Scandinavian object shift, remnant VP-topicalisation, verb particles and causatives

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Abstract
Based on the examination of remnant VP-topicalisation constructions, this paper argues for an order preservation analysis to Scandinavian Object Shift. Reviewing Fox & Pesetsky's (2003, 2005a,b) cyclic linearization approach and extending the empirical data base, we hope to show that the phenomena are better accounted for in an Optimality Theoretic framework.

To support this, this paper discusses two particular differences between Danish and Swedish related to OS and remnant VP-topicalisation, namely between Danish and Swedish particle verb constructions (section 4.1), and between Danish and Swedish causative constructions with let (section 4.2).

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1 Introduction

In the Scandinavian languages, an unfocused object may move from its canonical position right of the main verb to a position left of a sentential adverbial. This movement operation is called Object Shift (OS). OS is restricted to weak pronouns in the Mainland Scandinavian languages (MSc), but may also optionally take place with full DPs in Icelandic; cf. (1) and (2). Note that pronominal OS is obligatory in Icelandic, Faroese, and Danish, (3)/(4), but optional in Norwegian and Swedish, (5).

(1) Ic a. Af hverju las Pétur aldrei ____ þessa bók?
   why read Pétur never this book
b. Af hverju las Pétur bessa bók aldrei ____ ____?

(2) Da a. Hvorfor læste Peter aldrig ____ den her bog?
   why read Peter never this here book
b. *Hvorfor læste Peter den her bog aldrig ____ ____?

(3) Ic a. *Af hverju las Pétur aldrei ____ hana?
   why read Pétur never it
b. Af hverju las Pétur hana aldrei ____ ____? (Vikner 2005:394)

(4) Da a. *Hvorfor læste Peter aldrig ____ den?
   why read Peter never it
b. Hvorfor læste Peter den aldrig ____ ____? (Vikner 2005:394)

(5) Sw a. Varför läste Peter aldrig ____ den?
   why read Peter never it
b. Varför läste Peter den aldrig ____ ____?

OS presupposes movement of the main verb; as shown in (6), it cannot cross a verb in situ.

(6) Da a. Hvorfor har Peter aldrig læst den?
   why has Peter never read it
b. *Hvorfor har Peter den aldrig læst ____?

This observation, i.e. that the object only moves if the main verb has moved, forms the basis of Holmberg’s generalisation (Holmberg 1986:165, 1997:208). Holmberg's (1997) formulation is given in (7), where 'within VP' has to mean that only elements 'properly inside' VP (i.e. not adverbials or other elements adjoined to VP) may block object shift.

(7) Holmberg's Generalisation (HG)

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

However, the main verb does not have to undergo head movement (V°-to-I°-to-C° movement) as in (1)-(5) in order to license OS. OS is also possible in clauses with a non-finite main verb if the verb occurs in clause-initial position, (8). In fact, OS has to take place in this case, (9).
The following sections concentrate on OS in constructions in which a non-finite main verb occurs in topic position. Section 2.1 argues in favor of a remnant VP-topicalisation approach, rejecting Holmberg’s (1997, 1999) V°-topicalisation approach. Section 2.2 presents Fox & Pesetsky’s (2003, 2005a,b) cyclic linearisation approach to OS and briefly addresses some theoretical and empirical problems this approach faces. Section 3 sets out the basics of our analysis which is couched in an Optimality Theoretic framework, and section 4 discusses two particular differences between Danish and Swedish related to OS and remnant VP-topicalisation, namely between Danish and Swedish particle verb constructions (section 4.1), and between Danish and Swedish causative constructions with let (section 4.2). Section 5 summarizes the main results.

2 Holmberg’s Generalisation: V°-Topicalisation vs. Remnant VP-Topicalisation

2.1 Holmberg’s (1997, 1999) V°-Topicalisation approach

The definition of HG in (7) is vague with respect to whether precedence and/or c-command of a phonologically visible category blocks movement. In the 1999 version of the same paper, Holmberg formulates HG in terms of asymmetric c-command. For reasons that will become clear in section 3 below, the first option will be pursued here, that is, we will take HG to be the consequence of a violable condition on order preservation (cf. Déprez 1994, Müller 2001a, Sells 2001, Williams 2003, and Fox & Pesetsky 2005a, Koeneman 2006).

Holmberg (1997, 1999) suggests that HG is a derivational condition, not a representational one. OS of an infinitival clause subject is possible as long as there is no intervening non-adverbial material; cf. (10)a and (10)b. A violation of HG, as in (10)c, cannot be repaired by subsequent operations, as in (10)d, that place the blocking element to the left of the shifted object; in other words, HG may not be violated at any point in the course of derivation.

(10) Sw a. Jag såg henne inte [VP ___ [IP _____ arbeta]].
   I saw her not work
b. Jag har inte [VP sett [IP henne arbeta]].
   I have not seen her work
c. *Jag har henne inte [VP sett [IP _____ arbeta]].
   I have not seen her work
d. *[VP Sett [IP _____ arbeta]] har jag henne inte ____________.
   (Holmberg 1997:206)

Holmberg concludes that the grammatical sentences in (8) cannot involve OS prior to remnant VP-topicalisation since that would violate HG in a parallel fashion, cf. (11). Rather, they must be derived by V°-topicalisation, with subsequent OS, cf. (12).

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11) Deriving (8)a by remnant VP-topicalisation

Sw a. \[ [CP \quad \text{har} \quad [IP \quad \text{jag} \quad [VP \quad \text{inte} \quad [VP \quad \text{kysst} \quad \text{henne}]]]] \]

b. \[ [CP \quad \text{har} \quad [IP \quad \text{jag} \quad \text{henne} \quad [VP \quad \text{inte} \quad [VP \quad \text{kysst} \quad \text{____}]]]] \]

\[ \text{violition of HG!!!} \]

c. \[ [CP \quad [VP \quad \text{Kysst} \quad \text{____}]] \quad \text{har} \quad [IP \quad \text{jag} \quad \text{henne} \quad [VP \quad \text{inte} \quad \text{____}]] \]

12) Deriving (8)a by V°-topicalisation

Sw a. \[ [CP \quad \text{har} \quad [IP \quad \text{jag} \quad [VP \quad \text{inte} \quad [VP \quad \text{kysst} \quad \text{henne}]]]] \]

b. \[ [CP \quad [V° \quad \text{Kysst}]] \quad \text{har} \quad [IP \quad \text{jag} \quad [VP \quad \text{inte} \quad [VP \quad \text{____} \quad \text{henne}]]]] \]

c. \[ [CP \quad [V° \quad \text{Kysst}]] \quad \text{har} \quad [IP \quad \text{jag} \quad \text{henne} \quad [VP \quad \text{inte} \quad [VP \quad \text{____} \quad \text{____}]]]] \]

Note that the V°-topicalisation analysis is theoretically somewhat problematic: It is counter-cyclic and it involves movement of an X° to an XP-position.¹ (See also Broekhuis 2008: section 4.3.3 for an extensive critique of Holmberg’s 1999 proposal.)

Moreover, OS is usually optional in Swedish but it is obligatory if the verb occurs in topic position; cf. (8) and (9) above. This is unexpected under the V°-topicalisation analysis, whereas it would follow under the remnant VP-topicalisation analysis, where OS must apply to move the object out of VP prior to topicalisation.

In addition, if V°-topicalisation were possible, the sentences in (13)b/(14)b would be expected to be acceptable, contrary to fact. Furthermore, examples like (15) below show that remnant VP-topicalisation is possible in Scandinavian, as admitted in Holmberg (2005:148).

(13) Da a. Jeg har ikke smidt den ud.
\[ I \quad \text{have} \quad \text{not} \quad \text{thrown} \quad \text{it} \quad \text{out} \]

b. *Smidt har jeg den ikke _____ ud.

(14) Da a. Jeg har ikke stillet det på bordet.
\[ I \quad \text{have} \quad \text{not} \quad \text{put} \quad \text{it} \quad \text{on} \quad \text{table-the} \]

b. *Stillet har jeg det ikke _____ på bordet.

Against Holmberg (1997, 1999), remnant VP-topicalisation will therefore be assumed to be possible, though it is subject to certain restrictions.

