would do so. That implies that sentences like the following should not be ambiguous:

- (96) a. ... dat de politie gisteren veel taalkundigen opgepakt heeft. (Du)
 that the police yesterday many linguists arrested has
 "... that the police arrested many linguists yesterday."
 b. Þau sýna alltaf [viðtöl við Clinton] klukkan ellefu. (cf. (94a))
 they show always interviews with Clinton clock eleven
 "They always show interviews with Clinton at 11 o'clock."

Example (96a) is taken from de Hoop (1992: 139) and she states explicitly that it "can have either a weak (existential) or a strong (partitive) reading." In other words, an object with a strong reading does not have to scramble, according to her. Example (96b) is modeled on the examples in Vikner (1997b), and speakers of Icelandic seem to agree that it *can* have the "strong" reading, although the "weak" reading is more natural. When these objects scramble or shift, on the other hand, the weak reading seems to be eliminated (see also de Hoop 1992: 139):

- (97) a. ... dat de politie [veel taalkundigen]_i gisteren t_i (Du)
 that the police many linguists yesterday
 opgepakt heeft.
 arrested has
 "... that the police arrested many linguists yesterday."
 b. Þau sýna [viðtöl við Clinton]_i alltaf t_i klukkan (cf. (94b))
 they show interviews with Clinton always clock
 ellefu.
 eleven
 "They show interviews with Clinton always at 11 o'clock."

Thus the correct generalization seems to be that the weak/existential reading is incompatible with OS and Scrambling but objects having the strong/quantificational/specific reading do not necessarily have to shift or scramble. Facts of this sort are obviously relevant for the general issue of optionality: to what extent can syntactic movement rules be truly optional? The Minimalist Program predicts that such rules should not exist, since if constituents do not have to move, they should not move, due to the principle of Procrastinate (cf. (93) above).

As seen above, various terms have been used about the relevant semantic distinctions involved in OS and Scrambling. This reflects the fact that the nature of these is not entirely clear. Thus Jonas (1996b) talks about the checking of a D-feature (cf. Chomsky 1995b: 232, *passim*), a feature supposed to have something to do with Determiners and hence possibly definiteness or specificity. Diesing (1996: 72) and others have emphasized the "novelty effect," something which could also be related to ideas about new vs. old information and focusing (see also Bobaljik 1995: 127–8). De Hoop (1992) calls the basic distinction "strong" and "weak," attempting to relate this distinction to that between strong and weak quantifiers usually attributed to Milsark (1974, 1977).³⁶ Furthermore,

she wants to relate this distinction to proposals about strong and weak Case.³⁷ Now it seems a rather questionable move in itself to call something a Case distinction in one language just because it is reminiscent of a distinction correlating with morphological case in another language. But the contrasts clearly need to be explained.³⁸

2.4.2 *The role of focus and stress*

In the preceding sections we have frequently seen the part that stress may play in influencing the acceptability of sentences involving OS and Scrambling. Details aside, it thus seems clear that Scrambling is incompatible with focus stress, as argued by Grewendorf and Sternefeld (1990a: 15), for instance:

- (98) a. ... weil der Professor dem Studenten das Buch (Ge)
 because the professor-Nom the Student-Dat the book-Acc
 ausgeliehen hat.
 lent has
- b. *... weil **dem Studenten_i DAS BUCH_j** der Professor t_i t_j
 because the student-Dat the book-Acc the professor-Nom
 ausgeliehen hat.
 lent has
- c. ... weil **dem Studenten_i das Buch_j** DER PROFESSOR t_i t_j
 because the student-Dat the book-Acc the professor-Nom
 ausgeliehen hat.
 lent has

The examples in (98) illustrate that both IO and DO can be scrambled over the subject in German, as we have already seen, but if, say, the scrambled DO is stressed, as in (98b), the result is ungrammatical, whereas the in situ subject can be stressed, as shown in (98c).

Some linguists have also suggested that OS could be a PF-rule. Holmberg originally argued (1986: 167ff) that OS could not be a PF rule since it had to apply before a syntactic rule, namely Topicalization (see also Holmberg and Platzack 1995: 150–1). But recently Holmberg (1997) has argued that Scandinavian OS is in fact a PF-rule. He argues that since OS has neither the properties expected of an A-movement rule nor those of an A'-movement rule it must be a PF-rule. His major argument against the A-movement status of OS involves binding relations, i.e., he argues that OS does not “create new binding possibilities,” as it should if it were an A-movement rule. But as discussed in section 2.2.4 above, his arguments against the A-movement status of OS are rather unconvincing.

