An Optimality-Theoretic Analysis of Scandinavian Object Shift and Remnant VP-Topicalisation

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Holmberg (1997, 1999) assumes that Holmberg's generalisation (HG) is derivational, prohibiting Object Shift (OS) across an intervening non-adverbial element at any point in the derivation. Counterexamples to this hypothesis are given in Fox & Pesetsky (2005) which show that remnant VP-topicalisations are possible in Scandinavian as long as the VP-internal order relations are maintained. Extending the empirical basis concerning remnant VP-topicalisations, we argue that HG and the restrictions on object stranding result from the same, more general condition on order preservation. Considering this condition to be violable and to interact with various constraints on movement in an Optimality-theoretic fashion, we suggest an account for various asymmetries in the interaction between remnant VP-topicalisations and both OS and other movement operations (especially subject raising) as to their order preserving characteristics and stranding abilities.

Keywords: Object Shift, VP-topicalisation, Order preservation.

1 Introduction

In the Scandinavian languages, a pronominal object may move from its base position to a position to the left of a sentential adverbial. This movement operation is called Object Shift (OS).\(^1\)

\(^1\) Icelandic differs from the Mainland Scandinavian languages in that not only pronominal objects but also full DPs may undergo OS (Vikner 2005: 394).

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Optimality Theory and Minimalism: a Possible Convergence?
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(1) Da a. *Hvorfor læste Peter aldrig ___ den?
   why read Peter never it

   b. Hvorfor læste Peter den aldrig ___ ___?

A defining characteristic of OS is that it depends on verb movement. OS is only possible if the main verb moves itself. In other words, the pronominal object cannot undergo OS if the main verb remains within VP, as e.g. in clauses with a non-finite main verb, (2), or in embedded clauses in the Mainland Scandinavian languages (MSc, i.e. Danish, Norwegian, and Swedish), cf. (3).

(2) Da a. Hvorfor havde Peter aldrig læst den?
   why had Peter never read it

   b. *Hvorfvor havde Peter den læst aldrig ___?

(3) Da a. Jeg spurgte hvorfor Peter aldrig læste den.
   I asked why Peter never read it

   b. *Jeg spurgte hvorfor Peter den læst aldrig ___.

(i) Ic a. Af hverju las Pétur aldrei ___ bessa bók?
   why read Pétur never this book

   b. Af hverju las Pétur bessa bók aldrei ___ ________?

(ii) Da a. Hvorfor læste Peter aldrig ___ bogen?
   why read Peter never book-the

   b. *Hvorfor læste Peter bogen aldrig ___ ____?

2 Icelandic differs from MSc in that finite verb movement (V°-to-I°-to-C° movement) and, consequently, OS is restricted to main clauses in MSc, (1) vs. (3), while finite verb movement (V°-to-I° movement) and OS also take place in embedded clauses in Icelandic, (ii); cf. (Vikner 2005: 394/6).

(i) Ic a. *Af hverju las Pétur aldrei ___ hana?
   why read Pétur never it

   b. Af hverju las Pétur hana aldrei ___ ____?

(ii) Ic a. *Ég spurði af hverju Pétur læsi aldrei ___ hana.
   I asked why Pétur read never it

   b. Ég spurði af hverju Pétur læsi hana aldrei ___ ____.
The observation that the object only moves if the main verb has moved forms the basis of what is called Holmberg's generalisation (Holmberg 1986: 165, 1999: 15).

(4) **Holmberg's Generalisation (HG)** (Holmberg 1999: 15)

Object Shift cannot apply across a phonologically visible category asymmetrically c-commanding the object position except adjuncts.

HG does not specifically refer to main verbs but to any intervening non-adverbial element. As shown in (5), a verbal particle precedes an object in Swedish, and OS cannot take place across the particle, (6). However, OS is possible if the verbal particle has moved itself, cf. (7).^3^

   I have not written up it
b. *Jag har inte skrivit det upp.

(6) Sw a. Jag skrev inte upp det.
   I wrote not up it
b. *Jag skrev det inte upp ___.

(7) Sw a. UT kastade dom mej inte ___ (bara ned för trappan).
   out threw they me not ___ (only down the stairs)
b. (Ja, ja, jag ska mata din katt, men)
   (All right, I will feed your cat but)
   IN släpper jag den inte ___.
   in let I it not ___
   (Holmberg 1997: 209)

^3^ In Danish, Norwegian, and Icelandic, a pronominal object precedes a verbal particle, (i), and, consequently, OS may take place, (ii).

(i) Da a. *Jeg har ikke skrevet op det.
   I have not written up it
b. Jeg har ikke skrevet det op.

(ii) Da a. *Jeg skrev ikke det op.
   I wrote not it up
b. Jeg skrev det ikke ___ op.
Similarly, OS of a direct object (DO) cannot cross an indirect object (IO), (8), while OS of the DO is possible if the IO has moved itself, e.g. by wh-movement or topicalisation, (9).

   I gave not Elsa it
b. *Jag gav den inte Elsa ___.
   (Holmberg 1997: 203)

(9) Sw  a. Vem gave du den inte ___ ___?
   who gave you it not
b. Henne visar jag den helst inte ___ ___.
   her show I it rather not
   (Holmberg 1999: 17)

Hence, as captured by HG, (4), not only an in situ main verb, (2) and (3), but also other intervening non-adverbial elements such as a verbal particle, (6), or another object, (8), block OS. But if the elements that precede the object within VP are moved themselves, OS becomes possible.