¹ In addition, note that OS in verb topicalisation contexts is unexpected under an equidistance approach to OS; see Chomsky (1993:15--19), Bobaljik & Jonas (1996:200-203) and the discussion in Broekhuis (2000). A very different approach that we shall not pursue here is one of trying to do away with the differences between X°- and XP-movement, as e.g. in Vicente (2009).
2.2 Fox & Pesetsky's (2003, 2005a,b) remnant VP-Topicalisation approach

As Fox & Pesetsky (2005a) observe, remnant VP-topicalisation is possible in Swedish under certain conditions: In double object constructions, topicalisation of a non-finite main verb may pied-pipe the indirect object (IO), stranding the direct object (DO) in shifted position, (15)a. Even though (15)a is not completely perfect to all speakers, there would seem to be a general consensus that it is much better than stranding of an IO pronoun on its own, (15)b, which is simply not possible.

\[(15)\]
\[
\text{Sw a. } \begin{array}{l}
\text{Gett } \\
\text{hennes } \\
\text{har } \\
\text{jag } \\
\text{den } \\
\text{inte.}
\end{array}
\]

\[
\text{b. } \begin{array}{l}
\text{Gett } \\
\text{_____ den} \\
\text{har } \\
\text{jag } \\
\text{hennes } \\
\text{inte.} \quad \text{(Fox & Pesetsky 2005a: 25)}
\end{array}
\]

Fox & Pesetsky (2003, 2005a) suggest that the mapping between syntax and phonology, i.e. Spell-out, takes place at various points in the course of derivation (including at VP and at CP), whereby the material in the Spell-out domain D is linearized; see also Chomsky (2000, 2001). It is crucial that Spell-out may only add information about the linearisation of a newly constructed Spell-out domain D’ to the information cumulatively produced by previous applications of Spell-out. Established information cannot be deleted in the course of derivation, resulting in order preservation effects.

To Fox & Pesetsky (2005a), OS observing HG is a consequence of their 'linearisation theory'. At the Spell-out domain VP, the ordering statement 'V precedes O' (henceforth 'V<O') is established, (16)b. At CP, Spell-out adds linearisation information concerning of the new material, (16)c; information consistent with the previously established information: The finite main verb moves to C° in the main clause and the pronominal object undergoes OS, maintaining their relative order V<O.

\[(16)\]
\[
\text{Da a. } \begin{array}{l}
\text{Jeg } \\
\text{kysset } \\
\text{hende } \\
\text{ikke } \\
\text{____} \\
\text{____.}
\end{array}
\]

\[
\text{b. } \begin{array}{l}
\text{Spell-out VP: } \\
\text{[vp V O]} \\
\text{Ordering: } \\
\text{V<O}
\end{array}
\]

\[
\text{c. } \begin{array}{l}
\text{Spell-out CP: } \\
\text{[cp S V [ip tS O Adv [vp tv tO]]]} \\
\text{Ordering: } \\
\text{S>V} \\
\text{V>O} \\
\text{O<Adv} \\
\text{Adv<VP}
\end{array}
\]

Note that the adverbial is merged outside the VP Spell-out domain. Its position relative to the object (and the main verb) is thus not fixed until Spell-out of CP, thus predicting that OS can cross an adverb.

OS across a verb in situ as in (6)b = (17)a, gives rise to contradictory ordering statements.

\[(17)\]
\[
\text{Da a. } \begin{array}{l}
\text{Jeg } \\
\text{har } \\
\text{hende } \\
\text{ikke } \\
\text{kysset } \\
\text{____.}
\end{array}
\]

\[
\text{b. } \begin{array}{l}
\text{Spell-out VP: } \\
\text{[vp V O]} \\
\text{Ordering: } \\
\text{V<O}
\end{array}
\]

\[
\text{c. } \begin{array}{l}
\text{Spell-out CP: } \\
\text{[cp S Aux [ip tS O Adv [vp tAux tv tO]]]} \\
\text{Ordering: } \\
\text{S>Aux} \\
\text{Aux>O} \\
\text{O<Adv} \\
\text{Adv<VP} \\
\text{Adv<VP} \rightarrow \text{Adv<V}
\end{array}
\]
The ordering statements produced at Spell-out of CP, (17)c, are in opposition to the statement 'V>O' established at Spell-out of VP, (17)b. The statements O<Adv, Adv<V and V>O cannot simultaneously be satisfied.

Thus, Fox & Pesetsky (2005a) derive HG from ordering contradictions. OS cannot take place if it results in ordering statements at the Spell-out of CP that contradict those established at the Spell-out of VP. For our present purpose it is crucial to note that order preservation does not necessarily require that the main verb undergoes V°-to-I°-to-C° movement in all OS cases. Consistent ordering statements can also be obtained when OS applies across a non-finite verb in situ if subsequently remnant VP-topicalisation takes place, as in (8)b repeated here as (18)a.

(18) Da a. Kysset har jeg hende ikke ____.
   kissed have I her not

b. Spell-out VP: [VP V O]
   Ordering: V<O

c. Spell-out CP: [CP [VP V tO] Aux [IP S tAux [VP O [VP tAux tVP]]]]
   Ordering: V<Aux V>O
   Aux<S
   S<O
   O<Adv
   Adv<VP

Correspondingly, the asymmetry between stranding of an IO and stranding of a DO by remnant VP-topicalisation illustrated in (15) above is expected by order preservation. Stranding of an IO, but not stranding of a DO gives rise to contradictory ordering statements at the various Spell-out domains: At VP, 'IO<DO' is established, which is consistent with the Spell-out of CP in (15)a but not in (15)b.

Note that Fox & Pesetsky (2005a) predict that movement operations that do not obey HG have to proceed successive cyclically: The underlined constituents in (19) have to move via the edge of VP prior to linearisation of the VP domain to prevent ordering contradictions at the Spell-out of CP; cf. (20). These movement operations comprise various instances of A-movement and A-bar-movement operations, such as Scandinavian Negative Shift (see Christensen 2005, Engels 2011, 2012), wh-movement, topicaisation, passivization, and subject raising. The underlined constituents in (19) have to move via the edge of VP, giving rise to the order O<V at the VP-level; since the main verb remains in situ, we find the same order at the CP-level and the result is therefore acceptable, as illustrated in (20).

(19) Da a. Måske har han ingen bøger solgt ____.
   probably has he no books sold

b. Hvad har du solgt ____?
   what have you sold

c. Bøgerne har jeg solgt ____.
   books-the have I sold

d. Måske blev bøgerne solgt ____.
   perhaps were books-the sold

e. Efter min mening har Bo altid set ud til _____ at være intelligent.
   in my opinion has Bo always seemed to _____ to be intelligent
Da a. Måske har han ingen bøger solgt _______. = (19)a
probably has he no books sold

b. Spell-out VP: [VP O [VP V tO]]
Ordering: O<V

c. Spell-out CP: [CP Adv Aux [IP S tAux [NegP O [AuxP tAux [VP tO V tO]]]]]
Ordering: Adv<Aux O<V
Aux<S S<O O<VP → O<V

Hence, the crucial difference between the various movement operations in (19) and OS is that the former may go via the edge of VP while OS cannot. Fox & Pesetsky (2005b: 245) propose that the motivation for movement through the edge of VP might be connected to semantics: Phrases with a feature [+negative], [+wh], [+topic] or [+focus] cannot be interpreted in argument position and thus must undergo movement. It is possible that movement to the edge of VP is motivated by this semantic factor, and that there is no independent feature of \( v \) that could motivate such movement. In the case of [negative] phrases, it is the semantics that motivates the movement, and in the case of OS there is no motivation', Fox & Pesetsky (2005b: 245).

However, the ability to move across a verb in situ may be subject to cross-linguistic variation (see also Broekhuis 2008: chapter 3). For instance, Negative Shift across a verb in situ is prohibited in Norwegian, (21)a, but possible in the other Scandinavian varieties (see Engels 2011, 2012). In other words, movement of a negative object through the edge of VP is not possible in Norwegian; the semantic factor apparently does not apply in this language. Note that in situ occurrence of a negative phrase is not permitted under a sentential negation reading either, (21)b; instead, the ikke…noen-variant ('not…any') must be used, (21)c.