Holmberg (1997) also maintains that OS is dependent on verb movement because phonological material may block OS and hence the verb has to “get out of the way,” as it were. He argues, for instance, that particles may block OS in Swedish, because Swedish differs from, say, Icelandic in not shifting pronominal objects obligatorily around particles. As Bobaljik (1998) has pointed

out, however, the facts seem to be a bit more complicated and call for a different explanation, cf. (99):

- (99) a. *Dom kastade **den_i** inte ut t_i (Sw)
 they threw it not out
 b. Dom stängde **den_i** inte av t_i
 they closed it not off
 “They didn’t switch it off.”

This does not mean that there could not be a phonological component to OS and Holmberg’s Generalization. But no convincing arguments have been presented for the claim that OS is a PF rule.

3 Concluding Remarks

As shown by the overview in this chapter, the study of Scandinavian OS and GD Scrambling has led to the discovery of many theoretically interesting facts about the languages in question and language in general. The theoretical relevance of OS and Scrambling studies would have become even clearer if we had been able to include more references to “similar phenomena” in other languages, e.g. the non-Germanic languages discussed in Corver and van Riemsdijk (1994b).

In conclusion, let us consider briefly the phrase “similar phenomena” used above. Before the introduction of the Principles and Parameters (P&P) approach by Chomsky (1981), syntacticians tended to concentrate on language-specific and construction-specific phenomena, whereas typical GB studies in the P&P approach emphasized that all movement rules were in fact “the same rule,” i.e., “Move α ,” applying freely but constrained by general principles. Hence it might seem rather out of place to ask whether a given phenomenon in Language X shows that it has a rule of OS or Scrambling, or just some “different rule.” Yet a typical argumentation in the literature goes like this:

- (100) Rule Y in Language X has properties a, b, c. Scrambling (e.g. in German) is known to have properties a, b, c. Hence Rule Y must be an instance of Scrambling.

Thus Alexiadou and Anagnostopoulou (1997: 143) point out, for instance, that because so-called Clitic Doubling in Greek is “sensitive to Specificity,” like (Germanic) Scrambling, it has been suggested that the two should be “unified.” Now Alexiadou and Anagnostopoulou (1997) assume the Minimalist approach, and one could argue that within the checking theory inherent in the Minimalist Program it makes more sense than before to ask questions like “same rule?” or “different rule?”. If checking of the same features is involved, then it is at least obvious that the rules in question have more in common than some of the processes that have been unified under the general label “Move α .”

NOTES

- 1 See e.g. the overview in Corver and van Riemsdijk 1994a, especially their table on p. 13.
- 2 Among discussions of OS and Scrambling in other languages one could mention the following:

First, the closest relatives of German and Dutch, namely Swiss German, Frisian, (West) Flemish, Afrikaans, and Yiddish, have all been claimed to "have" Scrambling or Object Movement of some sort (see e.g. Vikner 1994b, Neeleman 1994, den Dikken 1996, Diesing 1997).

Second, although it is usually assumed that Modern English does not have OS or Scrambling, some linguists claim that it does, as evidenced, for instance, by particle constructions (see e.g. Johnson 1991, Diesing and Jelinek 1993, Koizumi 1993, 1995, Runner 1995). A more common position is that Old English, Middle English, and even Early Modern English had Scrambling (or OS) but that the relevant word orders were later "lost" (see e.g. Kemenade 1987, Roberts 1995, 1997, with references).

Third, a number of other European languages have been reported to have OS or Scrambling of some sort, including Italian (PP-scrambling, cf. Belletti and Shlonsky 1995), Portuguese (Costa 1996), Spanish (clitic doubling with some OS properties, cf. Suñer 1998), Hungarian (Fanselow 1990, É. Kiss 1994), Russian (Müller and Sternefeld 1994), Greek (clitic doubling with some Scrambling properties, cf. Alexiadou 1997, Alexiadou and Anagnostopoulou 1997), and Turkish (Fanselow 1990, Bayer and Kornfilt 1994, Haider 1997).

Fourth, a number of Asian languages appear to have OS or Scrambling, such as Hindi (cf. Mahajan 1990, 1994b), Persian (Browning and Karimi 1994), Bangla (Senegupta 1990), Japanese (cf. e.g. Kuno 1973, Saito 1989, 1992, Ueyama 1994, Kim 1996, Kitahara 1997), and Korean (cf. Lee and Santorini 1994, Kim 1996).

