

# Object shift and object scrambling in Germanic

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**Abstract:** The literature often makes a terminological distinction between object shift and object scrambling in case of leftward object movement in the Scandinavian and the continental West-Germanic languages, respectively. This reflects the theoretical claim originating from the 1980's that we are dealing with two different syntactic rules. It has become increasingly clear, however, that the notion of scrambling is used as an umbrella term for different kinds of movement. This review will show that there are good reasons for assuming that object shift and one specific kind of scrambling can be characterized as A-movement (i.e. movement of arguments related to case assignment and agreement) of the object(s) triggered by structural case features. This motivates a reevaluation of the data that led to the earlier conclusion that object shift and scrambling behave differently with respect to Holmberg's generalization, as well as a discussion of the linguistic nature of this generalization.

**Keywords:** object shift, scrambling, A-movement, information structure, Holmberg's generalization, language variation

## 1 Introduction

Clauses in the Germanic languages exhibit freedom in word order to various degrees. This article adopts a generative perspective in its focus on word-order variation due to variable placement of objects with respect to clause-medial (CM) adverbials. Prototypical instantiations of CM-adverbials are modal adverbs such as Dutch *waarschijnlijk* 'probably', which are arguably located close to the left boundary of the lexical projection of the verb ( $vP$  in current generative terms).<sup>1</sup> Their position is clear from the fact that, under specific circumstances, they can be preceded or followed by the nominal arguments of the clause in Dutch, including the subject. The three orders in (1), which are all acceptable in Dutch, can easily be derived by assuming that A-movement of the nominal arguments is "optional" in a sense to be made more precise in Section 2; cf. Broekhuis (2007; 2008: §4.2). Note that  $t_v$ ,  $t_s$  and  $t_{DO}$  stand for the traces (or phonetically empty copies) of the finite verb and its nominal arguments.

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<sup>1</sup> We will generally use VP instead of  $vP$  when the internal structure of the lexical projection is not relevant, as in (1) and (2). Another term that is often used for CM-adverbial is (lower) sentence adverbial. Thráinsson (2007:§2.1.6) provides a syntactic characterization of the relevant set of adverbials on the basis of their distribution in Icelandic clauses, which is more or less in line with the characterization provided here in the main text. Verhagen (1986:§5.2) characterizes the relevant set of adverbials semantically as comment modifiers: they provide additional information regarding the truth of the new information (comment) provided by the speaker, which entails that they must take scope over the propositional domain of the clause ( $\approx vP$ ). Still, it is not always clear which sentence adverbs should be included in the set, and which are too high or too low in the structure to be part of it: see note 6 for a concrete example.

- (1) a. Morgen leest waarschijnlijk [<sub>VP</sub> Jan [het boek *t<sub>V</sub>*]].  
 tomorrow reads probably Jan the book  
 ‘Tomorrow, Jan will probably read the book.’  
 b. Morgen leest Jan waarschijnlijk [<sub>VP</sub> *t<sub>S</sub>* [het boek *t<sub>V</sub>*]].  
 c. Morgen leest Jan het boek waarschijnlijk [<sub>VP</sub> *t<sub>S</sub>* [*t<sub>DO</sub>* *t<sub>V</sub>*]].

As the subject *Jan* in (1b) is generally assumed to be A-moved into the specifier of IP, which is headed by the inflectional head I assigning nominative case, we may provisionally assume that the object is likewise A-moved into the specifier of a case-assigning head in (1c). An additional argument for taking this position is that this immediately explains why leftward object movement of this kind is clause bound.

Although the examples in (2a-b) show that Icelandic does not exhibit a similar freedom in subject placement, the A-movement analysis of the leftward object movement in (2c) seems to be the currently prevailing one; cf., e.g., Vikner (1994; 2006/2017), Chomsky (2001), Thráinsson (2001; 2007) and Broekhuis (2020). This analysis has as its virtue that it immediately accounts for the fact that the leftward movement is restricted to nominal (i.e. impossible with prepositional) objects in Scandinavian; cf. Section 3.4.

- (2) a. \*Í gær las eflaust [<sub>VP</sub> Pétur [*t<sub>V</sub>* bókina]].  
 yesterday read undoubtedly Peter the.book  
 ‘Yesterday, Peter undoubtedly read the book’  
 b. Í gær las Pétur eflaust [<sub>VP</sub> *t<sub>S</sub>* [*t<sub>V</sub>* bókina]].  
 c. Í gær las Pétur bókina eflaust [<sub>VP</sub> *t<sub>S</sub>* [*t<sub>V</sub>* *t<sub>DO</sub>*]].

There is, however, an ongoing debate on whether leftward object movement in Icelandic and Dutch/German are instantiations of the same rule. Vikner (1994; 2006/2017) and Thráinsson (2001), for instance, maintain that the two processes are different while others claim that they are similar: cf. Déprez (1989; 1994), Diesing (1997), Chocano (2007), Broekhuis (2008/2020) and Engels and Vikner (2014). The debate is also reflected in the use of terminology: the notion of *object shift* (OS) is normally restricted to object movement in the Germanic VO-languages, while the notion of *object scrambling* (OScr) is strictly used for the OV-languages. This article reviews the arguments for and against this terminological distinction. Section 2 starts by showing that a unified analysis is supported by the fact that OS and OScr are subject to similar semantic restrictions on the moved object. Section 3 evaluates two main arguments that have been put forward against such a unification: (i) Holmberg’s generalization, which states that OS cannot cross certain elements in the clause, does not hold for OScr; (ii) OS can be applied to NPs only, while scrambling can also be applied to other categories. The first claim will be shown to be highly disputable. The second claim is correct only if the term scrambling is used as an umbrella term including A-movement and A’-movements like focus/topic movement. When this is taken into account, we can still conclude that OS and OScr are instantiations of the same rule, viz. A-movement of the object into the specifier of a case-assigning head. This conclusion raises the question as to what kind of restriction Holmberg’s Generalization is. Section 4 will argue that it is not an inviolable condition on the syntactic derivation but a language-specific filter on the output of the syntactic derivation.

## 2 NP-type

The examples in (3) and (4) show that OS in Icelandic and OScr in Dutch are subject to similar restrictions related to the information structure of the clause: (i) nonspecific indefinite noun phrases introduce new discourse entities and cannot be moved; (ii) weak definite pronouns refer to entities which are part of the common ground and must be moved; (iii) definite NPs

are moved when they refer to entities in the common ground but not if they provide discourse-new information.

- (3) a. Jón las <\*bækur> aldrei <bækur>. [indefinite NP]  
 Jón read books never  
 b. Jón las <þessa bók> aldrei <þessa bók>. [definite NP]  
 Jón read this book never  
 c. Jón las <hana> aldrei <\*hana>. [definite pronoun]  
 Jón read her never  
 ‘Jon never read books/this book/it.’
- (4) a. Jan leest <\*een boek> waarschijnlijk <een boek>. [indefinite NP]  
 Jan reads a book probably  
 b. Jan leest <het boek> waarschijnlijk <het boek>. [definite NP]  
 Jan reads the book probably  
 c. Jan leest <het> waarschijnlijk <\*het>. [definite pronouns]  
 Jan reads it probably  
 ‘Jan is probably reading a book/the book/it.’

It is important to observe that the judgments given in (3) and (4) only hold under a neutral intonation contour. First, shifted indefinite NPs are sometimes possible but trigger a special (specific, generic, etc.) reading and often require a contrastive intonation contour; cf. Diesing (1992) and De Hoop (1992). Second, non-shifted definite pronouns are possible if they are strong (i.e. assigned accent); cf. Holmberg (1986). See Thráinsson (2007: §2.1.5), Broekhuis & Den Dikken (2012: §8.1.3), and the references cited there for more discussion.