In addition, if movement through the edge of VP were motivated by the feature [+negative], such a movement would be expected to be obligatory. However, this could not possibly be the case, given that string-vacuous Negative Shift is possible in all Scandinavian varieties, (22). The derivation of (22) would in fact have to be parallel to the one in (16) above: The object could not have gone through the edge of VP, since this would lead to an ordering contradiction.

No a. *Han har ingen bøker solgt _______.
he has no books sold

b. *Han har solgt ingen bøker.
he has sold no books

c. Han har ikke solgt noen bøker.
he has not sold any books

In addition, if movement through the edge of VP were motivated by the feature [+negative], such a movement may occur in situ, contrary to fact; cf. (21)b.

Fox & Pesetsky (2005b: 239-245) consider a range of options, including covert movement through the edge of VP, but if covert movement were possible, we would additionally expect that a negative object may occur in situ, contrary to fact; cf. (21)b.

Note also that Fox & Pesetsky (2003, 2005a,b) make an incorrect prediction concerning remnant VP-topicalisation in constructions with an auxiliary in situ. They assume that auxiliary verbs are merged outside vP, that is, after Spell-out of VP. As a consequence, the ordering of object and auxiliary verb is not fixed until Spell-out of CP, which incorrectly predicts that OS across an auxiliary

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is possible, (23)a = (24)c. This is because it is consistent with the ordering statements previously established, none of which mention the auxiliary at all. (See also the examples in (24) and (25) below.)

(23) Da a. *Kysse har jeg hende aldrig villet.
   kiss have I her never would
   
   b. Spell-out VP: [VP V O]
      Ordering: V<O
   
   c. Spell-out CP:
      [CP [VP V tO] Aux2 [IP S tAux [AuxP2 O [AuxP2 tAux [AuxP1 Aux1 tVP]]]]]
      Ordering: V<Aux2 V<O
      Aux2<S S<O O<Adv Adv<Aux1 Aux1<VP → ∅

Fox & Pesetsky (2005b: 252) even go so far as to draw a tree diagramme of the problematic structure, but then they claim, following Holmberg (2005:151) that their prediction cannot be checked because VP-topicalisation is impossible across an auxiliary in situ, regardless of whether or not OS out of the VP has taken place first. However, as shown in (24), this is incorrect: VP-topicalisation is actually possible across an auxiliary in situ, but remnant VP-topicalisation is not; the object can neither precede nor follow the auxiliary in situ.3,4

(24) Da a. [VP Kysse hende] har jeg aldrig villet.
   kiss her have I never would
   b. *[VP Kysse _____] har jeg aldrig villet hende.
   c. *[VP Kysse _____] har jeg hende aldrig villet.

   kiss her have I never would
   b. ??[VP Kyssa _____] har jag aldrig velat henne.
   c. *[VP Kyssa _____] har jag henne aldrig velat.

In order to account for the data in (24) and (25), another assumption might be added to Fox & Pesetsky’s analysis, viz. that auxiliary phrases also constitute Spell-out domains (see also Bobaljik

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2 Note that OS targets a position to the left of the canonical position of the finite verb: A shifted object precedes a clause-medial adverbial, (4), which in turn precedes the finite verb in embedded clauses in Mainland Scandinavian, where verb movement (and thus OS) is not possible.

(i) Da a. Hun spurgte hvorfor han aldrig havde læst den her bog.
   she asked why he never had read this here book
   b. *Hun spurgte hvorfor han havde aldrig _____ læst bogen.

3 Notice further that although these examples, (24) and (25), have a non-finite auxiliary in situ (as do the ungrammatical examples in Holmberg 2005:151 that Fox & Pesetsky 2005b:252 refer to), this is not the only possible case of auxiliaries in situ. In embedded clauses, finite auxiliaries remain in situ in Mainland Scandinavian, and also here topicalisation of the entire VP (but not of a remnant VP) is possible, and also here Fox & Pesetsky (2005b: 252) make the wrong prediction, as discussed in Engels & Vikner (2011, 2012).

4 There is a slight difference between (25)b and (25)c, which we cannot account for. What we can account for is the much clearer difference between (25)a on the one hand and (25)b and (25)c on the other hand.
Thus, VP-topicalisation would have to proceed via the edge of the AuxP of *villet* and via the edge of the AuxP of *har* at points where OS could not possibly already have applied (as the target position of OS is not yet present at these points). In other words, remnant VP-topicalisation would be expected to be ungrammatical; cf. (26). Movement of the entire VP, still including the object, via these two edge positions predicts that the object precedes both auxiliaries as in case of topicalisation of the entire VP, (24)a/(25)a.

(26) Da a. *[VP Kysse _____] har jeg hende aldrig villet.

   kiss have I her never would

   b. Spell-out VP: [VP V O]
      Ordering: V<O

   c. Spell-out AuxP1: [AuxP1 [VP V O] [AuxP1 Aux1 tvP]]
      Ordering: V<O V<O
      O<Aux1

d. Spell-out AuxP2: [AuxP2 [VP V O] [AuxP2 Aux2 [AuxP2 tvP [AuxP1 Aux1 tvP]]]]
      Ordering: V<O V<O V<O
      O<Aux2 O<Aux1
      Aux2<Aux1

      Ordering: V<Aux2 V<O V<O V<O
      O<Aux2 O<Aux1
      Aux2<Aux1
      S<O O<Adv
      Adv<Aux1

However, with the additional assumption that auxiliary phrases also constitute Spell-out domains, it would no longer be possible to derive the remnant VP-topicalisation of the grammatical sentence in (8), repeated in (27). Also here, (remnant) VP-topicalisation would have to move via the edge of the AuxP of *har* at a point where OS could not possibly already have applied. Stranding of the object in OS position during VP-topicalisation as in (27) would thus incorrectly be predicted to be ungrammatical.

(27) Da a. Kysset har jeg hende ikke _____ (bare holdt hende i hånden).

   kissed have I her not only held her in hand-the

   (Vikner 2005:407)

The only way to derive (27) with the additional assumption that AuxPs also constitute Spell-out domains, would be to follow Holmberg (1997, 1999) and take it to be a case of V°-topicalisation, but that in turn would incorrectly predict not only (27) but also (24)c and (25)c (as well as (13)b and (14)b above) to be grammatical.

In section 3 below we will outline an OT approach to OS and remnant VP-topicalisation that also relies on order preservation. In Engels & Vikner (2011, 2012), we show how this approach can handle the problems discussed above: double object constructions and auxiliaries in situ. This paper adds to this two other differences namely between Danish and Swedish particle verb constructions (section 4.1), and between Danish and Swedish causative constructions with *let* (section 4.2).
3 An OT approach to Object Shift and Remnant VP-topicalisation

In our Optimality Theory approach to OS, we take it to be motivated by the constraint \textsc{shift}, which outranks the constraint \textsc{stay} that prohibits movement. \textsc{shift} is satisfied if the pronoun is adjoined to the top VP (see e.g. the tree in (33) below).

(28) \textsc{shift}:
A [-focus] constituent precedes and c-commands a VP (of the same clause) that contains all V° positions and all VP-adjoined adverbials.

(29) \textsc{stay}:
Don't move. \hspace{1cm} (Grimshaw 1997: 374)

Recall the cross-linguistic variation as to the applicability of OS, depending on the syntactic complexity of the object: In Icelandic, a pronominal object as well as a full DP can undergo OS, whereas OS is restricted to weak pronouns in Mainland Scandinavian; see the examples in (1)-(5) above. We therefore assume that the constraint \textsc{stay} is differentiated as to syntactic complexity. In addition to the general constraint \textsc{stay}, there exists a more specific constraint that prohibits movement of full DPs (see also the appendix).

(30) \textsc{staybranch}:
Don't move a constituent that contains a branching node.