Fifth, one could mention a couple of "exotic" languages where such phenomena reportedly exist, such as Selayarese (Finer 1994), Warlpiri (Hale 1994), and West Greenlandic (Fanselow 1990).
- 3 Non-movement analyses include non-configurational analyses along the lines of Hale (1983), "base-generation" accounts in GB-type frameworks (like Weerman 1989, Neeleman 1994), and accounts in frameworks that do not assume "transformations" or "movement rules" at all (cf. e.g. Pollard and Sag 1993). There are also "mixed approaches," which assume that some of the variation in the order of constituents should be accounted for by movement rules while other instances of such variation go back to underlying differences (cf. Czepluch 1990, Bayer and Kornfilt 1994, Hale 1994, Collins and Thráinsson 1996).
- 4 As Holmberg (1986: 228–9) points out, citing Faarlund (1977), some Swedish and Norwegian dialects appear to allow unstressed pronominal objects to stay in situ, whereas Danish and Icelandic do not (see also Vikner 1989, 1991). "True clitics" (i.e., reduced

pronominal forms) can also follow the negation in Swedish and Norwegian dialects (cf. Hellan and Platzack 1995: 55–6, Josefsson 1993: 23):

- (i) a. Jag såg inte'na.
(Sw) [*'na* from OSw *hana*,
not Modern Sw. *henne* "her"]
b. Æ såg itj'a
I saw not-her
(Trøndersk – a dialect of
Norway around Trondheim)

Faroese seems to follow Icelandic and Danish here (see e.g. Petersen et al. 1998). The reason for this variation is unclear. It is indicated by the % sign in (3a) but it will be ignored for the most part in this chapter.

- 5 As Nielsen (1997) observes, the Norwegian facts are somewhat more complicated than usually assumed. He gives complex but passable sentences which appear to involve OS in Norwegian. See also n. 17.
- 6 Here, and for the rest of the chapter, traces (t) are used for convenience to indicate the "base position" of the moved elements without any strong theoretical claims about their nature or even their existence in some cases.
- 7 Although Scandinavian OS by and large only applies to arguments, it has been noted (e.g. by Haider et al. 1995: 20–1) that unstressed (presumably) non-argumental *der* "there" has similar distribution with respect to adverbs to that of shiftable pronominal objects. In particular, its position is influenced by verb movement. Unstressed *þar* "there" in Icelandic behaves in a similar fashion, except that it does not seem to have to "shift" (Danish based on Haider et al. 1995: 20–1):

- (i) a. *Peter sov ikke der. (Da)
Peter slept not there
b. Peter sov **der_i** ikke t_i
c. Peter har ikke sovet der.
d. Peter has not slept there
e. *Peter har **der_i** ikke sovet t_i
f. Pétur svaf ekki þar. (Ic)
g. Peter slept not there
h. Pétur svaf **þar_i** ekki t_i
i. Pétur hefur ekki sofið þar.
Peter has not slept there
j. *Pétur hefur **þar_i** ekki sofið t_i

The parallelism is interesting and indicates that there is still a lot that we do not understand about the nature of OS.

- 8 Sentences containing "negative objects" seem to constitute an interesting exception to Holmberg's Generalization in Scandinavian, however (cf. Christensen 1986 Rognvaldsson 1987, Jónsson 1996: sec. 3.4):

- (i) a. Jeg har **ingen**/ (No)
I have no one/
***henne_i** set t_i.
*her seen
"I haven't seen anyone."
b. Ég hef **enga bók_i**/ (Ic)
I have no book/
***þessa bók_i** lesið t_i.
*this book read
"I haven't read any book."

As shown here, negative objects like Norwegian *ingen* "no one" and Icelandic *enga bók* "no book" can shift to the left of the non-finite main verb although the Norwegian pronoun *henne* "her" and the Icelandic "positive NP" *þessa bók* "this book" cannot. Something special needs to be said about this kind of OS and it will be ignored for the most part in this chapter.