In example (1) above, the main verb occurs in the V2 position, C°. However, the verb does not have to undergo finite verb movement to make OS possible; just as with the particles in (7) or the IO in (9)b, OS is possible if the non-finite verb appears in topic position, (10). In fact, OS has to take place in this case, (11).5

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4 Infinitival verbs in Icelandic control structures also undergo V°-to-I° movement (or maybe V°-to-I°-to-C° movement, see Johnson & Vikner 1994), as illustrated by their position relative to an adverbial. As would be expected, these constructions have OS too, compare footnote 1.

(i) Ic  a. *María lofaði að ekki lesa bókina.
   María promised to not read book-the
b. María lofaði að lesa ekki bókina.
   c. María lofaði að lesa bókina ekki ___ ____. (Jónsson 1996: 164)

5 Otherwise OS is optional in Swedish - in contrast to Danish where it is obligatory, cf. (1).
In the following sections we will discuss a number of properties of OS in remnant VP-topicalisation constructions such as (10). Section 2 reviews Holmberg's (1997, 1999) and Fox & Pesetsky's (2005) approaches to OS in clauses with topicalised verbs. In section 3 we present an Optimality-theoretic approach to OS in remnant VP-topicalisations. The results are summarized in section 4.

2 Remnant VP-topicalisation

2.1 Holmberg's (1997, 1999) V°-topicalisation approach

As discussed in the previous section, OS is blocked by intervening non-adverbal material, but it may take place if this material has moved itself.

(i) Sw a. Mannen såg inte den.
    man-the saw not it

b. Mannen såg den inte __.

(Josefsson 2003: 201)
Holmberg (1997, 1999) observes that although OS of an infinitival clause subject is possible as long as there is no intervening non-adverbial material, (12a), movement across the non-finite main verb cannot be rescued by subsequent topicalisation of the verb, (12d). \(^6\)

(12) Sw
a. Jag såg henne inte ___ [IP _____ arbeta].
   I saw her not work
b. Jag har inte sett [IP henne arbeta].
   I have not seen her work
c. *Jag har henne inte sett [IP _____ arbeta].
d. *Sett _____ arbeta har jag henne inte

(Holmberg 1997: 206)

Holmberg (1997, 1999) concludes that HG is a matter of derivation, not representation: A violation of HG as in (12)c cannot be repaired by subsequent operations as in (12)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. Consequently, the grammatical sentences in (10) cannot involve OS prior to (remnant) VP-topicalisation since that would violate HG, cf. (13). Rather, they must be derived by Vº-topicalisation, with subsequent OS, cf. (14). The examples in (13) and (14) are from Swedish.

\(^6\) That the movement of the infinitival subject involved in (12)a is OS is shown by the fact that it may only apply to weak pronouns in MSc, (i)a,b.

(i) Sw
a. *Jag såg Maria inte ___ [IP _____ arbeta].
   I saw Maria not work
b. Jag såg inte ___ [IP Maria arbeta].

Moreover, it is possible to topicalise the whole VP.

(ii) Sw
[VP Sett henne arbeta] har jag inte.
seen her work have I not
(Holmberg 1997: 206)
(13) **Remnant VP-topicalisation? Holmberg (1997, 1999): NO!**

a. \[ CP \text{ har } [IP \text{ jag} \ [VP1 \text{ inte} \ [VP2 \text{ kysst henne}]]) \]

b. \[ CP \text{ har } [IP \text{ jag henne} \ [VP1 \text{ inte} \ [VP2 \text{ kysst ____}]]) \]

\[ \text{x x x} \]

violation of HG!!!

c. \[ CP[VP2 \text{ Kysst ____}] \text{ har } [IP \text{ jag henne} \ [VP1 \text{ inte } \text{ ____________}]) \]

(14) **V°-topicalisation? Holmberg (1997, 1999): YES!**

a. \[ CP \text{ har } [IP \text{ jag} \ [VP1 \text{ inte} \ [VP2 \text{ kysst henne}]]) \]

b. \[ CP[V° \text{ Kysst}] \text{ har } [IP \text{ jag} \ [VP1 \text{ inte} \ [VP2 ____ henne]]) \]

c. \[ CP[V° \text{ Kysst}] \text{ har } [IP \text{ jag henne} \ [VP1 \text{ inte} \ [VP2 ____ ____]]) \]

Note that OS in the V°-topicalisation analysis is countercyclic: It targets a lower position than the previous movement of V°, which is why Holmberg (1997, 1999) has to assume that OS does not take place in syntax proper but in a special part of the grammar, Stylistic Syntax, where Chomsky's (1993: 22) Extension Condition does not hold. Moreover, the V°-topicalisation analysis involves movement of an X° to an XP-position.

Furthermore, if V°-topicalisation would be possible, we would expect the sentences in (15)b/(16)b to be acceptable, contrary to fact.

(15) Da a. Jeg har ikke smidt den ud. 
    I have not thrown it out

    b. *Smidt har jeg den ikke ___ ___ ud.

(16) Da a. Jeg har ikke stillet det på bordet.
    I have not put it on table-the

    b. *Stillet har jeg det ikke ___ ___ på bordet.
Against Holmberg (1997, 1999), we would like to suggest that remnant VP-topicalisation is actually possible, though it is subject to certain restrictions.