Differences in the ranking of \textsc{stay} and \textsc{staybranch} relative to \textsc{shift} account for the cross-linguistic variation: Dominance of \textsc{shift} over both \textsc{stay}-constraints predicts that OS is possible with both pronominal objects and full DPs, as found in Icelandic, while the ranking \textsc{staybranch} \textgreater \textsc{shift} \textgreater \textsc{stay} permits only weak pronouns but not full DPs to undergo OS, as observed in Mainland Scandinavian; see also Tableau 1.5

(31) Ic: \textsc{shift} \textgreater \textsc{staybranch} \textgreater \textsc{stay}
Da: \textsc{staybranch} \textgreater \textsc{shift} \textgreater \textsc{stay}

Tableau 1: Full DP shift vs. pronominal OS

<table>
<thead>
<tr>
<th>Da:</th>
<th>P. read not the book / P. read it not</th>
<th>\textsc{staybranch}</th>
<th>\textsc{shift}</th>
<th>\textsc{stay}</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>full DP</td>
<td>a S V Adv tv DP-O</td>
<td></td>
<td>*</td>
<td></td>
<td>(2)a</td>
</tr>
<tr>
<td></td>
<td>b S V DP-O Adv tv t_o</td>
<td>*!</td>
<td></td>
<td></td>
<td>(2)b</td>
</tr>
<tr>
<td>pronoun</td>
<td>a S V Adv tv Pron-O</td>
<td></td>
<td>*!</td>
<td></td>
<td>(4)a</td>
</tr>
<tr>
<td></td>
<td>b S V Pron-O Adv tv t_o</td>
<td>*</td>
<td></td>
<td></td>
<td>(4)b</td>
</tr>
</tbody>
</table>

In this and the following tableaux, only \textsc{stay}-violations induced by OS are listed; \textsc{stay}-violations induced by e.g. V°-to-I°-to-C° movement or VP-topicalisation are left out because they do not vary between competing candidates. The same holds for the violations of the constraint \textsc{ordpres}, which we will turn to now.

Following Fox & Pesetsky (2005a,b), HG will be assumed here to result from a high ranking condition on order preservation (see also Müller 2001a).

---

5 The ranking \textsc{shift} \textgreater \textsc{stay} predicts that OS is obligatory (unless it is blocked by an intervening category; see below). In Swedish and Norwegian, where pronominal OS is optional, \textsc{stay} and \textsc{shift} might be tied, \textsc{stay} \textless \textsc{shift}: Both relative rankings of the two constraints, \textsc{stay} \textgreater \textsc{shift} and \textsc{shift} \textgreater \textsc{stay}, co-exist in these languages; depending on the actual ranking, movement is required or prohibited, accounting for its optionality. Likewise, a constraint tie between \textsc{shift} and \textsc{staybranch} would predict that OS of unfocused full DPs is optional in Icelandic. (In terms of Müller’s (2001b) classification of constraint ties, we are here dealing with an ordered global tie.)
(32) **Order Preservation** (**OrdPres**):

An independently moved constituent \( \alpha \) must not precede a non-adverbial constituent \( \beta \) if the canonical position of \( \alpha \) (or parts of \( \alpha \)) follows the canonical position of \( \beta \).

Canonical position refers to the position in which an element assigns or is assigned case, where
- if an element does not assign or is not assigned case, the canonical position is the base-generated position, and
- if an element assigns case in more than one position, the canonical position is the highest of these positions (in terms of c-command).^6

Dominance of **OrdPres** over **Shift** predicts that OS is only possible if it maintains the canonical order of certain constituents. What is crucial for OS to be possible is that the main verb occurs in a position to the left of the target position of OS, such that the relative order between verb and object is preserved. This is guaranteed if the verb undergoes movement to a position to the left of the target position of OS as e.g. \( V^\circ \)-to-\( I^\circ \)-to-\( C^\circ \) movement or embedded \( V^\circ \)-to-\( I^\circ \)-to-\( C^\circ \) is illustrated in Tableau 2. However, if the main verb stays in situ, OS gives rise to a fatal violation of **OrdPres** and is thus excluded; the object must remain in situ to the right of the main verb, as shown by the optimal candidate in Tableau 3. (The restriction to non-adverbial constituents is necessary to permit OS across clause-medial adverbials.)

**Tableau 2: OS & \( V^\circ \)-to-\( I^\circ \)-to-\( C^\circ \) movement**

<table>
<thead>
<tr>
<th>Da:</th>
<th>( P.) read it not</th>
</tr>
</thead>
<tbody>
<tr>
<td>( V ) in ( C^\circ )</td>
<td>[ S V \text{ Adv} t_V \text{ Pron-O} ]</td>
</tr>
<tr>
<td>( \not)</td>
<td>[ S V \text{ Pron-O} \text{ Adv} t_V t_O ]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ord Pres</th>
<th>Shift</th>
<th>Stay</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>*!</td>
<td></td>
<td>*</td>
<td>(4)a</td>
</tr>
<tr>
<td>*</td>
<td></td>
<td></td>
<td>(4)b</td>
</tr>
</tbody>
</table>

**Tableau 3: OS & in situ verb**

<table>
<thead>
<tr>
<th>Da:</th>
<th>( P.) has not read it</th>
</tr>
</thead>
<tbody>
<tr>
<td>( V ) in situ</td>
<td>[ S \text{ Aux Adv} V \text{ Pron-O} ]</td>
</tr>
<tr>
<td>( \not)</td>
<td>[ S \text{ Aux} \text{ Pron-O} \text{ Adv} V t_O ]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ord Pres</th>
<th>Shift</th>
<th>Stay</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>*</td>
<td></td>
<td></td>
<td>(6)a</td>
</tr>
<tr>
<td>*!</td>
<td></td>
<td>*</td>
<td>(6)b</td>
</tr>
</tbody>
</table>

However, the main verb does not necessarily have to undergo \( V^\circ \)-to-\( I^\circ \)-to-\( C^\circ \) movement for OS to be possible; OrdPres is also satisfied if the main verb occurs in topic position as in (8) above; see Tableau 4.

**Tableau 4: OS & verb in SpecCP**

<table>
<thead>
<tr>
<th>Da:</th>
<th>( Kissed) have I her not</th>
</tr>
</thead>
<tbody>
<tr>
<td>( V ) in SpecCP</td>
<td>[ \text{Aux S Adv Pron-O} \text{ t_P} ]</td>
</tr>
<tr>
<td>( \not)</td>
<td>[ \text{Aux} \text{ S Pron-O} \text{ Adv} t_P ]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ord Pres</th>
<th>Shift</th>
<th>Stay</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>*!</td>
<td></td>
<td>**</td>
<td>(9)b</td>
</tr>
<tr>
<td>**</td>
<td></td>
<td></td>
<td>(8)b</td>
</tr>
</tbody>
</table>

As argued for in section 2, we consider occurrence of a non-finite verb in topic position to involve OS of the pronominal object prior to remnant VP-topicalisation, as illustrated in (33). We saw in (11) that in Holmberg’s (1997, 1999) approach, such remnant VP-topicalisation is ruled out by the assumption that HG is derivational, i.e., that it cannot be violated at any point in the derivation. The OT constraint

---

^6 The restriction to canonical order in this sense means that two kinds of movement cannot possibly violate order preservation: DP-movement into a case-marked position (e.g. passivisation, subject raising, and movement across a verb particle as in section 4.1 below) and head movement necessary for case assignment (e.g. particle incorporation as in section 4.1 below).
ORDPRES, by contrast, is representational: Constraint violations are computed based on the final structure of the candidates. Hence, although the individual steps of OS might violate ORDPRES, this is of no consequence as long as the verb is subsequently placed to the left of the shifted object such that their original precedence relation is re-established.

Section 2.2 showed that other types of object movement such as topicalisation may cross a verb in situ, i.e. they need not preserve the canonical order (cf. (34) repeated from (19)c above). Under the OT approach adopted here, this follows if the relevant constraint that motivates movement, e.g. TOPIC, outranks ORDPRES (see Tableau 5).

The following section focuses on two particular differences between Danish and Swedish related to OS and remnant VP-topicalisation, which support the OT approach presented here, namely between Danish and Swedish particle verb constructions (section 4.1), and between Danish and Swedish causative constructions with let (section 4.2).