It should be mentioned here that Zwart (1997: 241) argues against the

- validity of Holmberg's Generalization. We return to his arguments in section 2 below (especially section 2.2.5).
- 9 Pronominal OS in Danish and Norwegian works the same way, but the Swedish facts are different, as shown by Holmberg (1986), due to special properties of the particle construction in Swedish (see also Svenonius 1996):
- (i) a. Hún skrifaði það upp/*upp það. (Ic)
 b. Hon skrev *det upp/upp det. (Sw)
 c. Hun skrev det op/*op det. (Da)
 she wrote it up/up it
- 10 Czepluch (1990: 176) refers to studies that argue for "alternative projections from one lexical structure," i.e., different underlying orders of objects for different verbs in German – and also verbs where two orders are equally unmarked, a phenomenon somewhat similar to Icelandic Inversion as analyzed by Collins and Thráinsson 1996, for instance. Czepluch argues that this may be the proper account for some variations in object order in German.
- 11 Except for the special behavior of unstressed (and sometimes also the reduced) pronouns, stress, and intonation factors will not be discussed in any detail in this chapter because they are too complex to deal with in a comparative chapter of this sort. Some effects of stress on the acceptability of various word order configurations in Icelandic are discussed by Collins and Thráinsson 1996, and Zwart 1997 contains numerous observations on the interaction of object positions and intonation (e.g. 92ff).
- 12 There is some evidence, however, that a full NP object can shift across an indefinite quantified subject (possibly in SpecVP) or across a quantifier "floated" off a subject, as shown in (ia, b), respectively:
- (i) a. Þá máluðu **bílan**_i (Ic)
 then painted cars-the(A)
 stundum einhverjir strákar
 sometimes some boys(N)
 † rauða.
 red
 "Then some boys sometimes painted the cars red."
 b. Þá máluðu strákar
 then painted boys-the(N)
bílan_i stundum allir
 cars-the(A) sometimes all(N)
 † rauða.
 red
 "Then all the boys sometimes painted the cars red."
- This is clearly something which needs to be accounted for, e.g. with respect to Minimality (see e.g. section 2.2.5).
- 13 This issue has been discussed from a more general point of view by various researchers, see e.g. Czepluch (1990) for German (with references) and Diesing (1997) for Yiddish (with references). Diesing (1997) argues that Yiddish is underlyingly VO and thus that OV-orders in Yiddish are derived by Scrambling. This makes Yiddish special among the Germanic VO-languages, she maintains, since Scrambling (as opposed to OS) is otherwise only found in the Germanic OV-languages. I will return to this issue below when I try to compare Scrambling and OS.
- 14 The fact that the finite verb does not immediately follow the fronted element in clauses of this type, as it does when something is topicalized (the V2 phenomenon), is generally

taken to indicate that Topicalization is not involved here.

- 15 Neeleman (1994: 395) refers to *zelfs* “even” and *zulke* “such” as “focus markers” and argues that they make this Scrambling possible. He argues for a base generated analysis of the orders in (25a, c) and maintains that the scrambled objects in (25b, d) are adjoined to VP.
- 16 This seems likely in fact, since Zwart argues (1997: 31–2) that this process is unbounded and applies to elements that otherwise do not undergo Scrambling in Dutch, such as resultative predicates.
- 17 One of the things that such a theory needs to account for is the apparent contrast between sentences like the following in Norwegian, as already mentioned in n. 5 (cf. Nielsen 1997: 19, *passim*):
- (i) a. *Etter dette slo Guri Per
after this beat Guri Per
altid i sjakk.
always in chess
- b. Etter dette slo Guri Per
after this beat Guri Per
ærlig talt heldigvis
honestly spoken fortunately
ikke lenger alltid
not any-longer always
i sjakk.
in chess
“After this, Guri honestly
spoken fortunately didn’t
any longer always beat Per
in chess.”

Although OS of full NPs across a single sentential adverb is standardly bad in Norwegian, as in (ia), sentences like (ib), where the object precedes a long string of adverbs, are markedly better.

- 18 Interestingly, Swedish also differs somewhat, at least dialectally, from the other Scandinavian languages in that it allows unstressed objects to

remain in situ in contexts where pronominal OS is obligatory in the other Scandinavian languages; cf. the examples in (3) and n. 4. Maybe there is some sort of a link here.