2.2 Fox & Pesetsky's (2005) remnant VP-topicalisation approach

Not only is V°-topicalisation impossible in constructions like (15)b/(16)b, there are also clear cases of remnant VP-topicalisation. As Fox & Pesetsky (2005) mentions, remnant VP-topicalisation is possible in Swedish under certain conditions: In double object constructions, topicalisation of a non-finite main verb may take along the IO, stranding the DO in OS position, (17)a. By contrast, stranding of an IO pronoun alone is not possible, (17)b.

(17) Sw a. *[VP Gett henne ___] har jag den inte.
   given her have I it not
   b. *[VP Gett ____ den] har jag henne inte.
      given it have I her not

(Fox & Pesetsky 2005: 25)

Fox & Pesetsky (2005) suggests 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). The crucial property of Spell-out is that it may only add information about the linearization 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, accounting for order preservation effects.

To Fox & Pesetsky (2005), the fact that OS observes HG is a consequence of their "linearisation theory". At the Spell-out domain VP, the ordering statement "V<0" is established, (18)b. At CP, Spell-out adds information about the linearisation of the new material, (18)c; this information agrees 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.

(18) Da  

a. Jeg kyssede hende ikke ___ ___.  
   I kissed her not

b. VP: [VP V O] 
   Ordering: V<0

c. CP: [CP S V [IP tₚ S O Adv [VP tᵥ t₀]]] 
   Ordering: S<V V<0  
   V<0  
   O<Adv  
   Adv<VP → ∅

By contrast, OS is impossible in an embedded clause as (19) in MSc. The ordering statements produced at Spell-out of CP, (19)c, contradict the statement "V<0" established at Spell-out of VP, (19)b: Given that at CP, the object precedes the adverb ("O<Adv") which in turn precedes the verb ("Adv<V"), the object must precede the verb - in contrast to their relative order at VP.

(19) Da  

a. *... at jeg hende ikke kyssede ___.  
   that I her not kissed

b. VP: [VP V O] 
   Ordering: V<0

c. CP: [CP Comp [IP S O Adv [VP tᵥ t₀]]] 
   Ordering: C<S V<0  
   S<0  
   O<Adv  
   Adv<VP → Adv<V

Hence, Fox & Pesetsky (2005) derives HG from ordering contradictions. OS cannot take place if it results in ordering statements at CP that contradict those established at Spell-out of VP. Correspondingly, the asymmetry between stranding of an IO and stranding of a DO by remnant VP-topicalisation illustrated in (17) 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 maintained at the Spell-out of CP in (17)a but not in (17)b.

Note that Fox & Pesetsky (2005) predicts that movement operations that do not obey HG have to proceed successive cyclically: The underlined constituents in (20) have to move through the edge of VP prior to linearisation of the VP domain to prevent ordering contradictions at the Spell-out of CP. These movement operations comprise various instances of A-movement and A-bar-movement operations, such as Scandinavian Negative Shift (see Christensen 2005), wh-movement, topicalisation, and subject raising.

(20) Da
a. Måske har han ingen bøger læst _______.
   probably has he no books read _______.

b. Hvad har du læst _______?
   what have you read _______?

c. Bøgerne har jeg læst _______.
   books-the have I read _______.

d. Måske blev bøgerne læst _______.
   perhaps were books-the read _______.

Hence, the crucial difference between the various movement operations in (20) and OS is that the former may - and indeed must – go through the edge of VP, but as Fox & Pesetsky (2003) states, in their analysis OS cannot involve movement to the edge of VP.

3 An Optimality-theoretic approach to object shift and remnant VP-topicalisation

3.1 Object shift and order preservation

Although there are a number of OT analyses of OS, the ones we are familiar with, e.g. Broekhuis (2000) or Vogel (2004), predate Fox & Pesetsky (2005) and do not consider remnant VP-topicalisation at all. As far as we can tell, these analyses would not be able to account for it.
Building on the insights of Fox & Pesetsky (2005), we consider HG to be a linear restriction. The condition on order preservation is expressed by the constraint in (21)a that requires base order precedence relations among non-adverbial elements to be maintained at the final representation; cf. Déprez (1994), Müller (2001), Sells (2001), and Williams (2003). Pronominal OS is taken to be triggered by the constraint \textsc{ShiftPronoun} in (21)b: 7

\begin{align*}
(21) & \quad \text{a. ORDER PRESERVATION (ORDPRES):} \\
& \quad \text{If the foot of the chain of some non-adverbial element } \alpha \text{ precedes} \\
& \quad \text{the foot of the chain of some element } \beta, \text{ the head of the chain of } \alpha \\
& \quad \text{also precedes the head of the chain of } \beta. \\
& \quad \text{b. ShiftPronoun (ShiftPron):} \\
& \quad \text{A weak pronoun precedes and c-commands the lowest VP (of the same clause) that contains all other VPs and all VP-adjoined adverbials.}
\end{align*}

\textsc{ShiftPronoun} requires movement of a pronoun to a position at the left edge of VP; \textsc{OrdPres} penalizes this movement if it results in the reversal of the order of non-adverbial elements. Hence, the ranking \textsc{OrdPres} >> \textsc{ShiftPron} captures HG: The violation of \textsc{OrdPres} blocks OS across an intervening non-adverbial element such as the \textit{in situ} main verb in Tableau 1. However, if the main verb moves itself to a position to the left of the target position of OS, OS is possible since the base order precedence relation between the verb and its object are maintained in accordance with \textsc{OrdPres}; compare Tableau 2. 8

7 As mentioned in footnote 1, OS may also apply to full DPs in Icelandic. Vikner & Engels (2006) considers full DP Shift to be triggered by a more general constraint \textsc{Shift} that requires a non-focused constituent to precede and c-command the lowest VP (of the same clause). The contrast between Icelandic and MSc in the applicability of OS to full DPs depends on the relative ranking between \textsc{Shift} and \textsc{Stay}, see (31) below.