Tableau 5: Object topicalisation

<table>
<thead>
<tr>
<th>Da:</th>
<th>The books have I sold</th>
<th>TOPIC</th>
<th>ORDPRES</th>
<th>SHIFT</th>
<th>STAY</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>S Aux tS V O[stop]</td>
<td>*!</td>
<td></td>
<td>*</td>
<td>*</td>
<td>-</td>
</tr>
<tr>
<td>b</td>
<td>O[stop] Aux S V tO</td>
<td>***</td>
<td></td>
<td>*</td>
<td>*</td>
<td>(34)</td>
</tr>
</tbody>
</table>
4 Two Danish/Swedish differences concerning Object Shift and remnant VP-topicalisation

4.1 Particle verb constructions

That OS must be order preserving can also be observed in particle verb constructions.

The Scandinavian languages differ as to the ordering of particle and object. In Danish, the object always precedes the verb particle, (36) and (37), and in Norwegian, Icelandic, and Faroese, the object has to precede the particle if it is a pronoun and it may do so if it is a full DP, (38) and (39).

<table>
<thead>
<tr>
<th></th>
<th>Danish</th>
<th></th>
<th>Swedish</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>36</td>
<td>Da a. *Jeg</td>
<td>har ikke</td>
<td>Jeg</td>
<td>har inte</td>
</tr>
<tr>
<td></td>
<td>har ikke</td>
<td>skrevet</td>
<td>jeg</td>
<td>inte</td>
</tr>
<tr>
<td></td>
<td>op nummeret</td>
<td></td>
<td>upp</td>
<td>numret</td>
</tr>
<tr>
<td></td>
<td>op.</td>
<td></td>
<td>upp.</td>
<td>numret</td>
</tr>
<tr>
<td>37</td>
<td>Da a. *Jeg</td>
<td>har ikke</td>
<td>Jeg</td>
<td>har inte</td>
</tr>
<tr>
<td></td>
<td>har ikke</td>
<td>skrevet</td>
<td>jeg</td>
<td>inte</td>
</tr>
<tr>
<td></td>
<td>op det</td>
<td></td>
<td>upp</td>
<td>it</td>
</tr>
<tr>
<td></td>
<td>op.</td>
<td></td>
<td>upp.</td>
<td>it</td>
</tr>
<tr>
<td>38</td>
<td>No a. Jeg</td>
<td>har ikke</td>
<td>Jeg</td>
<td>har ikke</td>
</tr>
<tr>
<td></td>
<td>har ikke</td>
<td>skrevet</td>
<td>jeg</td>
<td>ikke</td>
</tr>
<tr>
<td></td>
<td>opp nummeret</td>
<td></td>
<td>upp</td>
<td>number-the</td>
</tr>
<tr>
<td></td>
<td>opp.</td>
<td></td>
<td>opp.</td>
<td>nummeret</td>
</tr>
<tr>
<td>39</td>
<td>No a. *Jeg</td>
<td>har ikke</td>
<td>Jeg</td>
<td>har ikke</td>
</tr>
<tr>
<td></td>
<td>har ikke</td>
<td>skrevet</td>
<td>jeg</td>
<td>ikke</td>
</tr>
<tr>
<td></td>
<td>opp det</td>
<td></td>
<td>opp</td>
<td>it</td>
</tr>
<tr>
<td></td>
<td>opp.</td>
<td></td>
<td>opp.</td>
<td>it</td>
</tr>
</tbody>
</table>

By contrast, in Swedish, the object follows the particle; see (40) and (41).

<table>
<thead>
<tr>
<th></th>
<th>Swedish</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>Sw a. Jag</td>
<td>har inte</td>
<td>Jag</td>
<td>har inte</td>
</tr>
<tr>
<td></td>
<td>har inte</td>
<td>skrivit</td>
<td>har</td>
<td>inte</td>
</tr>
<tr>
<td></td>
<td>upp numret</td>
<td></td>
<td>upp</td>
<td>number-the</td>
</tr>
<tr>
<td></td>
<td>upp.</td>
<td></td>
<td>upp.</td>
<td>numret</td>
</tr>
<tr>
<td>41</td>
<td>Sw a. Jag</td>
<td>har inte</td>
<td>Jag</td>
<td>har inte</td>
</tr>
<tr>
<td></td>
<td>har inte</td>
<td>skrivit</td>
<td>har</td>
<td>inte</td>
</tr>
<tr>
<td></td>
<td>upp det</td>
<td></td>
<td>upp</td>
<td>it</td>
</tr>
<tr>
<td></td>
<td>upp.</td>
<td></td>
<td>upp.</td>
<td>it</td>
</tr>
</tbody>
</table>

Vikner (1987: 263) and Haegeman & Guéron (1999: 257-258), among many others, suggest that particle constructions have a parallel structure to prepositional phrases, i.e. that the particle (Prt°) is the head of a particle phrase (PrtP), and that Prt° may be followed by a complement DP, (42), to which it also assigns a thematic role.

<table>
<thead>
<tr>
<th></th>
<th>Da./Sw.</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>V'</td>
<td>VP</td>
<td>V°</td>
<td>PrtP</td>
<td>Prt°</td>
</tr>
<tr>
<td></td>
<td>skrevet/skrivit</td>
<td>written</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prt°</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>op/upp</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DP</td>
<td>nummeret</td>
<td>nummeret</td>
<td>number-the</td>
</tr>
</tbody>
</table>

Vikner: Object shift, remnant VP-topicalisation, verb particles & causatives,  p. 13
Haegeman & Guéron (1999: 257-258) further suggest that particles do not assign case to their complement DPs, and that in English, there are two ways out of this predicament: DP-movement or particle incorporation.

Vikner (2009: 5-6) implements these two as follows: One option is that the DP moves to the specifier of the PrtP where it can be assigned case by the verb (much like exceptional case marking, ECM), see (43)a and candidate c in Tableau 6 and Tableau 7.

The other option is that the particle incorporates into the verb, which allows the case assignment properties of the verb to be shared with the particle, so that the DP may now be assigned case by the trace of the particle, see (43)b and candidate b in Tableau 6 and Tableau 7. Both of these two options are found in Norwegian (with full DPs, at least, (38)), whereas Danish only allows DP-movement, (36) and (37), and Swedish only allows particle incorporation, (40) and (41).

We suggest that the difference between the Obj<Prt sequence in Danish and the Prt<Obj one in Swedish can be accounted for by means of three constraints: CASE, which penalises DPs that are not assigned case, NO INCORPORATION, which penalises particle incorporation as a means of achieving case assignment, and NO EXCEPTIONAL CASE MARKING, which penalises the DP moving to SpecPrtP in order to be assigned case from the verb.

(44) CASE: DPs must be case-marked. (Grimshaw 1997: 374)

(45) NO INCORPORATION (NOINC): A head must not incorporate into a lexical verb.

(46) NO EXCEPTIONAL CASE MARKING (NOECM): A head must not assign case to the specifier of its complement.

In Danish, NOINC is ranked higher than NOECM, necessitating movement of the object to SpecPrtP, whereas in Swedish, it is the opposite, NOECM overrides NOINC, such that the particle must incorporate into the verb to make case assignment possible. This is shown in Tableau 6 and Tableau 7.7

---

7 That both orders, Prt<Obj and Obj<Prt, are possible with full DPs in Norwegian, Icelandic and Faroese can be accounted for by a constraint tie between NOINC and NOECM, NOINC ↔ NOECM. However, this would say nothing about why weak pronouns must precede the particle in these languages.
Tableau 6: Particle verb construction (Danish); to be revised

<table>
<thead>
<tr>
<th>Da:</th>
<th>I have written the number up</th>
<th>CASE</th>
<th>NO INC</th>
<th>NO ECM</th>
<th>STAY</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>S Aux V Prt DP</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td>(36)a</td>
</tr>
<tr>
<td>b</td>
<td>S Aux V-Prt tPrt DP</td>
<td>*!</td>
<td></td>
<td></td>
<td>*</td>
<td>(36)a</td>
</tr>
<tr>
<td>✈</td>
<td>c S Aux V DP Prt tO</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

Tableau 7: Particle verb construction (Swedish); to be revised

<table>
<thead>
<tr>
<th>Sw:</th>
<th>I have written up the number</th>
<th>CASE</th>
<th>NO ECM</th>
<th>NO INC</th>
<th>STAY</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>S Aux V Prt DP</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td>(40)a</td>
</tr>
<tr>
<td>✈</td>
<td>b S Aux V-Prt tPrt DP</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>c</td>
<td>S Aux V DP Prt tO</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td>(40)b</td>
</tr>
</tbody>
</table>

The effect of having CASE as the highest ranked constraint as in Tableau 6 and Tableau 7 is that it cannot be violated, at least not as long as a candidate exists that does not violate it. However, having CASE as a violable constraint in the evaluator EVAL (even as the highest ranking constraint in EVAL) makes it possible for languages to exist in which CASE is ranked much lower. We do not actually think that such languages exist, and we therefore suggest that the constraint CASE is part of the generator GEN rather than of EVAL and thus inviolable, i.e. that the evaluation procedure never even gets to evaluate candidates like candidate a, as GEN does not generate any candidates that violate CASE. Therefore, Tableau 6 and Tableau 7 actually look as follows.