There are additional language-specific restrictions pertaining to the form of the object. Mainland Scandinavian languages, for instance, are different in that they do not allow non-pronominal OS. For instance, the examples in (5) show that Danish allows only pronominal OS.

- (5) a. Peter læste <\*den her bog> aldrig <den her bog>. [definite NP]  
 Peter read this book never  
 b. Peter læste <den> aldrig <\*den>. [definite pronouns]  
 Peter read it never

There is also variation pertaining to pronominal OS: while it is obligatory in Danish, as shown in (5b), it is optional in Swedish (cf. *Peter läste <den> aldrig <den>* ‘Peter never read it’) and even impossible in Finland Swedish. The attested variation in Germanic is summarized in Table 1, based on Holmberg (1986; 1999).

Table 1: Restrictions on leftward movement of objects: NP type

	definite pronouns	definite NPs	nonspecific indefinite NPs
Finland Swedish	—	—	—
English	—	—	—
Swedish	optional	—	—
Norwegian	optional	—	—
Danish	obligatory	—	—
Icelandic	obligatory	optional	—
Dutch	obligatory	optional	—
German	obligatory	optional	—

Table 1 suggests that a typological distinction between the listed languages should be based on the kind of NP that can undergo leftward object movement. This would not lead to a division between the Scandinavian and the continental West-Germanic languages: the dividing line(s) would run right through the Scandinavian languages instead. This typological division does not support the terminological distinction between OS and OScr.

### 3 Restrictions on object shift and object scrambling

A characteristic of OS is that it cannot cross certain specific elements: Holmberg (1986: ch.6) mentions VP-internal verbs, nominal arguments, verbal particles and prepositions. Crossing can be interpreted in two different ways, viz. in hierarchical terms (across a c-commanding element) or in linear terms (across a preceding element). This is reflected in the formulation of Holmberg's Generalization in (6) taken from Holmberg (1997: 208).

- (6) Object Shift is blocked by any phonologically visible category preceding/c-commanding the object position within VP.

Vikner (2006/2017: §2.1; 2.5) claims that OS and OScr differ in that the latter does allow crossing of the elements listed above in at least one of these two senses. Sections 3.1-3.4 will show that his claim is insufficiently substantiated. Vikner mentions various other differences: those pertaining to PP-scrambling and parasitic gaps will be considered in Section 3.5, while the remaining ones will only be mentioned in passing.

#### 3.1 Verbs

This section discusses the claim that OS and OScr differ in that only the latter can cross a VP-internal verb. We will only consider cases with VP-internal verbs in (i) dependent complement clauses and (ii) periphrastic perfect-tense constructions.

##### 3.1.1 Object shift/scrambling in embedded clause

Example (5) from Section 2 has shown that Danish has OS with definite pronouns but not with definite NPs. However, this holds only for main clauses: (7) shows that OS is categorically blocked in Danish embedded clauses. OS in Icelandic, on the other hand, remains possible in such cases; cf. (8).

- (7) Jeg spurgte ....  
I asked
- a. hvorfor Peter <\*den her bog> aldrig læste <den her bog>.  
why Peter this book never read
  - b. hvorfor Peter <\*den> aldrig læste <den>.  
why Peter it never read
- (8) a. Ég spurði ...  
I asked
- a. af hverju Pétur læsi <þessa bók> aldrei <þessa bók>.  
why Pétur read this book never
  - b. af hverju Pétur læsi <hana> aldrei <\*hana>.  
why Pétur read her never

Holmberg's Generalization (henceforth: HG) relates this difference in OS to another difference between Danish and Icelandic regarding verb movement: that the finite verb follows the CM-adverbial *aldrig* in the Danish examples but precedes *aldrei* in the Icelandic examples shows that the finite verb occupies a VP-internal position in Danish but has been extracted from VP in Icelandic by V-to-I movement. OS therefore violates HG in (6) in the Danish examples, as

it crosses the phonologically visible verb within VP, but not in the Icelandic examples, as it only crosses the phonologically invisible trace left by V-to-I movement; cf. (9).

- (9) a. \*[<sub>CP</sub> ... C [<sub>IP</sub> ... I ... DO adv<sub>cm</sub> [<sub>VP</sub> ... V t<sub>DO</sub>]]] [Danish]  
 b. [<sub>CP</sub> ... C [<sub>IP</sub> ... V+I ... DO adv<sub>cm</sub> [<sub>VP</sub> ... t<sub>V</sub> t<sub>DO</sub>]]] [Icelandic]

Although the claim that OScr is not subject to HG correctly predicts that it can apply in the embedded clauses in (10), these examples do not conclusively show that OScr can violate HG because OScr does not affect the linear order of the object and the finite verb. This assertion would only be supported by (10) if we formulate HG in hierarchical terms, and if it can be shown that the verb (i) is VP-internal *and* (ii) c-commands the trace resulting from OScr.

- (10) a. dat Peter <het boek> waarschijnlijk <het boek> leest.  
           that Peter the book probably the book reads  
 b. dat Peter <het> waarschijnlijk <\*het> leest.  
           that Peter it probably it reads

That the verb is VP-internal is far from obvious, however, and largely depends on the type of theory one adopts. Let us first consider the standard assumption from the late 1970's and 1980's that Dutch and German have an underlying OV-order (Koster 1975). If so, OScr would not violate HG if there is also a clause-final I-position, as in (11a): V-to-I movement would then remove the verb from VP and OScr would only cross the phonologically invisible trace of the verb (Déprez 1989/1994).

- (11) a. [<sub>IP</sub> ... DO ... adv<sub>cm</sub> [<sub>VP</sub> ... t<sub>DO</sub> V] I]  
 b. [<sub>IP</sub> ... DO ... adv<sub>cm</sub> [<sub>VP</sub> ... t<sub>DO</sub> t<sub>V</sub>] V+I]

Now consider the more recent assumption based on Kayne's (1994) linear correspondence axiom (LCA) that *all* languages have an underlying VO-order. The LCA asserts that precedence does not play a role in syntax but corresponds to the syntactic notion of asymmetric c-commands: roughly speaking, A precedes B in the phonetic output if it asymmetrically c-commands B in the syntactic output. What is important for our present discussion is that this entails that OV-languages are derived by obligatory movement of the object into a VP-internal position asymmetrically c-commanding (and consequently precedes) the main verb. The structures in (12) sketch one possible implementation based on an updated version of Koizumi's (1993) split-VP hypothesis, according to which the base-structure of the lexical domain of the verb is as indicated in (12a). OV-languages are derived by obligatory object movement into SpecAgr, as in (12b), so that the object asymmetrically c-commands (and thus precedes) the verb: subsequent OScr, as in the Dutch examples in (10), can thus apply without violating HG. Although OV languages can either have the structure in (12a) or (12c), the latter seems to be the one normally found in the Germanic VO-languages: if VP-adverbs are adjacent to the left boundary of VP, this structure would account for the fact that they normally follow the verb and the object (Thráinsson 2007: §2.1.6). For ease of representation, we have ignored the fact that the structures are built up bottom-up in an incremental way.<sup>2</sup>

<sup>2</sup> Other minimalist proposals aiming at reconciling OScr and HG are based on the idea that HG can be derived from Chomsky's (1995: ch.3) notion of equidistance: these involve movement of the (invisible) formal features of V (Zwart 1997: ch.5) or of the light verb *v* with stranding of the verbal root V (Broekhuis 2000). Such analyses will not be discussed here as Section 4 will show that HG is not derivational in nature but functions as a language-specific surface filter.