8 In contrast to HG in (4), \textsc{OrdPres} is not restricted to OS; rather, the constraint penalizes any kind of movement that changes the order of elements. The fact that OS contrasts with other types of movement operations, such as the ones mentioned in (20) above, in that the latter ones do not have to preserve the base order can be captured by differences in the ranking of \textsc{OrdPres} relative to the constraints that require the corresponding movements.
**Tableau 1: Blocking of OS by intervening verb**

<table>
<thead>
<tr>
<th>Da</th>
<th>ORDRES</th>
<th>SHIFTPRON</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Sub Aux Adv V Pron-Obj</td>
<td>*</td>
<td>(2)a</td>
</tr>
<tr>
<td>b</td>
<td>Sub Aux Pron-Obj Adv V t₀</td>
<td>*!</td>
<td>(2)b</td>
</tr>
</tbody>
</table>

**Tableau 2: Object Shift**

<table>
<thead>
<tr>
<th>Da</th>
<th>ORDRES</th>
<th>SHIFTPRON</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Sub V Adv tv Pron-Obj</td>
<td>*!</td>
<td>(1)a</td>
</tr>
<tr>
<td>b</td>
<td>Sub V Pron-Obj Adv tv t₀</td>
<td></td>
<td>(1)b</td>
</tr>
</tbody>
</table>

The ranking ORDRES >> SHIFTPRON does not only predict that OS is blocked by intervening non-adverbial elements, it also accounts for the fact that multiple OS has to maintain the order of elements.

(22) Da  

| a. *Jeg gav ikke hende det. |
| I gave not her it |
| b. *Jeg gav hende ikke ____ det. |
| c. *Jeg gav det hende ikke ____ __. |
| d. Jeg gav hende det ikke ____ __. |

For example, ORDRES is outranked by the constraint WHSPEC that requires wh-movement to Spec,CP (WHSPEC >> ORDRES), predicting that unlike OS, wh-movement is not blocked by an intervening verb, verbal particle, or object; compare (2), (6), and (8), respectively.

(i) Da  

| a. Hvad har Peter læst ____? |
| what has Peter read ____? |
| Sw b. Vad smutsade Kalle ner ____? |
| what dirtied Kalle down ____? |
| Sw c. Vad gav Kalle Elsa ___? |
| what gave Kalle Elsa ___? |

((i)b,c from Bobaljik 2002: 236)
Tableau 3: Multiple OS

<table>
<thead>
<tr>
<th>Da</th>
<th>ORDPres</th>
<th>SHIFTPRON</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Sub V Adv Pron-IO Pron-DO</td>
<td>⬤</td>
<td>(22)a</td>
</tr>
<tr>
<td>b</td>
<td>Sub V Pron-IO Adv tIO Pron-DO</td>
<td>⬤</td>
<td>(22)b</td>
</tr>
<tr>
<td>c</td>
<td>Sub V Pron-DO Pron-IO Adv tIO tDO</td>
<td>⬤</td>
<td>(22)c</td>
</tr>
<tr>
<td>d</td>
<td>Sub V Pron-IO Pron-DO Adv tIO tDO</td>
<td></td>
<td>(22)d</td>
</tr>
</tbody>
</table>

3.2 Asymmetry I: Stranding of IO vs. stranding of DO

As shown in the preceding section, the ranking ORDPres >> SHIFTPRON captures the fact that OS is blocked by an intervening non-adverbial element, predicting that OS is dependent on movement of the main verb. However for OS to be possible, the main verb does not necessarily have to undergo V°-to-I°-to-C° movement as in Tableau 2. What is crucial is that the main verb moves to a position in front of the target position of OS, such that their relative order is preserved. This can also be achieved by placing a non-finite verb in topic position, as illustrated in Tableau 4.

Tableau 4: OS with remnant VP-topicalisation

<table>
<thead>
<tr>
<th>Da</th>
<th>ORDPres</th>
<th>SHIFTPRON</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>V Aux Sub Adv Pron-Obj</td>
<td>⬤</td>
<td>(11)</td>
</tr>
<tr>
<td>b</td>
<td>V Aux Sub Pron-Obj Adv</td>
<td></td>
<td>(10)</td>
</tr>
</tbody>
</table>

We propose that in this case the pronominal object undergoes OS prior to remnant VP-topicalisation. 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, compare (13) above. The OT constraint 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 in front of the shifted object such that their precedence relation is re-established since constraint violations are only computed on the final structure.

The present analysis also predicts the asymmetry between stranding of an IO and stranding of a DO, repeated in (23).

(23) Sw
a. *[VP Getta henne [ ]] har jag den inte.
   given her have I it not
b. *[VP Getta [ ] den] har jag henne inte.
   (Fox & Pesetsky 2005: 25)

Note that also both objects of a double object construction may be taken along, (24)a, or both of them may be stranded by remnant VP-topicalisation, (24)b.

(24) Da
a. [VP Givetta hende den] har jeg ikke.
   given her it have I not
b. *[VP Givetta [ ] [ ]] har jeg hende den ikke.

Because of these alternatives, it is necessary to assume that it is specified in the input which constituents are to be placed in topic position (= bold in the tableaux below). Stranding of an element that should appear in topic position then violates TOPIC whereas taking along too much material does not violate this constraint, see Tableau 5 and Tableau 6.