- 19 According to Weerman (1997: 431), Modern Frisian has similar restrictions to Dutch on the ordering of objects.
- 20 As Collins and Thráinsson show (1996: 415ff), the Icelandic facts are complicated by the existence of the so-called Inversion structures first discussed by Rögnvaldsson (1982; see also Holmberg 1991b), i.e. base generated DO–IO order allowed by a subclass of ditransitive verbs. When we abstract away from this and select a non-inversion verb like *skila* “return,” it becomes clear that a DO cannot shift over an in situ IO.
- 21 The embedded verb *vanta* “need, lack” is one of the verbs that take accusative subjects in Icelandic. For a discussion of these see, e.g., Zaenen et al. 1985 and references cited there.
- 22 The relevant Scandinavian facts include sentences of the following sort:
- (i) a. *Hann telur (Ic)
he-Nom believes
sjálfur [hana vera fífl]
self-Nom her-AccF be fool
- b. Hann telur **hana_i**
sjálfur [_i vera fífl]
“He himself believes her to be a fool.”
- c. Hann hefur
He-NomF has
sjálfur talið
self-NomF believed
[hana vera fífl]
her-AccF be fool
“He himself has believed her to be a fool.”
- d. *Hann hefur **hana_i**
sjálfur talið
[_i vera fífl]

As (ia, b) show, when the matrix main verb is finite a pronominal accusative subject has to be shifted out of an infinitival complement of this sort and hence it precedes the (quantifier-like) emphatic *sjálfur* “self,” which agrees in case, gender, and number with the matrix subject. (If this accusative subject is a full NP, this movement is optional.) When the matrix verb is non-finite, on the other hand, this raising of the accusative subject cannot take place, as indicated by (ic, d). This is obviously very reminiscent of Icelandic OS.

Relevant German examples include these (based on examples in Fanselow 1990, Grewendorf and Sabel 1994):

- (ii) a. weil niemand
because nobody
[mich die Bücher lesen]
me the books read
liess/sah.
made/saw
- b. weil **mich_i** niemand
[t_i die Bücher lesen
liess/sah.
“because nobody made/
saw me read the books.”
- c. dass keiner
that nobody
[PRO den Hund zu füttern]
the dog to feed
versuchte
tried
- d. dass **den Hund_i** keiner
[PRO t_i zu füttern]
versuchte
“that nobody tried to feed
the dog.”
- 23 The reason for the hedging (“a potential theta-role position”) was that although object positions were believed to be assigned a theta-role in all instances, the subject position in, say, passives and raising

constructions (with verbs of the *seem*-type, for instance) do not appear to have a thematic role of their own.

- 24 As we will see below (example 67b)), there is reason to believe that a raised (“object shifted”) accusative subject of infinitival complements of this sort does c-command an adjoined parenthetical like *X til mikillar undrunar* “to X’s great surprise.” Hence the ungrammaticality of the reflexive in (64a) suggests that *Harald* is not a semantically appropriate antecedent for a reflexive, whereas the passive subject *Haraldur* in (64b) is.
- 25 Relevant examples would include sentences of the following type, and here the reflexive seems bad:
- (i) Jag ansåg [Per och Martin]_i (Sw)
I believed Per and Martin
vara lika bra, till
be equally good, to
deras_i/?*sin_i besvikelse
their/self’s disappointment
“I believed Per and Martin to
be equally good, to their
disappointment.”
- 26 Note, for instance, that the example Neeleman (1994: 394) gives to argue for the influence of Dutch Scrambling on binding relations arguably does not involve Scrambling of an object across an indirect object but rather the base generated order DO-prepositional IO, as he himself points out in n. 3.
- 27 Holmberg (1986: 174) argues that PPs like *i Xs frånvaro* are “left-adjoined to I” and hence sentences similar to (71b) must involve OS (otherwise the object would not precede the PP). That means then that sentences like (ia) should be bad (since full NP-objects cannot shift in Swedish) and (ib) should be fine, but neither he nor Holmberg