- (12) a. ... [<sub>vP</sub> S [<sub>v</sub> v [<sub>AgrP</sub> ... [Agr [<sub>VP</sub> V DO]]]]] [base order]  
 b. ... [<sub>vP</sub> S [<sub>v</sub> v [<sub>AgrP</sub> DO [V+Agr [<sub>VP</sub> t<sub>V</sub> t<sub>DO</sub>]]]]] [OV-order]  
 c. ... [<sub>vP</sub> S [<sub>v</sub> V+Agr<sub>O+v</sub> [<sub>AgrP</sub> DO [t<sub>V+Agr</sub> [<sub>VP</sub> t<sub>V</sub> t<sub>DO</sub>]]]]] [VO-order]

Although it is now generally assumed that Agr-projections are not part of the grammar, split-VP structures are predicted to arise by Grimshaw's (1997) theory of extended projections, on the assumption that V carries unvalued  $\phi$ -features that must be valued by the object (i.e. object agreement). The main difference would then be that AgrP is not present in (13a) but results from the remerge of V and concomitant object movement in (13b), which creates a local spec-head configuration between the  $\phi$ -features on V and the object (Broekhuis 2008/2011).

- (13) a. ... [<sub>vP</sub> S [<sub>v</sub> v [<sub>VP</sub> V DO]]]]] [base order]  
 b. ... [<sub>vP</sub> S [<sub>v</sub> v [<sub>VP</sub> DO [V [<sub>VP</sub> t<sub>V</sub> t<sub>DO</sub>]]]]] [OV-order]  
 c. ... [<sub>vP</sub> S [<sub>v</sub> V+v [<sub>VP</sub> DO t<sub>V</sub> [t<sub>V+Agr</sub> [<sub>VP</sub> t<sub>V</sub> t<sub>DO</sub>]]]]] [VO-order]

The discussion of the structures in (11) to (13) serves mainly to show that there are no conclusive arguments for claiming that OScr in (10) violates the hierarchical version of HG in (6). This eliminates one of the main arguments for assuming that OS and OScr cannot be unified. For what follows, it is also important to note that (12) and (13) entail that OS/OScr is not the only kind of leftward object movement. Such movement is not only triggered by the case features located on *v* but also by the  $\phi$ -features on V: the latter kind of object movement targets a *vP*-internal agreement position and will be referred to as "short" OS in order to distinguish it from "regular" OS/OScr, which target a *vP*-external case position.<sup>3</sup>

### 3.1.2 Object shift/scrambling in main clauses with a non-finite main verb

Non-finite verbs do not undergo V-to-I; they remain VP-internal and HG therefore correctly predicts that OS is blocked in the Icelandic perfect-tense construction (14a). That OScr is possible in the Dutch (b)-examples suggests that OScr is not subject to HG.

- (14) a. Jón hefur <\*bókina/hana> aldrei lesið <bókina/hana>.  
 Jón has the.book/her never read  
 'Jan has never read the book.'  
 b. Jan heeft <het boek/het> nooit <het boek/het> gelezen.  
 Jan has the book/it never read  
 b'. dat Jan <het boek/het> nooit <het boek/het> heeft gelezen.  
 that Jan the book.it never has read

However, there are again reasons not to accept this conclusion, which we will illustrate by using the embedded clause in (14b'). On the more traditional assumption that Dutch and German have an underlying OV-order, the base structure of (14b') would be as given in (15a). Applying OScr to this structure directly would violate the hierarchical version of HG, but this would not be the case if Dutch and German are verb-raising languages (Evers 1975). Assuming that these languages have  $V_{\text{main-to-}V_{\text{aux}}}$  and  $V_{\text{aux-to-I}}$ , the derivation of (14b') prior to OScr would look like (15b-c): as a result, OScr in (15d) does not violate HG.

<sup>3</sup> Short object shift was first identified in Johnson (1991) on the basis of English particle constructions, which exhibit a similar behavior as their Icelandic counterparts to be discussed in Section 3.1.2: cf. *I wrote <the phone number/it> down <the phone number/\*it>*. More evidence for short object shift in English can be found in, e.g., Lasnik (1999); see Broekhuis (2008: ch.2) for a brief review.

- (15) a. [CP dat [IP ..... adv<sub>cm</sub> [VP ... [VP ... DO V<sub>main</sub>] V<sub>aux</sub>] I]]  
 b. [CP dat [IP ..... adv<sub>cm</sub> [VP ... [VP ... DO t<sub>Vmain</sub>] V<sub>aux</sub> +V<sub>main</sub>] I]]  
 c. [CP dat [IP ..... adv<sub>cm</sub> [VP ... [VP ... DO t<sub>Vmain</sub>] t<sub>Vaux+Vmain</sub>] I+ V<sub>aux</sub> +V<sub>main</sub>]]  
 d. [CP dat [IP ..... DO adv<sub>cm</sub> [VP ... [VP ... t<sub>DO</sub> t<sub>Vmain</sub>] t<sub>Vaux+Vmain</sub>] I+ V<sub>aux</sub>+V<sub>main</sub>]]

On the more recent assumption that all languages have a uniform underlying VO-order, the LCA again entails that OScr in (14b') does not violate HG: the OV-order is derived by obligatory movement of the object into a VP-internal position asymmetrically c-commanding both the main and the auxiliary verb. On the assumption that these verbs both have  $\phi$ -features that may trigger short object movement, the first steps in the derivation of (14b') proceed as in (16) in the extended-projection version of the Split-VP hypothesis. The crucial thing is that the object in (16c) c-commands both the auxiliary and the main verb and can thus undergo OScr without violating HG. For ease of representation, we have again ignored the fact that the structure is built up bottom-up in an incremental way.

- (16) a. ... [<sub>VP</sub> S [<sub>V</sub> [<sub>auxP</sub> aux [<sub>PartP</sub> Part DO]]]]  
 b. ... [<sub>VP</sub> S [<sub>V</sub> [<sub>auxP</sub> aux [<sub>PartP</sub> DO [Part [<sub>PartP</sub> t<sub>Part</sub> t<sub>DO</sub>]]]]]]  
 c. ... [<sub>VP</sub> S [<sub>V</sub> [<sub>auxP</sub> DO [aux [<sub>auxP</sub> t<sub>aux</sub> [PartP t'<sub>DO</sub> [Part [<sub>PartP</sub> t<sub>Part</sub> t<sub>DO</sub>]]]]]]]]]]

The partial derivation in (16) follows Broekhuis & Van Dijk (1995) in assuming (i) that the subject is not an argument of the participle but of the auxiliary, and (ii) that it is the auxiliary that is responsible for accusative case assignment; see Broekhuis (2021) for diachronic evidence in favor of this analysis based on the development of the periphrastic perfect tense. Assumption (i) is also supported by the fact that the VP-internal subject must precede the non-finite auxiliary in Icelandic in the transitive expletive construction (17) taken from Thráinsson (2007: 56). Example (17) also provides evidence for assumption (ii): as the structural-case position targeted by OS precedes the CM-adverb *aldrei*, and *aldrei* precedes the non-finite auxiliary, it follows by transitivity that the case position also precedes the non-finite auxiliary.

- (17) það munu aldrei [<sub>auxP</sub> < margir > hafa [<sub>PartP</sub> < \*margir > lokið verkefningu]].  
 there will never many have finished the.assignment  
 'It will never be the case that many have finished the assignment.'

The participle phrase in (16a) is probably slightly more complex in that it may involve an additional aspectual functional head, which resembles *v* in that it provides the participle with verbal properties, distinguishing it from the adjectival participle. This functional head is instrumental in accounting for the fact that the participle (and the object) precede the VP-adverbials in Scandinavian. If this is indeed due to short object movement, as suggested in Section 3.1.2, step (16b) should also be part of the derivation of the Icelandic perfect-tense construction in (14a); the VO-order can be restored by subsequently moving the participle to Asp, as in (18a). Another important thing to note is that the short OS step in (16c) *cannot* occur in Icelandic because this would derive the ungrammatical S-aux-DO-participle order (18b') after aux-to-*v*. This shows that short OS in the Scandinavian languages is also subject to HG.