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9 Note that not only topical element but also focused constituents may occur in Spec,CP in the Scandinavian languages. For example, object pronouns may only appear clause-initially if focused, as marked by stress.

(i) a. *Ham har jeg ikke set__.
   him have I not seen
b. HAM har jeg ikke set__.

For present purposes, we need not focus on the exact information-structural status of the constituent(s) in Spec,CP. What is important is that their occurrence in Spec,CP is required by some constraint.
(25) **Topic:** Elements with a [+topic] feature occur in Spec,CP.

**Tableau 5: VP-topicalisation, taking along both IO and DO**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>[VP V Pron-IO Pron-DO] Aux Sub Adv tVP</td>
<td>**</td>
</tr>
<tr>
<td>b</td>
<td>[VP V Pron-IO tDO] Aux Sub Pron-DO Adv tVP</td>
<td>*!</td>
</tr>
<tr>
<td>c</td>
<td>[VP V tIO Pron-DO] Aux Sub Pron-IO Adv tVP</td>
<td>*!</td>
</tr>
<tr>
<td>d</td>
<td>[VP V tIO tDO] Aux Sub Pron-IO Pron-DO Adv tVP</td>
<td><em>!</em></td>
</tr>
</tbody>
</table>

**Tableau 6: Remnant VP-topicalisation, stranding both IO and DO**

<table>
<thead>
<tr>
<th>Da/Sw</th>
<th>Topic: V</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>[VP V Pron-IO Pron-DO] Aux Sub Adv tVP</td>
<td><em>!</em></td>
</tr>
<tr>
<td>b</td>
<td>[VP V Pron-IO tDO] Aux Sub Pron-DO Adv tVP</td>
<td>*!</td>
</tr>
<tr>
<td>c</td>
<td>[VP V tIO Pron-DO] Aux Sub Pron-IO Adv tVP</td>
<td>*!</td>
</tr>
<tr>
<td>d</td>
<td>[VP V tIO tDO] Aux Sub Pron-IO Pron-DO Adv tVP</td>
<td>(24)b</td>
</tr>
</tbody>
</table>

As Tableau 5 and Tableau 6 show, **SHIFTPRON** favors stranding of a pronoun which is, however, only possible if the pronoun is not marked [+topic]. The asymmetry between stranding of a DO and stranding of an IO is expected by the ranking **ORDPRES >> SHIFTPRON**. OS of a DO maintains the ordering relations in remnant VP-topicalisations, satisfying **ORDPRES** (see Tableau 7). In contrast, remnant VP-topicalisation does not re-establish the base order relations if the IO is stranded. Consequently, the violation of **ORDPRES** rules out stranding of the

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10 Note that it is crucial for the remnant VP-topicalisation constructions that OrdPres refers to precedence rather than c-command relations: While the precedence relations are maintained in (23)a, the c-command relations are not - neither the verb nor the IO c-commands the shifted DO.
IO in OS position, compare Tableau 8 below. Instead, the IO has to be taken along by VP-topicalisation, giving rise to neutralization: Despite the different input specifications with regard to topichood, the same candidate (namely, candidate a) arises as output in Tableau 5 and Tableau 8. (But note that stranding of the IO is possible if it does not result in a violation of OrdPres, namely if both objects are stranded as in (24)b.)

Tableau 7: Remnant VP-topicalisation that strands DO

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>[VP V Pron-IO Pron-DO] Aux Sub Adv tVP</td>
<td></td>
<td>**!</td>
<td></td>
<td>(24)a</td>
</tr>
<tr>
<td>b</td>
<td>[VP V Pron-IO tDO] Aux Sub Pron-DO Adv tVP</td>
<td></td>
<td>*</td>
<td></td>
<td>(23)a</td>
</tr>
<tr>
<td>c</td>
<td>[VP V tIO Pron-DO] Aux Sub Pron-IO Adv tVP</td>
<td></td>
<td>! *</td>
<td>*</td>
<td>(23)b</td>
</tr>
<tr>
<td>d</td>
<td>[VP V tIO tDO] Aux Sub Pron-IO Pron-DO Adv tVP</td>
<td></td>
<td>!</td>
<td></td>
<td>(24)b</td>
</tr>
</tbody>
</table>

Tableau 8: No remnant VP-topicalisation that strands IO

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>[VP V Pron-IO tDO] Aux Sub Pron-DO Adv tVP</td>
<td></td>
<td>! *</td>
<td>*</td>
<td>(23)a</td>
</tr>
<tr>
<td>c</td>
<td>[VP V tIO Pron-DO] Aux Sub Pron-IO Adv tVP</td>
<td></td>
<td>!</td>
<td>*</td>
<td>(23)b</td>
</tr>
<tr>
<td>d</td>
<td>[VP V tIO tDO] Aux Sub Pron-IO Pron-DO Adv tVP</td>
<td></td>
<td>!</td>
<td></td>
<td>(24)b</td>
</tr>
</tbody>
</table>

Similarly, the unacceptable sentence in (12)d, repeated here as (26)c, is ruled out by the violation of OrdPres. These data led Holmberg (1997, 1999) to assume that remnant VP-topicalisation is not possible.
(26) Sw  
a. Jag har inte sett henne arbeta.  
I have not seen her work  
b. *[VP Sett henne arbeta] har jag inte ________________.  
c. *[VP Sett ____ arbeta] har jag henne inte ________________.  
(Holmberg 1997: 206)

<table>
<thead>
<tr>
<th>Sw</th>
<th>Topic: V &amp; V</th>
<th>TOPIC</th>
<th>OrdPres</th>
<th>ShiftPron</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>[VP V Pron V] Aux Sub Adv</td>
<td></td>
<td></td>
<td>*</td>
<td>(26)b</td>
</tr>
<tr>
<td>b</td>
<td>[VP V tPron V] Aux Sub Pron Adv</td>
<td></td>
<td></td>
<td>*!</td>
<td>(26)c</td>
</tr>
</tbody>
</table>

Moreover, the order preservation approach to remnant VP-topicalisation predicts that stranding of the object is unacceptable in constructions in which the object is followed by other elements within VP, e.g. in constructions with a particle verb or a verb with an additional PP-complement, see (27)b/(28)b. In contrast, topicalisation of the full VP is possible.