- and Platzack (1995) gives such examples:
- (i) a. Dom tilldelade Peter
they awarded Peter
i min frånvaro priset.
in my absence prize-the
b. Dom tilldelade
they awarded
i min frånvaro Peter
in my absence Peter
priset.
prize-the
- 28 It should be noted, however, that Kitahara (1997) assumes that short Scrambling in German is triggered by an “argument feature” rather than an “operator feature,” making it on a par with A-movement rather than A'-movement.
- 29 Note, for instance, that English pronouns show similar case marking distinctions to their MSc counterparts but do not appear to undergo the same kind of OS. Conversely, although Dutch nouns do not show case distinctions any more than MSc ones, Dutch NP objects are more movable than MSc NP objects, as we have seen (cf. also Déprez 1994: 119–21).
- 30 In addition, it seems counterintuitive to say that the morphological case on Faroese nouns (which show Nom/Acc/Dat distinctions in sg. and pl.) is in some sense “weaker” than that of, say, Swedish personal pronouns (where the Acc/Dat distinction has disappeared altogether).
- 31 Under this approach, the lack of full NO OS in Faroese could be related to the fact that Faroese has a much poorer agreement system than Icelandic, although richer than MSc. The problem is that Faroese has some word order traits in common with Icelandic, at least dialectally (cf. Jonas 1996a, 1996b, Petersen et al. 1998).
- 32 Below we will claim that sentences like this one are not unambiguous, although the “predicational” (or existential closure) reading given here is the most natural one.
- 33 There is no indefinite article in Icelandic so all indefinites are “bare indefinites.” Maybe the interpretational possibilities of bare indefinites are more restricted than those of indefinites with the indefinite article. Thus Zwart (1997: 91) reports an interpretational difference for examples of the following sort in Dutch, involving a singular indefinite NP:
- (i) a. ... dat Jan gisteren
that Jan yesterday
en meisje gekust heeft.
a girl kissed has
“... that Jan kissed a girl
yesterday.”
b. ... dat Jan **en meisje**_i
that Jan a girl
gisteren t_i gekust heeft.
yesterday kissed has
“... that Jan kissed a
(particular) girl yesterday.”
- 34 This latter interpretation can be aided by stressing the verb. See also the discussion of the influence of stress on the shiftability of (indefinite) objects in Collins and Thráinsson 1996.
- 35 Needless to say, a similar situation obtains when unstressed pronominal objects cannot shift in MSc embedded clauses where no verb movement occurs (cf. Diesing 1997: 411, Vikner 1997b: 11ff).
- 36 As Vangsnes (1995) has shown, the distinction between strong and weak quantifiers appears to play a role in the licensing of different argument positions in Scandinavian expletive constructions.
- 37 The reason is that in some languages, e.g. Turkish and Finnish,

it seems that morphological case distinctions correlate with semantic distinctions of the type under discussion. In addition, NPs marked with the “weak” morphological case are not as movable as the ones marked with the strong case. According to de Hoop (1992: 137), this can be illustrated by Turkish examples (the following are based on de Hoop’s examples, borrowed from Kornfilt 1990):

- (i) a. Ben dün akşam (Tu)
I yesterday evening
[çok güzel bir biftek]
very nice a steak-Part
yedim.
ate
“I ate a very nice steak
yesterday evening.”
- b. *Ben [çok güzel bir biftek]_i
dün akşam t_i yedim.
- (ii) a. Ben dün akşam
I yesterday evening
bifteg-i yedim.
steak-Acc ate
- b. Ben bifteg-i_i
I steak-Acc
dün akşam t_i yedim.
yesterday evening ate
“I ate the steak yesterday
evening.”

This is meant to illustrate that the object in (i) cannot shift, because it is in the “weak” partitive case, whereas the object in (ii) can, since it is in the “strong” accusative case. De Hoop then wants to extend the same kind of analysis to Dutch to account for contrasts like the following:

- (iii) a. . . . dat de politie (Du)
that the police
de taalkundigen_i gisteren
the linguists yesterday
t_i opgepakt heeft.
arrested has

“ . . . that the police
arrested the linguists
yesterday.”

- b. * . . . dat de politie
that the police
taalkundigen_i gisteren
linguists yesterday
t_i opgepakt heeft.
arrested has

We cannot go further into this account here for reasons of space.

38 As de Hoop (1992: 141–2) points out, Scrambling of PPs does not seem to have any effects on the reading:

- (i) a. . . . omdat Petra (Du)
because Petra
altijd
always
[op haar conditie] vertrouwt.
on her condition relies
- b. . . . omdat Petra
because Petra
[op haar conditie]_i altijd
on her condition always
t_i vertrouwt.
relies
“ . . . because Petra always
relies on her condition.”

This would be expected if the semantic effects of Scrambling had something to do with Case, since PPs do not have Case. In this connection one could also mention that it has been argued that Scrambling in Japanese is a “semantically vacuous A’-movement” (cf. Saito 1989), and Browning and Karimi (1994) argue that only the A-movement like variant of Scrambling in Persian is semantically restricted (in terms of specificity), whereas the A’-movement like variants are not so restricted and have nothing to do with Case (or case). This is intriguing and warrants further research.