- (18) a. ... [<sub>AspP</sub> Part+Asp [DO [t<sub>Part</sub> [PartP t<sub>Part</sub> t<sub>DO</sub>]]]]  
 b. ... [<sub>VP</sub> S [<sub>aux+v</sub> [<sub>auxP</sub> t<sub>aux</sub> [<sub>AspP</sub> Part+Asp [DO [t<sub>Part</sub> [PartP t<sub>Part</sub> t<sub>DO</sub>]]]]]]]]  
 b'. \*... [<sub>VP</sub> S [<sub>aux+v</sub> [<sub>AuxP</sub> DO [t<sub>aux</sub> [<sub>auxP</sub> t<sub>aux</sub> [<sub>AspP</sub> Part+Asp [t'<sub>DO</sub> [t<sub>Part</sub> [PartP t<sub>Part</sub> t<sub>DO</sub>]]]]]]]]]]]]

The discussion of the structures in (15) and (16) again serves to show that there are no conclusive arguments for claiming that regular OScr in the (b)-examples of (14) violates the hierarchical version of HG in (6), which eliminates one of the main arguments for assuming that regular OS and OScr cannot be unified. However, we have also seen that there *is* a difference regarding short object movement triggered by the  $\phi$ -features on aux: this is allowed in the

Germanic OV-languages but blocked by HG in the Germanic VO-language. Observe, however, that short OS across the participle is allowed in step (16b) in the derivation of the periphrastic perfect-tense construction in *all* languages under discussion; this is a first argument for the claim discussed in Section 4 that HG cannot be a *derivational* constraint.

### 3.2 Arguments

The claim that OS cannot cross VP-internal arguments is based on double-object constructions. On the assumption that a nominal indirect object (IO) precedes the direct object (DO) within VP, HG in (6) predicts that OS of the IO can apply without OS of the DO but not vice versa. The Icelandic examples in (19) show that this prediction is correct for NP-objects.

- (19) a. Pétur sýndi oft Maríu<sub>IO</sub> bókina<sub>DO</sub>.  
           Pétur showed often Maríu the/book  
       b. Pétur sýndi Maríu oft t<sub>IO</sub> bókina.  
       c. Pétur sýndi Maríu bókina oft t<sub>IO</sub> t<sub>DO</sub>.  
       d. \*Pétur sýndi bókina oft Maríu t<sub>DO</sub>.

As pronominal OS is normally obligatory in Icelandic, the case of a NP-IO and a pronominal DO is particularly interesting. As HG forbids movement of the DO across the IO, we might expect the same pattern as in (19) but this is not what we find; it rather seems that the pronominal DO forces the NP-IO to shift, as shown in (20).

- (20) a. \*Pétur sýndi oft Maríu hana.  
           Pétur showed often Maríu her  
       b. \*Pétur sýndi Maríu oft t<sub>IO</sub> hana.  
       c. Pétur sýndi Maríu hana oft t<sub>IO</sub> t<sub>DO</sub>.  
       d. \*Pétur sýndi hana oft Maríu t<sub>DO</sub>.

Broekhuis (2008/2009a) argued on the basis of these examples that there are two strategies of meeting HG: either the IO blocks movement of the DO, as in (19d), or movement of the DO “pushes up” the IO, as in (20c).<sup>4</sup> It is less clear whether the “push-up” strategy is also found in the mainland Scandinavian languages: Engels and Vikner (2014: 68-9) claim that the Danish counterparts of (20) in (21) only exhibit the blocking strategy, although it should be noted that the judgments reported in Vikner (1989: 153) are different: (21a&c) are both assigned a double question mark, which suggests that the push-up strategy is at least marginally possible and that the blocking strategy is not fully acceptable.

- (21) a. Peter viste jo Marie den.  
           Peter showed indeed Marie it  
       b. \*Peter viste Marie jo t<sub>IO</sub> den.  
       c. \*Peter viste Marie den jo t<sub>IO</sub> t<sub>DO</sub>  
       d. \*Peter viste den jo Marie t<sub>DO</sub>

Thráinsson (2001) and Vikner (1994; 2006/2017) have claimed that OScr does not obey HG in double-object constructions. The examples in (22) and (23) show that this claim is false for OScr in Dutch; the judgments on these example are identical to those on the Icelandic examples in (19) and (20), although we use a modal adverb here.

<sup>4</sup> Engels and Vikner (2014: 67) dispute the judgments in (20) because they “are given without any source indication”. They are based on Rustick (1991: 115), which was incorrectly not acknowledged in Broekhuis (2008). Matthews (2000: §3.7.2) provides similar judgements and states that OS of the NP-IO “is forced by the preference for overt movement by the DO pronoun” (p.159); this is precisely the intuition that Broekhuis seeks to formalize.



- (22) a. dat Peter waarschijnlijk Marie het boek getoond heeft.  
           that Peter probably Marie the book shown has  
 b. dat Peter Marie waarschijnlijk  $t_{IO}$  het boek getoond heeft.  
 c. dat Peter Marie het boek waarschijnlijk  $t_{IO}$   $t_{DO}$  getoond heeft.  
 d. \*dat Peter het boek waarschijnlijk Marie  $t_{DO}$  getoond heeft.
- (23) a. \*dat Peter waarschijnlijk Marie het getoond heeft.  
           that Peter probably Marie it shown has  
 b. \*dat Peter Marie waarschijnlijk  $t_{IO}$  het getoond heeft.  
 c. dat Peter Marie het waarschijnlijk  $t_{IO}$   $t_{DO}$  getoond heeft.  
 d. \*dat Peter het waarschijnlijk Marie  $t_{DO}$  getoond heeft.

That German does allow the orders in the (d)-examples does not provide conclusive evidence in favor of the claim that OS and OS<sub>cr</sub> should be considered different syntactic processes, as it is based on a comparison of no more than two languages. The difference between German and Icelandic may therefore be accidental, and perhaps even questionable because Icelandic does allow the inverse order with (at least some) ditransitive verbs exhibiting the IO<sub>dat</sub>-DO<sub>acc</sub> case pattern; see Thráinsson (2007: §3.2.2, fn.42).

### 3.3 Verbal particles

Before we can evaluate the claim that OS<sub>cr</sub> can violate HG in verbal-particle constructions, we have to investigate this construction in some detail. First note that the relative order of objects and verbal particles is free to some extent, although there may be restrictions related to the type of NP. This is illustrated by the examples in (24) for Icelandic, taken from Thráinsson (2007: 34): while definite NP-objects may precede or follow the particle, definite pronouns must precede it.

- (24) a. Ég skrifaði <símanúmerið> niður <símanúmerið>. [definite NP]  
           I wrote phone.number down  
 b. Ég skrifaði <það> niður <\*það>. [definite pronoun]  
           I wrote it down

On the standard assumption that the particle is the head of a small clause (Den Dikken 1995), there are at least two plausible analyses of the word order variation in (24): cf. Engels & Vikner (2014: §4.5.4). One option is that the object is the specifier of the particle and that the word order Prt>O results from incorporation of the particle into the verb, as in (25a). Another option is that the object is a complement of the particle and that the word order O>Prt results from leftward movement of the object, as in (25b); note that the landing site of the object is located internal to VP but external to PrtP for reasons that will become clear shortly.