(27) Da  
a. [VP Smidt den ud] har jeg ikke.  
thrown it out have I not  
b. *[VP Smidt ____ ud] har jeg den ikke.  
(28) Da  
a. [VP Stillet det på bordet] har jeg ikke.  
put it on table-the have I not  
b. *[VP Stillet ____ på bordet] har jeg det ikke.

Although they occupy a right-peripheral position within VP, particles and PPs cannot be left behind either (irrespective of whether or not the object is taken along by VP-topicalisation or stranded as well). ¹¹

¹¹ Notice that according to Holmberg (1999), stranding of a PP complement is possible in Swedish, in contrast to the judgment reported in (30).

(i) Sw  Boh ska han __ i Malmö, men han ska jobba i Köpenhamn.  
live will he __ in Malmö but he will work in Copenhagen  
(Holmberg 1999: 12)
As argued above, stranding of a pronominal object is triggered by \textsc{ShiftPron}, requiring a VP-external position for the pronoun. Elements for which movement is not independently required by some constraint cannot be stranded by remnant VP-topicalisation due to the constraint \textsc{Stay}.\footnote{Note that not just pronominal objects may be left behind when the verb occurs in clause-initial position, but - according to Holmberg (1999: 10) - also epithetic DPs may be stranded. "V-Topicalization requires narrow contrastive focus on V, and is therefore most natural when other VP-constituents are 'defocused', in which case they are most naturally referred to by pronouns. [...] In terms of information structure a pronominal epithet is equal to a pronoun, but with regard to Object Shift, they behave like full DPs, i.e. they are generally not shifted in MSc. [...] [(i)a] featuring a pronominal epithet as object should be as well-formed as [(10)a], which indeed it is" (Holmberg 1999: 10).}

(i) Sw a. Sett har jag inte den idioten, ...
   seen have I not that idiot
   
   b. *Sett har jag den idioten inte _________,.....
      (...) men jag har talat med honom på telefon).
      but I have talked with him on phone (Holmberg 1999: 11)

Stranding of full DPs is unexpected in our approach as they cannot undergo OS (in MSc) and the remnant VP therefore is not expected to be a constituent. This goes not only for epithets as in (i) but also for focused non-epithetic DPs which can be stranded too, (ii).

(ii) Da Kysset har jeg ikke MARIE, men SOPHIE.
    kissed have I not Marie but Sophie

At the first glance, the fact that full DPs can be stranded although they cannot undergo OS would seem to support Holmberg's (1999) claim that these sentences involve $V^\circ$-topicalisation rather than remnant VP-topicalisation. However, stranding of a full DP is also possible in clear instances of remnant VP-topicalisation as the one in (iii) where the DO of a double object verb is left behind.
STAY: Trace is not allowed. (Grimshaw 1997: 374)

Tableau 10: No stranding of other VP-internal right-peripheral constituents

<table>
<thead>
<tr>
<th>Da</th>
<th>Topic: V &amp; Pron-Obj</th>
<th>TOPIC</th>
<th>ORDPRES</th>
<th>SHIFTPRON</th>
<th>STAY</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>[VP V Pron-Obj PP] Aux Sub Adv</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(28)a</td>
</tr>
<tr>
<td>b</td>
<td>[VP V Pron-Obj tPP] Aux Sub Adv PP</td>
<td></td>
<td></td>
<td>*!</td>
<td></td>
<td>(30)a</td>
</tr>
</tbody>
</table>

By contrast, right-peripheral constituents that are not included in VP and thus do not have to be moved out of VP prior to VP-topicalisation can be stranded:

(32) Da

a. *Jeg kan ikke uden briller [VP læse den].
   I can not without glasses read it
c. [VP Læse den] kan jeg ikke uden briller.

3.3 Not all right-peripheral objects can be stranded

From the discussion in the previous section, we might expect that all that matters is that the stranded object originally occupied a right-peripheral position in the topicalised remnant VP, because then all orderings are preserved. However, not all objects on the right edge may be left behind during VP-topicalisation: The object of an infinitival clause cannot be stranded by remnant topicalisation of the main clause VP although it is the rightmost element within that VP.

(iii)Sw

Har du verkligen lånat Per din gamla dator?
(‘Have you really lent Per your old computer?’)

Lånat honom har jag inte det gamla skitet, jag har GETT honom det. 
I have given him it
lent him have I not the old crap

(Gunlög Josefsson, p.c.)
Thus, besides the linear restriction, there would seem to also be a structural restriction, ruling out the leaving behind of an object which is too deeply embedded.