Tableau 8: Particle verb construction (Danish); revised version of Tableau 6

<table>
<thead>
<tr>
<th>Da:</th>
<th>I have written the number up</th>
<th>NO INC</th>
<th>NO ECM</th>
<th>STAY</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>S Aux V-Prt tPrt DP</td>
<td></td>
<td></td>
<td>*</td>
<td>(36)a</td>
</tr>
<tr>
<td>✈</td>
<td>b S Aux V DP Prt tO</td>
<td></td>
<td></td>
<td>*</td>
<td>(36)b</td>
</tr>
</tbody>
</table>

Tableau 9: Particle verb construction (Swedish); revised version of Tableau 7

<table>
<thead>
<tr>
<th>Sw:</th>
<th>I have written up the number</th>
<th>NO ECM</th>
<th>NO INC</th>
<th>STAY</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>✈</td>
<td>a S Aux V-Prt tPrt DP</td>
<td></td>
<td></td>
<td>*</td>
<td>(40)a</td>
</tr>
<tr>
<td>b</td>
<td>S Aux V DP Prt tO</td>
<td></td>
<td></td>
<td>*</td>
<td>(40)b</td>
</tr>
</tbody>
</table>

Hence, the relative ranking of NOINC and NOECM is crucial for case assignment in particle verb constructions. For case to be assigned to the object of a particle verb, the object must undergo movement to SpecPrtP in Danish (NOINC >> NOECM) whereas the particle incorporates into the verb in Swedish (NOECM >> NOINC). As a result, the languages differ in the ordering of particle and object, Obj<Prt in Danish and Prt<Obj in Swedish. As the object occurs in its case position, it is these orders which will be relevant for computing of ORDRES, which was not included in Tableau 6-Tableau 9 for expository reasons.

Consider now the interaction between OS and particle verbs. If the particle verb is itself finite and thus moves to C° because of V2, a pronominal object of a particle verb has to undergo OS in Danish, (47), but it cannot do so in Swedish, (48):
This contrast is expected in the present analysis because of \textsc{OrdPres}. As shown in Tableau 10 and Tableau 11, \textsc{OrdPres} plays no part in the choice between the two non-incorporating candidates, b and d, as neither candidate violates it (the particle also follows the object in the canonical order). The crucial constraint in the Danish Tableau 10 then becomes \textsc{Shift}, which favours the candidate with OS. \textsc{OrdPres} does play a part, however, in the choice between the two incorporating candidates, a and c (see the Swedish Tableau 11), as it is fatally violated by c, where the particle precedes the object in the canonical order.

### Tableau 10: OS with moved particle verb (Danish)

<table>
<thead>
<tr>
<th>Da:</th>
<th>I threw it not out</th>
<th>No Inc</th>
<th>No ECM</th>
<th>\textsc{OrdPres}</th>
<th>\textsc{Shift}</th>
<th>\textsc{Stay}</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>S V Adv tv-Prt t_{PrP} Pron-O</td>
<td>*!</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>(47)a</td>
</tr>
<tr>
<td>b</td>
<td>S V Adv tv Pron-O Prt t_{O}</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>(47)b</td>
</tr>
<tr>
<td>c</td>
<td>S V Pron-O Adv tv-Prt t_{PrP} t_{O}</td>
<td>*!</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>**</td>
<td>(47)c</td>
</tr>
<tr>
<td>d</td>
<td>S V Pron-O Adv tv t'<em>{O} Prt t</em>{O}</td>
<td>*</td>
<td>*</td>
<td>**</td>
<td></td>
<td></td>
<td>(47)c</td>
</tr>
</tbody>
</table>

### Tableau 11: OS with moved particle verb (Swedish)

<table>
<thead>
<tr>
<th>Sw:</th>
<th>I threw not out</th>
<th>No ECM</th>
<th>No Inc</th>
<th>\textsc{OrdPres}</th>
<th>\textsc{Shift}</th>
<th>\textsc{Stay}</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>S V Adv tv-Prt t_{PrP} Pron-O</td>
<td>*!</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>(48)a</td>
</tr>
<tr>
<td>b</td>
<td>S V Adv tv Pron-O Prt t_{O}</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>(48)b</td>
</tr>
<tr>
<td>c</td>
<td>S V Pron-O Adv tv-Prt t_{PrP} t_{O}</td>
<td>*!</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>**</td>
<td>(48)c</td>
</tr>
<tr>
<td>d</td>
<td>S V Pron-O Adv tv t'<em>{O} Prt t</em>{O}</td>
<td>*!</td>
<td>*</td>
<td>**</td>
<td></td>
<td></td>
<td>(48)c</td>
</tr>
</tbody>
</table>

Thus, the dominance of \textsc{OrdPres} over \textsc{Shift} predicts that OS can take place in particle verb constructions in Danish but not in Swedish, where the object would have to cross the particle. However, note that OS is possible in Swedish particle verb constructions if the particle occurs in \textsc{SpecCP} (compare the verb topicalisation construction in (8) above). This is expected as the relative order of particle and object is maintained in this case, satisfying \textsc{OrdPres}.

(49) Sw a. \text{UT} kastade dom mej inte ____ (bara ned för trappan).
\text{out threw they me not (only down the stairs)}

b. (Ja, ja, jag ska mata din katt, men) IN släpper jag den inte ____.
\text{(All right, I will feed your cat but) in let I it not}

(Holmberg 1999: 17)

Whereas HG, (7), only makes predictions as to the relative order of the object and elements to its left, the present analysis, with \textsc{OrdPres} ranked higher than \textsc{Shift}, forces maintenance of the order of the object relative to all non-adverbial elements, both to the left and to the right of the object. It is thus expected that OS during \textit{remnant topicalisation} of a particle verb including the particle is possible in Swedish, where the object is right-peripheral in VP, but not in Danish, where the object precedes the
particle inside VP. This expectation is borne out, as illustrated in (50) and (51).

(50) Da a. *[VP Lukket ind den] har jeg ikke ...
   let in it have I not
   b. [VP Lukket den ind ___] har jeg ikke ...
   c. *[VP Lukket ind ___] har jeg den ikke ...

(51) Sw a. [VP Släppt in den] har jag inte ...
   let in it have I not
   b. *[VP Släppt den in ___] har jag inte ...
   c. [VP Släppt in ___] har jag den inte ...

The fact that OS in both languages has to preserve the canonical order (O°-to-C° movement, but OS is possible in remnant VP-topicalisation constructions. This follows from the contrast, Swedish, which has Prt<Obj order, does not permit OS if the particle verb undergoes V°-to-I°-to-C° movement, but OS is possible in remnant VP-topicalisation constructions. This follows from the fact that OS in both languages has to preserve the canonical order (ORDPRES >> SHIFT).