- (25) a. ...[VP ... V [PrtP Object Prt]]; [VP ... V+Prt [PrtP Object  $t_{Prt}$ ]]  
 b. ...[VP ... V [PrtP Prt Object]]; [VP ... V Object [PrtP Prt  $t_{Object}$ ]]

As it seems less obvious to assume that particle incorporation is sensitive to the form of the object, we will take the analysis in (25b) as our point of departure. Although the examples in (24) show that leftward object movement in (25b) seems sensitive to a similar restriction as regular OS, it is clearly different. This is illustrated by the examples in (26) and (27), taken from Thráinsson (2007: §3.2.2.5). The (b)-examples cannot be derived by regular OS as the object is moved into a position following the CM-adverbial; hence, we are dealing with short OS of the kind discussed in 3.1.1. The (c)-examples, on the other hand, are derived by regular

OS: the movement targets a position preceding the CM-adverbial in (26c) and is blocked in (27c) by the VP-internal participle.<sup>5</sup>

- (26) a. Ég fletti aldrei upp nöfnunum.  
I looked never up the.names  
b. Ég fletti aldrei nöfnunum upp.  
c. Ég fletti nöfnunum aldrei upp.
- (27) a. Ég hef aldrei flett upp nöfnunum.  
I have never looked up the.names  
b. Ég hef aldrei flett nöfnunum upp.  
c. \*Ég hef nöfnunum aldrei flett upp.

That short OS is at work in verbal-particle constructions is also clear from the mainland Scandinavian examples in (28), taken from Engels & Vikner (2014: §4.5.4): (i) object movement is possible despite the fact that we are dealing with perfect-tense constructions: (ii) object movement is possible with NP-objects in Norwegian and Danish while this is impossible in the case of regular OS; (iii) while regular OS of definite pronouns is optional in Norwegian and Swedish, pronoun movement is obligatory in Norwegian (28b) and prohibited in Swedish (28b'').

- (28) a. Jeg har ikke skrevet <nummeret> op <\*nummeret>. [Danish]  
a'. Jeg har ikke skrevet <nummeret> opp <nummeret>. [Norwegian]  
a''. Jeg har inte skrivit <\*numret> upp <numret>. [Swedish]  
I have not written the.number down  
b. Jeg har ikke skrevet <det> op <\*det>. [Danish]  
b'. Jeg har ikke skrevet <det> opp <\*det>. [Norwegian]  
b''. Jag har inte skrivit <\*det> upp <det>. [Swedish]  
I have not written it down

The similarities and difference between regular and short OS with respect to NP type in the Scandinavian languages discussed above are summarized in Table 2. The columns concerning regular OS of course only pertain to constructions in which regular OS does not violate HG.

Table 2: Restrictions on leftward movement of objects: NP type

	regular object shift		short object shift	
	definite pronouns	definite NPs	definite pronouns	definite NPs
Icelandic	obligatory	optional	obligatory	optional
Danish	obligatory	—	obligatory	obligatory
Norwegian	optional	—	obligatory	optional
Swedish	optional	—	—	—

Holmberg's claim that verbal particles block (regular) OS is merely based on Swedish examples such as (29a), as the Scandinavian languages allowing the O>Prt order also allow regular OS: this is illustrated by the Icelandic examples in (26) and the Danish examples in (28b)/(29b).

<sup>5</sup> Section 3.1.1 claimed that short OS *normally* applies in Scandinavian because the (a)-examples show that it is *not obligatory*. The question as to why the object also precedes the VP-adverbials when it follows the particle cannot be discussed here for reasons of space; see Broekhuis (2008: §5.1) for the general outline of the solution to this problem.

- (29) a. Jag kastade <\*den> inte <\*den> bort <den>. [Swedish]  
 I threw it not away  
 b. Jeg smed <det> ikke <\*det> ud <\*det>. [Danish]  
 I threw it not away

The fact that the acceptability of regular OS in verbal-particle constructions directly depends on whether short OS is possible casts serious doubt on the claim that HG restricts regular OS in the Swedish examples in (29a): this would only be the case if regular OS had to skip the intermediate position, which is quite improbable in the light of the minimalist constraint SHORTEST MOVE or one of its kins, which prohibits nominal arguments to skip intermediate A-positions it is associated with by agreement or case assignment.

It is even more doubtful that verbal-particle constructions could have a bearing on whether OScr can violate HG. The examples in (30) show that the object must precede the particle in Dutch, and is therefore in a structurally higher position within VP than the particle, just as in Icelandic: therefore, OScr across the CM-adverbials does not violate the hierarchical version of HG.

- (30) a. Hij gooit <het boek> waarschijnlijk <het boek> weg <\*het boek>.  
 he throws the book probably away  
 b. Hij gooit <het> waarschijnlijk <het> weg <\*het>.  
 he throws it probably away

This leads to the conclusion that verbal-particle constructions have nothing substantial to contribute to coming to grips with our main question whether regular OS and OScr should be considered different syntactic processes.<sup>6</sup>

### 3.4 Prepositions

One of the leading intuitions in the study of regular OS since Holmberg (1986) has been that it is somehow related to structural case assignment. This intuition has been implemented in many ways, but the currently prevailing hypothesis is that it is an instantiation of A-movement: OS optionally moves the object into a structural-case position. The virtue of this proposal is that it immediately accounts for the following two facts, illustrated by Icelandic examples taken from Thráinsson (2007: 33/97): (i) OS does not apply to noun phrases that are already in a case position, as is illustrated in (31a) for the nominal complement of the preposition *við*; (ii) OS targets nominal but not prepositional (or clausal) objects, as illustrated in (31b).

<sup>6</sup> The negative adverb in (29) has been replaced by the modal *waarschijnlijk* in (30) because the negative adverb *niet* is probably not part of the set of CM-adverbs that can be used to demonstrate regular OScr. It seems too low in the structure, as is clear from the fact that definite object NPs obligatorily precede it in neutral clauses; cf. Kraak (1966: §25) and Broekhuis & Den Dikken (2012: §8.1.3.4). The hash sign in (ia) indicates that the object in this position must be contrastively accented, in which case *niet* does not express sentence but constituent negation. This does not hold for Icelandic *ekki* in (ib).

- (i) a. Jan heeft <het boek> waarschijnlijk <het boek> niet <#het boek> gelezen.  
 ‘Jan has probably not read the book.’  
 b. Í gær las Pétur <bókina> eflaust <\*bókina> ekki <bókina>.  
 ‘Yesterday Pétur undoubtedly did not read the book.’

Vikner (2006/2017: §2.4.4) concluded from examples such as (ia) that OScr differs from OS in that it can target a landing site between two CM-adverbials. A better analysis might be that short OScr obligatorily moves the definite object in front of *niet*, optionally followed by OScr across the modal adverb. This issue does not affect our discussion here; however, be aware that even some Dutch linguists incorrectly treat *niet* as a CM-adverbial; Broekhuis (in prep.) discusses some problems resulting from this.

- (31) a. *Ég talaði <\*Maríu/\*hana> aldrei [PP við <Maríu/hana>].*  
 I spoke Maríu/her never to  
 b. *Ég talaði <\*[PP við Maríu/hana]> aldrei <[PP við Maríu/hana]>].*  
 I spoke to Maríu/her never  
 ‘I never spoke to Maríu.’

OS differs in this respect from typical A'-movements such as the movement of the negative PP/NP in the examples in (32), adapted from Thráinsson (2007: 36); note that an OS-analysis is not possible for these examples as the movements obligatorily cross the past participle. Thráinsson does not discuss the difference between the two examples in (32) with respect to preposition stranding but a safe guess would be that this is related to an argument-adjunct asymmetry (but see his fn.11).