Also with Swedish particle verbs where the particle must precede the object (see (5) above), the object cannot be left behind during remnant VP-topicalisation, although stranding of the object would seem not to violate OrdPres:

(34) Sw  

a. \([\text{VP} \text{Kastat bort} \text{den}] \text{har jag inte.} \) 
thrown out it have I not

b. *\([\text{VP} \text{Kastat bort} \text{____}] \text{har jag den inte.} \) 

(Gunlög Josefsson, p.c.)

Remember that OS is possible in particle verb constructions where the particle is topicallyised and the verb undergoes V2, cf. (7) which is repeated here as (35). This indicates that OS in a particle verb construction is not a problem as such, and that instead it is the remnant topicalisation of the particle verb phrase which is problematic.

(35) Sw  

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

b. (Ja, ja, jag ska mata din katt, men) \([\text{IN släpper jag den inte __.} \) 

(All right, I will feed your cat but) in let it not

(Holmberg 1997: 209)

We would like to suggest that extraction of an object out of VP has to proceed via adjunction to the minimal XP that contains its selecting/theta-assigning head. Hence, the object in (34)b has to adjoin to PrtP before moving to the OS position on top of VP. (The VP is what undergoes topicalisation to Spec,CP in (34), and, as already stated above, although the individual steps of OS violate OrdPres,
this is of no consequence, as OrdPres violations are only computed on the final structure.)

(36) Sw $\begin{array}{c}
\text{VP} \\
\text{ka stat} \\
\text{thrown}
\end{array}$ $\begin{array}{c}
\text{PrtP tO'} \\
\text{bort} \\
\text{out}
\end{array}$ $\begin{array}{c}
tO\end{array}$ $= (34)b$

Assuming a Larsonian VP-shell structure (Larson 1988), the main verb moves to the higher VP in the double object construction in (23)a where remnant VP-topicalisation is possible. Consequently, this higher VP represents the minimal XP that contains the selecting/theta-assigning head of the object and to which the object has to adjoin prior to its movement to the OS position. Hence, there is no intermediate trace adjoined to the lower VP in (37).

(37) Sw $\begin{array}{c}
\text{VP tDO'} \end{array}$ $\begin{array}{c}
\text{VP gett} \\
\text{given}
\end{array}$ $\begin{array}{c}
\text{VP tv henne tDO}\end{array}$ $= (23)a$

A possible reason why the absence of the intermediate trace is important is that it is possible to topicalise (the inner segment of) the higher VP in (37) without bringing along any intermediate trace. In contrast, remnant topicalisation of the VP in (36) would take along an intermediate trace, viz. the trace adjoined to PrtP, tO'. One possible reason why intermediate traces are not allowed to come along to Spec,CP could be that they have to be licensed by being c-commanded by the next higher link in the chain (which does not hold under VP-topicalisation), whereas a trace in its base position (which has to come along to

---

13 Similarly, remnant topicalisation of the main VP in (33)b would have to take along the intermediate trace: The two VPs do not have the same head such that OS would have to involve adjunction to the embedded VP.

(i) Da
a. $\begin{array}{c}
\text{CP} \end{array}$ $\begin{array}{c}
\text{VP set} \\
\text{ham} \\
\text{fotografera hende}]]
\end{array}$ $\begin{array}{c}
\text{har} \\
\text{jeg} \\
\text{[VP ikke tVP]]}
\end{array}$
\text{seen him} \text{photograph her} \text{have I} \text{not}

b. $\begin{array}{c}
\ast \text{CP} \end{array}$ $\begin{array}{c}
\text{VP set} \\
\text{ham} \\
\text{tO'} \\
\text{fotografera tO}]]
\end{array}$ $\begin{array}{c}
\text{har} \\
\text{jeg hende} \\
\text{[VP ikke tVP]]}
\end{array}$
Spec,CP in both (36) and (37)) may be licensed in a different way, e.g. simply by being in a thematic position.\footnote{Under the assumption that the intermediate step has to target the minimal XP of the selecting/theta-assigning head (excluding any adjuncts to XP), the ungrammaticality of (i)c follows: The intermediate trace of the object is adjoined to the inner segment of VP such that topicalisation of the outermost segment of VP necessarily takes this trace along. In contrast, remnant topicalisation of the innermost VP (excluding the intermediate trace) is marginally acceptable.}

The difference between (34) and (35) is now that in (35), only the PrtP is topicalised (the verb is also moved, but by a different movement, V\textdegree-to-I\textdegree-to-C\textdegree movement) and so there does not have to be an intermediate trace inside VP, and, therefore it is possible for remnant VP-topicalisation to take place without an intermediate trace occurring in Spec,CP.

(38) Sw a. \[VP \text{kastade}[^{\text{Prp}} \text{tO}'][^{\text{Prp}} \text{ut} \text{tO}]]\]

\[\text{threw} \quad \text{out}\]

b. \[^{\text{Prp}} \text{ut} \text{tO}] \text{kastade dom mej inte} \[VP \text{tV} \quad [^{\text{Prp}} \text{tO'} \quad \text{tPrp} \quad ]\]

\[\text{out} \quad \text{threw} \quad \text{they me not}\]

\[= (35)a\]

To sum up, remnant VP-topicalisation may strand an object in OS position as long as the precedence relations are maintained (ORDPRES >> SHIFTPRON) and its base position is not too deeply embedded (i.e. the topicalised VP does not

\footnote{Under the assumption that the intermediate step has to target the minimal XP of the selecting/theta-assigning head (excluding any adjuncts to XP), the ungrammaticality of (i)c follows: The intermediate trace of the object is adjoined to the inner segment of VP such that topicalisation of the outermost segment of VP necessarily takes this trace along. In contrast, remnant topicalisation of the innermost VP (excluding the intermediate trace) is marginally acceptable.}