Table 12: No OS with remnant VP-topicalisation of particle verb (Danish)

<table>
<thead>
<tr>
<th>Da:</th>
<th>Topic: V &amp; Prt</th>
<th>Let it in have I not</th>
<th>NO INC</th>
<th>NO ECM</th>
<th>ORD PRES</th>
<th>SHIFT</th>
<th>STAY</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>[VP V-Prt tPrt Pr-O] Aux S Adv tVP</td>
<td>*!</td>
<td>*</td>
<td>*</td>
<td>(50)a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>[VP V Pr-O Prt tO] Aux S Adv tVP</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>(50)b</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>[VP V-Prt tPrt tO] Aux S Pr-O Adv tVP</td>
<td>*!</td>
<td></td>
<td>**</td>
<td>(50)c</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>[VP V tO Prt tO] Aux S Pr-O Adv tVP</td>
<td>*</td>
<td>*!</td>
<td>**</td>
<td>(50)c</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 13: OS with remnant VP-topicalisation of particle verb (Swedish)

<table>
<thead>
<tr>
<th>Sw:</th>
<th>Topic: V &amp; Prt</th>
<th>Let in have I it not</th>
<th>NO ECM</th>
<th>NO INC</th>
<th>ORD PRES</th>
<th>SHIFT</th>
<th>STAY</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>[VP V-Prt tPrt Pr-O] Aux S Adv tVP</td>
<td>*</td>
<td>*!</td>
<td></td>
<td>(51)a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>[VP V Pr-O Prt tO] Aux S Adv tVP</td>
<td>*!</td>
<td>*</td>
<td>*</td>
<td>(51)b</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>[VP V-Prt tPrt tO] Aux S Pr-O Adv tVP</td>
<td>*</td>
<td></td>
<td>**</td>
<td>(51)c</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>[VP V tO Prt tO] Aux S Pr-O Adv tVP</td>
<td>*!</td>
<td></td>
<td>**</td>
<td>(51)c</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thus, Danish and Swedish display mirror images as regards OS in particle verb constructions. The canonical order in Danish, Obj<Prt, permits OS in case the particle verb undergoes V°-to-I°-to-C° movement but prohibits OS in case particle verb and particle undergo remnant VP-topicalisation. In contrast, Swedish, which has Prt<Obj order, does not permit OS if the particle verb undergoes V°-to-I°-to-C° movement, but OS is possible in remnant VP-topicalisation constructions. This follows from the fact that OS in both languages has to preserve the canonical order (ORDPRES >> SHIFT).
4.2 Causative constructions with *let*

The situation concerning *let*-constructions is parallel to the one concerning particle verb constructions. In Danish, the object of a subjectless infinitive under the causative verb *let* precedes the infinitival verb, (52), whereas it follows the infinitive in Swedish, (53); see Vikner (1987: 262-266) and many others.

(52) Da. a. *Jeg har ladet støvsuge tæppet.*
    I have let vacuum-clean carpet-the
b. Jeg har ladet tæppet støvsuge _____.

(53) Sw a. Jag har låtit dammsuga mattan.
    I have let vacuum-clean carpet-the
b. *Jag har låtit mattan dammsuga _____.

In the present analysis, this contrast again follows from the differences in the relative ranking of NoINC and NoECM. In Danish, the object undergoes movement to SpecVP as in (55)a to be assigned case (NoINC >> NoECM) while the infinitival verb incorporates into *let* in Swedish, as shown in (55)b, to make case assignment possible (NoECM >> NoINC). This is thus completely parallel to Tableau 8 and Tableau 9 above.

(54) Da./Sw.

As they reflect the canonical order, the structures in (55)a and (55)b are relevant for computing OrdPres. If *let* now undergoes finite verb movement, OS becomes possible in Danish, (56), but not in Swedish, (57).

Vikner: Object shift, remnant VP-topicalisation, verb particles & causatives,  p. 18
(56) Da a. *Jeg lod ikke støvsuge det.
   I let not vacuum-clean it
b. *Jeg lod ikke det støvsuge ___.
c. Jeg lod det ikke ___ støvsuge ___.

(adapted from Vikner 1989: 145)

(57) Sw a. Jag lät inte dammsuga den.
   I let not vacuum-clean it
b. *Jag lät inte den dammsuga ___.
c. *Jag lät den inte ___ dammsuga ___.

This is expected by OrdPres. Since the pronominal object is part of the extended let VP, Shift requires its occurrence at the left edge of the let VP. As finite let has undergone V°-to-I°-to-C° movement, OS maintains the canonical order in Danish but not in Swedish, where the object would have to move across the infinitival verb, violating OrdPres. This is thus exactly the same situation as in Tableau 10 and Tableau 11 above.

Furthermore, notice that if the infinitive has an overt subject, the object follows the infinitival verb in both Danish and Swedish, see (58) and (59).

   I have let Poul vacuum-clean-carpet-the
b. *Jeg har ladet Poul ___ støvsuge ___.

(59) Sw a. Jag har låtit Paul dammsuga mattan.
   I have let Paul vacuum-clean-carpet-the
b. *Jag har låtit Paul ___ dammsuga ___.

If let is finite and thus undergoes V°-to-I°-to-C° movement, OS of the infinitival subject is possible while OS of the infinitival object is prohibited.

(60) Da a. *Jeg lod ikke ham støvsuge det.
   I let not him vacuum-clean it
b. Jeg lod ham ikke ___ støvsuge det.
c. *Jeg lod ham det ikke ___ støvsuge ___.

(61) Sw a. Jag lät inte honom dammsuga den.
   I let not him vacuum-clean it
b. Jag lät honom inte ___ dammsuga den.
c. *Jag lät honom den inte ___ dammsuga ___.

Given the presence of an infinitival subject, we assume the existence of an infinitival clause, namely the IP in the syntactic tree in (62). The infinitival subject "belongs" to the let VP by virtue of being assigned case by let. Shift thus requires its occurrence at the left edge of the let VP. In contrast, the

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8 Notice that (59)a and (61)a,b show that Swedish actually has ECM constructions, as presumably Paul/honom is assigned accusative by the matrix verb låta. This might seem unexpected given the high ranking in Swedish of NOECM, but actually, all the Swedish ranking NOECM >> NOIC predicts that incorporation is preferred to ECM, and so we would still expect ECM to be a possibility in cases where incorporation is not an option, as (59)a and (61)a,b. This may also explain the possibility of ECM in (i), where presumably the passive affix -s on the embedded verb prevents incorporation:

(i) Sw  Jag har låtit mattan dammsugas ___.
   I have let carpet-the vacuum-clean.PASS ___ (adapted from Vikner 1987: 266)
infinitival object does not belong to the extended let VP. Thus, not only would movement of the object to the left edge of the let VP violate OrdPres (the object would have to cross the infinitive), it also is not required to do so by Shift as it is not part of the same clause (see below for more details, in particular footnote 10). \(^9\)

(62) Da./Sw.

Tableau 14: OS of infinitival subject but not of infinitival object in let-constructions

<table>
<thead>
<tr>
<th>Da: I let him not vacuum-clean it</th>
<th>Ord Pres</th>
<th>Shift</th>
<th>Stay</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a S let Adv Pron-S Inf Pron-Q</td>
<td>**!</td>
<td></td>
<td></td>
<td>(60)a</td>
</tr>
<tr>
<td>b S let Pron-S Adv ts Inf Pron-Q</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>(60)b</td>
</tr>
<tr>
<td>c S let Pron-S Pron-O Adv ts Inf to</td>
<td>*!</td>
<td>*</td>
<td>**</td>
<td>(60)c</td>
</tr>
</tbody>
</table>

Summing up, contrasts as to the applicability of OS in let-constructions in Danish and Swedish are expected due to the differences in the canonical order of object and infinitival verb (i.e. the relative ranking of NOINC and NOECM). OS is only possible as long as it is order preserving, as accounted for by the ranking OrdPres >> Shift.

As in the particle verb constructions, Danish and Swedish display mirror images as to OS in let-constructions due to the contrast in the relative order of object and infinitival verb. The object precedes the infinitival verb in Danish (NOINC >> NOECM) whereas it follows the infinitival verb in Swedish (NOECM >> NOINC); see (52) and (53). In case let undergoes V°-to-I°-to-C° movement, the ranking OrdPres >> Shift predicts that OS is possible in Danish but not in Swedish; see (56) and (57).

In contrast, if the infinitive undergoes VP-topicalisation together with non-finite let, stranding of the object is impossible in Danish as it is non-peripheral within VP, (63), whereas it is acceptable in Swedish, where the relative ordering between VP-internal constituents is maintained, (64). This situation is thus the same as the one in particle verb constructions analysed in Tableau 12 and Tableau 13:

\(^9\) We are here following the analysis of Vikner (1987), where the verb embedded under let may be abstractly incorporated into let. This incorporation has as a result that the external thematic role of the verb embedded under let is absorbed and also that no accusative is assigned; see (52) and (53). It is also possible for the verb embedded under let not to undergo abstract incorporation. In that case the external thematic role is not absorbed and the verb still assigns accusative; see (58) and (59).