- (32) a. *Jón hefur <engan> talað við <\*engan>.*  
 Jón has nobody spoken to  
 ‘Jón has not spoken to anybody.’  
 b. *María hefur <um ekkert annað> talað <\*um ekkert annað>.*  
 María has about nothing else talked  
 ‘María has not spoken about anything else.’

Since the unacceptability of leftward movement in the two examples in (31) follows from the general constraint that A-movement applies to noun phrases with an unvalued case feature only, it seems undesirable to evoke HG to exclude it. Vikner's (2006/2017: §2) claim that OS differs from OS in this respect is of course incompatible with the hypothesis that they both involve A-movement but it is at least partly incorrect: “scrambling” of the complement of the preposition *voor* in (33a) is just as bad as “OS” of the complement of *við* in (31a). A stronger case can perhaps be made for PP-scrambling, as the two word orders in (33b) are both acceptable; this issue will be postponed to Section 3.5.

- (33) a. *Marie heeft <\*zijn kat> vaak voor <zijn kat> gezorgd.*  
 Marie has his cat often for taken.care  
 b. *Marie heeft <voor zijn kat> vaak <voor zijn kat> gezorgd.*  
 Marie has for his cat often taken.care  
 ‘Marie has often taken care of his cat.’

Vikner's claim that scrambling can “cross” a preposition runs afoul of the fact that Dutch and German do not seem to allow preposition stranding *at all*, apart from the cases of R-pronominalization discussed in Van Riemsdijk (1978), illustrated in (34b).

- (34) a. *Marie heeft <\*hem> vaak voor <hem> gezorgd.*  
 Marie has him often for taken.care  
 b. *Marie heeft <er> vaak <er>voor gezorgd.*  
 Marie has there often there.for taken.care  
 ‘Marie has often taken care of it.’

The leftward shift of the R-word *er* ‘there’ in (34b) can also be observed in the case of R-words with, e.g., an adverbial function, which suggests that we are dealing with A'-movement. Van Riemsdijk claims that the movement targets a designated R-position in the left periphery of the middle field of the clause, following the subject. That the R-position is an A'-position is supported by Huybregts' (1991) finding that R-words in this position evoke relativized-minimality effects on *wh*-movement of more deeply embedded R-words; see Broekhuis (2013: §5.3) for a review of Huybregts' study (which is written in Dutch). This shows that leftward movement of R-words is not relevant for our discussion of OS/OScr.

For completeness' sake, note that the designated R-position may also be available in the Scandinavian languages: the (a)-examples in (35) show that adverbials like Icelandic *þar* and Danish *der* 'there' can (or in the case of Danish must) be moved leftward across the CM-adverbials (Haider et al. 1995). However, the claim that we are dealing with A'-movement is not unproblematic in this case, as the (b)-examples show that *þar/der* movement differs from other A'-movement types (such as Neg-movement in (32): it is sensitive to HG in that it cannot cross a VP-internal verb).

- (35) a. Pétur svaf <þar> ekki <þar>.  
 a'. Peter sov <der> ikke <\*der>.  
 Peter there slept not  
 b. Pétur hefur <\*þar> ekki sofið <þar>.  
 b'. Peter har <\*der> ikke sovet <der>.  
 Peter has there not slept

This has led to an analysis of *þar/der*-movement as OS, even though this contradicts the claim that OS involves A-movement; see Thráinsson (2001: fn.7), from which (35) is taken, Vikner (2006/2017: §5), Broekhuis (2008: §3.2.2.1), and Engels and Vikner (2014: §4.4) for more discussion of this still unsolved problem.

### 3.5 PP-scrambling and parasitic gaps

This section discusses two final arguments against unification of OS and OScr: the latter but not the former can affect prepositional objects and license parasitic gaps. We start with the PP-movement argument: the restriction on PP-placement in example (31b) shows that OS of PPs is blocked, while the acceptability of (33b) suggests that OScr of PPs is possible. Unification of OS and OScr as A-movement targeting the specifier of a case-assigning head can therefore only be maintained if it can be shown that PP-scrambling is actually not the result of A but of A'-movement, e.g. contrastive topic/focus movement of the type described in Neeleman & Van de Koot (2008). This option was discussed in Neeleman (1994a: 409) for (36) but immediately dismissed because the moved PP *op mijn opmerking* does not require (contrastive) accent.

- (36) dat Jan op mijn opmerking nauwelijks *t<sub>PP</sub>* reageerde.  
 that Jan on my remark hardly reacted  
 'that Jan hardly responded to my remark.'

It is not easy to evaluate Neeleman's claim concerning accent because contrastive accent is not always easy to detect but there are other reasons to dispute that we are dealing with OScr here; cf. Broekhuis (2008: 67ff.). First, consider the examples in (37), in which the complement of the PP is a pronoun: scrambling of such PPs is possible only with the pronoun in its non-reduced form. Given that the complement of scrambled PPs must be assigned stress while OScr normally has the effect of destressing the object, this would suggest that Neeleman is wrong in assuming that scrambled PPs are not assigned (contrastive) accent.

- (37) a. dat Jan nauwelijks naar hem/'m luisterde.  
 that Jan hardly to him listened  
 b. dat Jan naar hem/\*'m nauwelijks luisterde.

Second, PP-scrambling seems possible only across scope-bearing adverbial phrases. When we replace the negative adverb *nauwelijks* in (36) by the time adverb *gisteren* 'yesterday', as in (38a), PP-scrambling gives rise to a degraded result under a neutral (non-contrastive) intonation pattern of the sentence; this is illustrated in (38b-c) for two more cases. OScr, on the other

hand, can easily cross adverbs like *gisteren*: cf. *Ik heb dat boek<sub>i</sub> gisteren t<sub>i</sub> gelezen* ‘I read that book yesterday’.

- (38) a. ??Jan heeft op mijn opmerking<sub>i</sub> gisteren t<sub>i</sub> gereageerd.  
 Jan has on my remark yesterday reacted  
 b'. \*?Jan heeft naar Marie gisteren gekeken.  
 Jan has at Marie yesterday looked  
 c'. \*Jan heeft op vader gisteren gewacht.  
 Jan has for father yesterday waited

Finally, the (a)-examples in (39) show that scrambling of a PP-complement of the verb across an adverbial PP is always blocked, while OScr across an adverbial PP is possible. Note that the unacceptability of PP-scrambling in (39a) cannot be accounted for by invoking a constraint prohibiting movement of an XP across an adverbial phrase of the same categorial type, as this would also wrongly exclude OScr in (39b).

- (39) a. dat Jan <\*op Marie> na de vergadering <op Marie> wachtte.  
 that Jan for Marie after the meeting waited  
 ‘that Jan waited for Marie after the meeting.’  
 a'. dat Jan <het boek> na de vergadering <het boek> wegbracht.  
 that Jan the book after the meeting away-brought  
 ‘that Jan delivered the book after the meeting.’  
 b. dat Jan <dat boek> deze middag <dat boek> zal wegbrengen.  
 that Jan that book this afternoon will away-bring  
 ‘that Jan will deliver that book this afternoon.’

The examples above have shown that PP scrambling exhibits behavior untypical of OScr: we are dealing with A'-movement. Since contrastive focus/topic movement is a characteristic of the Germanic OV-languages (i.e. not found in the Germanic VO-languages), the contrast with respect to leftward PP-movement follows.

The difference between the Germanic OV and VO-languages with respect to contrastive focus/topic movement may also account for another difference between OS and OScr, viz. that only the latter can license parasitic gaps in infinitival adverbial clauses.<sup>7</sup> Consider the German examples in (40), taken from Webelhuth (1992: §5.6) in a slightly adapted form. Example (40a) shows that OScr has the typical A-movement property that it may feed anaphor binding: inverting the unmarked (hierarchical/linear) order of nominal objects (IO>DO) by OScr enables the DO to act as the antecedent of the reciprocal IO *einander*. However, Webelhuth claims that example (40b) shows that OScr also has the typical A'-property of licensing parasitic gaps (pg). Example (40c) seems to show that OScr can even exhibit the A and A'-properties simultaneously; this observation has become known as *Webelhuth's Paradox*.

<sup>7</sup> This may be related to the fact that OScr can license parasitic gaps only if the infinitival clause is located in the middle field of the clause, as in (40), i.e. parasitic gaps are excluded when the clause follows the verb(s) in clause-final position; cf. Chocano and Putnam (2013). Since adverbial clauses are typically found in clause-final position in the Scandinavian languages, OS is not expected to license parasitic gaps.

- (40) a. Er hat <die Gäste<sub>i</sub>> einander<sub>i</sub> <\*die Gäste<sub>i</sub>> vorgestellt.  
 he has the guests<sub>acc</sub> each.other introduced
- b. Hans hat <Maria<sub>i</sub>> [ohne pg<sub>i</sub> anzuschauen] <\*Maria<sub>i</sub>> geküsst.  
 Hans has Maria without to.look.at kissed
- c. Er hat die Gäste [ohne pg<sub>i</sub> anzuschauen] einander<sub>i</sub> vorgestellt.  
 he has the guests without to.look.at each.other introduced

The paradox can be solved in a very simple way by assuming that nominal objects cannot only be moved by OScr but also by contrastive focus/topic movement, as was already amply demonstrated by Neeleman & Van de Koot (2008): (40a) involves A-movement (viz. OScr), and example (40b) A'-movement (viz. focus/topic movement). That (40c) exhibits mixed A and A'-properties can now be accounted for by claiming that it involves both movement types: the DO is first moved in front of the IO by OScr, which results in binding of the IO by the DO, and this is followed by focus/topic movement of the DO in front of the infinitival clause, from where the DO can license the parasitic gap. This analysis debunks the final argument against unification of OS and OScr.

### 3.6 Conclusion

This section has reviewed some empirical arguments against the unification of OS and OScr as A-movement of the object into the specifier of a case-assigning head. We started by investigating the claim that OS and OScr differ in that the former but not the latter is subject to HG, and argued that it cannot be upheld: (i) HG is simply not relevant to OScr in the case of VP-internal verbs and verbal particles because it takes place from a position that is not preceded/c-commanded by these elements; (ii) OScr of a direct object is blocked by a preceding VP-internal indirect object in Dutch (but not in German); (iii) OScr of the nominal complement of a preposition is impossible. This section concluded by refuting the claim that OS and OScr differ in that the latter but not the former may affect PPs and can license parasitic gaps, leading to the conclusion that unification is possible. In fact, this seems the simplest hypothesis from the perspective of current generative grammar, which claims that A-movement of nominal arguments into a structural-case position is universally available. It should therefore be adopted as the starting point for future research, until proven false beyond any reasonable doubt.

## 4 The nature of Holmberg's generalization

The formulation of HG in (6) is rather atypical of a syntactic rule: "OS is blocked by any phonologically visible category preceding/c-commanding the object position within VP". One reason is the phrase "phonologically visible category", as syntactic rules are normally not sensitive to the phonological shape of their environment. However, this formulation is not accidental, as Holmberg (1999) argues that OS is in fact a post-syntactic rule applying in the "component of stylistic rules". The gist of the argument is simple: since OS is blocked by a wide range of VP-internal elements (verbs, arguments, etc.) but not blocked by their traces, OS must be a post-syntactic rule. Consider the Swedish examples in (41).

- (41) a. Jag har <\*henne> inte kysst <henne>.  
 I have her not kissed
- b. Kysst har jag henne inte.  
 Kissed have I her not  
 'I haven't kissed her.'

Holmberg claims that analyzing OS as a syntactic operation leads to a violation of strict-cyclicity (i.e. the extension condition on Merge): (41a) shows that OS cannot apply across the

main verb when it is *in situ*, and (41b) can therefore only be derived by moving the participle into SpecCP, as in (42b), before applying OS in an anticyclic manner, as in (42c).

- (42) a. ... har jag inte [<sub>VP</sub> kysst henne]  
 b. kysst har jag inte [<sub>VP</sub> *t*<sub>kysst</sub> henne]  
 c. kysst har jag henne inte [<sub>VP</sub> *t*<sub>kysst</sub> *t*<sub>henne</sub>]

The claim that OS is a post-syntactic operation solves this problem because the extension condition does not apply to post-syntactic, stylistic (movement) operations. The contrast in (41) can now be accounted for by HG in (6): applying stylistic OS to the syntactic output in (43a) is blocked by the participle; applying stylistic OS to the syntactic output in (43b) is allowed as it only crosses the trace of the participle.

- (43) a. jag har inte [<sub>VP</sub> kysst henne]  
 a'. \*jag har henne inte [<sub>VP</sub> kysst *t*<sub>henne</sub>]  
 b. kysst har jag inte [<sub>VP</sub> *t*<sub>kysst</sub> henne]  
 b'. kysst har jag henne inte [<sub>VP</sub> *t*<sub>kysst</sub> *t*<sub>henne</sub>]

A similar account is given for the Swedish double-object constructions in (44). The two examples differ in that the IO is still VP-internal in the post-syntactic component in (44a) but not in (44b): stylistic OS of DO is blocked in the former case because it crosses IO but not in the latter because it only crosses the *wh*-trace of IO.

- (44) a. \*Jag gav den<sub>i</sub> inte [<sub>VP</sub> *t*<sub>gav</sub> Elsa *t*<sub>i</sub>].  
 I gave it<sub>DO</sub> not Elsa<sub>IO</sub>  
 b. Vem<sub>j</sub> gav du den<sub>j</sub> inte [<sub>VP</sub> *t*<sub>gav</sub> *t*<sub>i</sub> *t*<sub>j</sub>]?  
 who<sub>IO</sub> gave you it<sub>DO</sub> not

The hypothesis that OS takes place in a stylistic component of the grammar faces various empirical problems (as well as serious questions about the restrictiveness and consequently the learnability of the resulting grammar, which will not be discussed here). First, consider the double-object constructions in (45), taken from Vikner (1989;1990); we use Danish examples here as it will allow us to ignore the complicating factor that pronominal OS is optional in Swedish (irrelevant in the present context).

- (45) a. \*Peter viste jo hende den.  
 Peter showed indeed her it  
 b. \*Peter viste hende jo *t*<sub>IO</sub> den.  
 c. Peter viste hende den jo *t*<sub>IO</sub> *t*<sub>DO</sub>.  
 d. \*Peter viste den jo hende *t*<sub>DO</sub>.

The syntactic output delivered to the stylistic component is given in (46a). That the examples in (45a,b) are ungrammatical is to be expected, given the obligatoriness of pronominal OS in Danish in simple main clauses, but what about (45c,d)? We now face the same problem as in the syntactic component: OS of the DO will cross the phonologically visible IO and HG will be violated. A reasonable solution would be to first move the IO out of VP, as in (46b), after which we are able to shift the DO without violating HG. However, now there is no longer a guarantee that the relative order of the two objects will be preserved, as HG does no longer block movement of the DO across the (VP-external) IO: the two c-examples are therefore wrongly predicted to be both acceptable.