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In addition, recall that if the infinitive has an overt subject, the object follows the infinitival verb in both Danish and Swedish, as illustrated in (58) and (59).

Now, if the infinitive undergoes VP-topicalisation together with non-finite let, neither the infinitival subject nor the infinitival object may be stranded; cf. (65) and (66).

That OS of the infinitival subject is not possible under remnant VP-topicalisation is expected in the present analysis since the infinitival subject occurs in a non-peripheral position. However, the infinitival object cannot be stranded either, even though it is right-peripheral within VP. Stranding of the infinitival object is ruled out by the fact that SHIFT requires adjunction to the maximal extended VP of the same clause (see the definition in (28) above). As the object, in the presence of an infinitival subject, is assigned case by the infinitival verb only, in perfectly standard fashion, and not by let (see footnote 9 above), SHIFT does not require the object to adjoin as high as the extended VP of let. Instead, the object would have to adjoin to the infinitival VP to satisfy SHIFT, which is ruled out by the higher ranking constraint ORDPRES.10 (The infinitival subject, in contrast, belongs to the let VP, by...
virtue of being assigned exceptional case by *let*, and may thus undergo OS into the matrix clause as long as order preservation is observed; compare (60) and (61) above.

Summing up, the contrasts between Danish and Swedish as to OS and remnant VP-topicalisation with particle verb and *let*-constructions support the order preservation approach suggested here. Due to differences in case assignment captured by the relative ranking of NoINC and NoECM, an object precedes the particle and the subjectless infinitival verb in Danish but follows them in Swedish. As a consequence, the two languages display mirror images with regard to OS in these constructions. The ranking $\text{OrdPRES} >> \text{SHIFT}$ predicts that OS is only possible if it retains the canonical order of the VP-internal elements. Finite verb movement of the particle verb/*let* paves the way for OS in Danish but not in Swedish, where the object would have to cross the particle/infinitival verb. In contrast, stranding of the object during remnant VP-topicalisation is possible in Swedish but not in Danish as the object is right-peripheral within VP in the former but not in the latter. Although the object is right-peripheral, stranding it during remnant VP-topicalisation is ruled out in *let* constructions with an infinitival subject due to the fact that *let* is not involved in assigning case to the object and SHIFT thus does not require the object to move as high up.

5 Conclusion

Holmberg (1997, 1999) considers occurrences of a non-finite verb in topic position such as (8) to result from V°-topicalisation. He assumes that HG is a matter of derivation rather than of representation, i.e., a violation of HG cannot be rescued by some subsequent operation, and hence the non-finite verb has to move before OS can take place, ruling out remnant VP-topicalisations altogether.

Section 2.1 showed, however, that there are theoretical as well as empirical problems with the V°-topicalisation analysis. It is counter-cyclic and involves movement of an X° to an XP position. And it falsely predicts topicalisation of a verb in constructions with a particle, PP-complement or infinitival clause to be grammatical.

Section 2.2 Moreover, Fox & Pesetsky (2005a) present data from double object constructions that clearly show that remnant VP-topicalisation is possible, as long as it does not involve a reversal of the canonical order of elements, which suggests that HG is representational. Their approach builds on the assumption that Spell-out applies at various points in the derivation (in particular, at VP and at CP) and that the information about the linearisation of the material of a newly constructed Spell-out domain must not contradict the cumulated information of previous applications of Spell-out. In this way, Fox & Pesetsky (2005a) predict that OS differs radically from other types of (A- and A-bar-) movement that can result in a reversal of the order of elements, such as e.g. wh-movement or subject raising, in that the latter have to proceed successive cyclically via the left edge of VP while this is impossible for OS. In addition, Fox & Pesetsky’s (2005a,b) approach makes incorrect predictions as to remnant VP-topicalisation in constructions with an auxiliary verb *in situ*.

Section 3 Based on an extended set of data concerning remnant VP-topicalisation, the present OT approach agrees with Fox & Pesetsky (2005a,b) in the assumption that HG is to be accounted for in terms of order preservation, as required by the violable constraint $\text{OrdPRES}$. The ranking of $\text{OrdPRES}$ relative to the constraints that motivate the various types of movement accounts for the contrast as to whether or not a certain movement operation has to be order preserving. Hence, OS does not receive a special treatment in the present approach; the properties distinguishing it from other movement types result from constraint interaction.

Section 4 Finally, the order preservation approach to OS was supported by the contrasts between Danish and Swedish particle verb constructions and *let*-constructions. Differences in the VP-internal object position (V<DP<X in Danish and V<X<DP in Swedish), which were taken to result from differences in case assignment, were shown to give rise to mirror images with regard to OS in clauses with finite verb movement of the matrix main verb (OS possible in Danish but not in Swedish) and clauses with remnant VP-topicalisation (OS possible in Swedish but not in Danish).
Appendix: Syntactic Complexity of Pronouns

The examples in (1)-(4) repeated below have shown that in Mainland Scandinavian, OS is restricted to weak pronouns whereas in Icelandic, also full DPs may undergo OS. In this connection note that not only a full DP like *den her bog ‘this book’, (67), but also syntactically complex pronouns, i.e. modified or conjoined ones as in (68) and (69), are excluded from OS in Mainland Scandinavian. In Icelandic, in contrast, they can undergo OS, (72) and (73).

(67) Da a. Hvorfor læste Peter aldrig ____ den her bog? why read Peter never this here book
b. *Hvorfor læste Peter den her bog aldrig ____ ? (Vikner 2005:394)

(68) Da a. Hvorfor læste Peter aldrig ____ den her?
why read Peter never this here
b. *Hvorfor læste Peter den her aldrig ____ ? (Vikner 2005:417)

(69) Da a. Han så ikke _____ dig og hende sammen.
he saw not you and her together
b. *Han så dig og hende ikke _____ sammen.

(Diesing & Jelinek 1993:27)

(70) Da a. *Jeg kysse de ikke _____ hende.
I kissed not her
b. Jeg kysse hende ikke ____

(71) Ic a. Af hverju las Pétur aldreri ____ bessa bók?
why read Pétur never this book
b. Af hverju las Pétur bessa bók aldreri ____ ? (Vikner 2005:394)

(72) Ic a. Af hverju las Pétur aldreri bessa hérna?
why read Pétur never this here
b. Af hverju las Pétur bessa hérna aldreri _______? (Vikner 2005:417)

(73) Ic a. Ég þekki ekki hann og hana.
I know not him and her
b. Ég þekki hann og hana ekki _________. (Diesing & Jelinek 1993:27)

(74) Ic a. *Af hverju las Pétur aldreri ____ hana?
why read Pétur never it
b. Af hverju las Pétur hana aldreri ____ ? (Vikner 2005:394)

The difference between simple pronouns and all other DPs is that the former are DPs that do not contain a branching node whereas the latter are DPs that contain a branching node (compare (75)a with (75)b,c and (76)a,b,c below).11,12

Note that although they are syntactically simple (i.e. do not contain a branching node), focused pronouns do not undergo OS, neither in Mainland Scandinavian nor in Icelandic.
Thus, the ranking $\text{SHIFT} >> \text{STAYBRANCH}$ permits OS of full DPs and more complex pronouns whereas the reverse ranking $\text{STAYBRANCH} >> \text{SHIFT}$ prohibits it. Simultaneously, dominance of $\text{SHIFT}$ over the more general constraint $\text{STAY}$ predicts OS of weak (i.e. unstressed, non-modified, non-conjoined) pronouns to be possible even in cases where $\text{SHIFT}$ is dominated by $\text{STAYBRANCH}$ ($\text{STAYBRANCH} >> \text{SHIFT} >> \text{STAY}$).

This attempt to capture the difference between simple pronouns and all other DPs is thus purely syntactic, as opposed to e.g. Vogel 2006, which also employs phonological constraints.
References