- (46) a. Peter viste jo [<sub>VP</sub> *t<sub>V</sub>* hende den] [input stylistic component]  
 b. Peter viste hende<sub>i</sub> jo [<sub>VP</sub> *t<sub>V</sub>* *t<sub>hende</sub>* den] [OS of IO]  
 c. Peter viste hende<sub>i</sub> den<sub>j</sub> jo [<sub>VP</sub> *t<sub>V</sub>* *t<sub>hende</sub>* *t<sub>den</sub>*] [OS of DO; option 1]  
 c'. \*Peter viste den<sub>j</sub> hende<sub>i</sub> jo [<sub>VP</sub> *t<sub>V</sub>* *t<sub>hende</sub>* *t<sub>den</sub>*] [OS of DO; option 2]

Another empirical problem pointed out by Engels and Vikner (2014:ch.6) concerns the derivation given in (43b-b') of the Swedish example in (41b), repeated in some more detail as (47a-b). Representation (47a) shows that Holmberg assumes that the past participle *kysst* is extracted from VP by topicalization. However, since pronominal OS is optional in Swedish, we wrongly expect that (47b') would also be a possible output of the stylistic component.

- (47) a. [<sub>CP</sub> *kysst* [<sub>C'</sub> har jag inte [<sub>VP</sub> *t<sub>kysst</sub>* henne]]] [input stylistic component]  
 b. [<sub>CP</sub> *kysst* [<sub>C'</sub> har jag henne inte [<sub>VP</sub> *t<sub>kysst</sub>* *t<sub>henne</sub>*]]] [OS: option 1]  
 b' \*[[<sub>CP</sub> *kysst* [<sub>C'</sub> har jag inte [<sub>VP</sub> *t<sub>kysst</sub>* henne]]]] [OS: option 2]

The assumption that (41b) is derived by topicalization of the participle head is problematic in itself as topicalization normally targets maximal projections; VP-topicalization is thus expected but it requires that the object first be extracted from the VP, as in derivation (48). This is of course not compatible with Holmberg's claim that OS is a post-syntactic rule, as it crucially precedes VP-topicalization, but it does account for the obligatoriness of pronominal OS in (41b).

- (48) a. ... har jag inte [<sub>VP</sub> *kyst* henne] [simplified input]  
 b. ... har jag henne inte [<sub>VP</sub> *kysst* *t<sub>henne</sub>*] [OS]  
 c. [<sub>VP</sub> *kysst* *t<sub>henne</sub>*] har jag henne inte *t<sub>VP</sub>* [VP-topicalization]

A theory-internal argument in favor of the purely syntactic derivation in (48) relates to the overall organization of the grammar. Holmberg adheres to the generally accepted claim that OS applies to presuppositional material only; however, Chomsky (2001:15) points out that operations of the stylistic (phonological) component are not expected to have semantic effects: OS must therefore be a syntactic operation. Chomsky further claims that the restrictions on OS cannot be due to a syntactic constraint but are determined by factors *external* to the computational system  $C_{HL}$ . He therefore reformulates HG in terms of *language-specific* filters on the syntactic output of  $C_{HL}$ , which select from the convergent representations with and without OS; see Broekhuis (2008) and Haider (2020) for more recent proposals exploring the same intuition. This proposal converges with the various optimality-theoretic proposals that derive such surface effects in terms of language-specific rankings of otherwise universal constraints related to movement, linearization, prosody, etc.; for specific proposals, see, e.g., Vikner (2001), Broekhuis (2000; 2008), Müller (2001), Sells (2001), Vogel (2006b), Broekhuis & Woolford (2013), and Engels and Vikner (2014).

## 5 Prospect

One virtue of treating the restrictions on OS as essentially of a language-specific nature is that it forces us to approach the analysis of object movement from a fresh perspective. The Yiddish examples in (49), for instance, clearly exhibit some of the earmarks of regular OS: like in Icelandic and Dutch, definite noun phrases move leftward into a position preceding the CM-adverbial depending on whether they belong to the focus or the presupposition of the clause; non-specific indefinites do not allow movement, and weak definite pronouns must be moved; cf. Diesing (1997:§5.1).

- (49) a. Maks hot <dos bukh> mistome nit geleyent <dos bukh>.  
 Maks has the book probably not read
- b. Maks hot <\*a bukh> mistome nit geleyent <a bukh>.  
 Maks has a book probably not read
- c. Maks hot <undz> gekent <\*undz>.  
 Maks has us known

Object movement in examples like those in (49) has been one of the main reasons why Den Besten and Moed-van Walraven (1986) put the question as to whether Yiddish should be considered a VO or an OV-language on the research agenda. Diesing (1997) advocates a VO-analysis and claims that Yiddish should be seen as an exception to the rule that OScr occurs in OV-languages only while Haider and Rosengren (1998) attempted to solve this problem by arguing that Yiddish is an OV-language but obligatorily moves the non-finite verb to the left of the objects. However, if OS and OScr are indeed instantiations of one and the same rule, the question of whether OScr can exceptionally occur in VO-languages loses interest: the new question becomes what language-specific restrictions on object (and verb) movement account in a principled way for the variation found among the members of the Germanic language family; see Broekhuis (2011) for a more general discussion.

### Further reading

The notion of scrambling was introduced in Ross (1967; §1.3.2) in his description of free word order in languages like Latin and Russian. It has since been used as a cover term in the description of a wide range of word-order phenomena in various typologically different languages: see the studies in Corver and Van Riemsdijk (1994) and Karimi (2003) for illustration. The literature on Germanic syntax normally uses it to refer to the flexible word order of arguments and specific types of adverbial phrases in the middle field of the West-Germanic languages; see Broekhuis and Corver (2016: ch.13) and Haider (2017) for data collections. The notion of object shift is used for a similar but slightly more constrained word-order phenomenon in the Scandinavian languages; see Thráinsson (2001; 2007: §2.2.4) and Vikner (2017) for data collections.

The distinction between A and A'-scrambling finds its origin in Neeleman (1994a), and has been developed further in Neeleman and Van de Koot (2008); see Broekhuis and Corver (2016: ch.13) for an extensive review and data illustrating the difference. That a similar distinction need be made for leftward (object) movement in the Scandinavian languages is clear from the discussion in Thráinsson (2007: §2.2.4-5).

Verhagen (1986) argues that that A-scrambling (i.e. object scrambling of the kind discussed in this contribution) is sensitive to information structure, in that scrambled objects are typically part of the presupposition of the clause; see Lenerz (1977) for a similar claim for German in a somewhat different context. Holmberg (1986: ch.2) claims more or less the same for object shift in the Scandinavian languages. The fact that Verhagen and Holmberg both look at the relative order of nominal arguments and clause-medial adverbials raises the question as to whether object scrambling and object shift are in fact similar movements. This question is answered in the negative in Thráinsson (2001) and Vikner (2017); the present contribution scrutinizes Vikner's arguments leading to this conclusion and argues that it cannot be upheld.

The currently prevailing generative view on A-scrambling and object shift is that the shifted order is derived by (optional) A-movement of the object into its case-position; Broekhuis (2020) reviews some recent proposals, like Chomsky (2001), Broekhuis (2008) and Engels and Vikner (2014). It is assumed, however, that we are not dealing with truly optional movement but that the movement is (at least partly) conditioned by the information structure

of the clause, more specifically, the division between presupposition and focus (new information). It is important to note that this does not exclude the possibility that other factors may be involved as well, as should be clear from the fact that at least object shift is subject to certain language-specific order restrictions (cf. Holmberg's generalization). Other factors that have been suggested are phonological (cf. Erteschik-Shir and Josefsson 2017) or semantic in nature. This supports the idea that object scrambling/shift is not a purely syntactic matter but is conditioned by output conditions imposed by other cognitive components of the grammar: see Chomsky (2001), Broekhuis (2008), Struckmeier (2017), and Haider (2020) for pleas in favor of the general idea with varying theoretical implementations.

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