(i) Da. a. Han har måske nok \[VP \text{omhyggeligt læst} \text{den}\]

\[\text{he has possibly well carefully read it}\]

men har han forstået den? but has he understood it?

b. ?[VP \text{omhyggeligt} \[VP \text{læst} \text{den}]\]

c. *[VP \text{omhyggeligt} \[VP \text{tO'} \[VP \text{læst} \text{tO}]\]]\]

d. ??[VP \text{Læst} \text{tO}]\]

\[\text{read has he it not}\]

\[\text{only rather superficially}\]
contain an intermediate trace). Consequently, only an object that is right-peripheral in VP may be left behind, giving rise to the asymmetry between stranding of an IO and stranding of a DO.

3.4 Asymmetry II: Object shift vs. subject raising

Apart from the asymmetry between stranding of a DO and stranding of an IO discussed in section 3.2, there is an asymmetry between remnant VP-topicalisation leaving behind an argument in OS position and remnant VP-topicalisation leaving behind an argument in subject position. This indicates that a non-peripheral trace in the topicalised VP is not a problem as such. The base order of elements does not have to be maintained by remnant VP-topicalisation if the element that has left VP occurs in subject position (as in passives), while the order cannot be changed if it occurs in OS position, see (39)b/(41)b vs. (40)b/(42)b.

(39) Da a. \[\text{[VP Smidt den ud]} \text{ har jeg ikke.}\]
    thrown it out have I not

b. *\[\text{[VP Smidt ___ ud]} \text{ har jeg den ikke.}\]

(40) Da a. *\[\text{[VP Smidt den ud]} \text{ blev ikke.}\]
    thrown it out was not

b. \[\text{[VP Smidt ___ ud]} \text{ blev den ikke.}\]

(41) Da a. \[\text{[VP Stillet det på bordet]} \text{ har jeg ikke.}\]
    put it on table-the have I not

b. *\[\text{[VP Stillet ___ på bordet]} \text{ har jeg det ikke.}\]

(42) Da a. *\[\text{[VP Stillet det på bordet]} \text{ blev ikke.}\]
    put it on table-the was not

b. \[\text{[VP Stillet ___ på bordet]} \text{ blev det ikke.}\]
This contrast is accounted for if OrdPRES is outranked by the constraint that triggers subject movement to Spec,IP, cf. Grimshaw & Samek-Lodovici (1995), Samek-Lodovici (1996, 1998).\textsuperscript{15}

(43) SUBJECT: The highest $A$-specifier is structurally realized.

(Samek-Lodovici 1998: 4)

Tableau 11: No object stranding in Danish particle verb constructions

<table>
<thead>
<tr>
<th>Da</th>
<th>Topic: V &amp; Prt</th>
<th>SUBJECT</th>
<th>OrdPRES</th>
<th>ShiftPron</th>
<th>Stay</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>a [VP $V$ Pron-Obj Prt] Aux Sub Adv</td>
<td></td>
<td></td>
<td>*</td>
<td>(39)a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b [VP $V_{to}$ Prt] Aux Sub Pron-Obj Adv</td>
<td>*!</td>
<td></td>
<td>*</td>
<td>(39)b</td>
</tr>
</tbody>
</table>

Tableau 12: Subject stranding in Danish particle verb constructions

<table>
<thead>
<tr>
<th>Da</th>
<th>Topic: V &amp; Prt</th>
<th>SUBJECT</th>
<th>OrdPRES</th>
<th>ShiftPron</th>
<th>Stay</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>a [VP $V$ Pron-Sub Prt] Aux e Adv</td>
<td>*!</td>
<td></td>
<td>*</td>
<td>(40)a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b [VP $V_{ts}$ Prt] Aux Pron-Sub Adv</td>
<td>*</td>
<td></td>
<td>*</td>
<td>(40)b</td>
</tr>
</tbody>
</table>

The ranking SUBJECT $>>$ OrdPRES is supported by the fact that movement to subject position does not depend on verb movement; i.e. subject movement may cross an intervening (unaccusative) verb.

(44) Da a. Derfor har Elsa ikke ____ ringet.
   therefore has Elsa not called

b. Derfor er Elsa ikke kommet ____.
   therefore is Elsa not come

\textsuperscript{15} Under the assumption that all extraction out of VP has to proceed via adjunction to the minimal XP containing the selecting/theta-assigning head (see section 3.3), the grammaticality of (40)b suggests that the prohibition against intermediate traces in Spec,CP also is a violable constraint (which is outranked by SUBJECT). Den (’it’) in (40)b originates in the complement position of the particle and it would thus have to adjoin to PrtP before moving on to the subject position. Consequently, the topicalised VP includes an intermediate trace of the subject.

(i) Da [VP Smidt [PrtP $t'$ [PrtP ud $t$]]] blev den ikke.
Tableau 13: Subject raising

<table>
<thead>
<tr>
<th>Da</th>
<th>SUBJECT</th>
<th>OrdPres</th>
<th>ShiftPron</th>
<th>Stay</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>e Aux V DP</td>
<td>*!</td>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>b</td>
<td>DP Aux V tDP</td>
<td>*</td>
<td>*</td>
<td></td>
<td>(44)b</td>
</tr>
</tbody>
</table>

At the same time, OrdPres predicts that in double object constructions the IO rather than the DO is promoted to subject in passives, as borne out in e.g. Danish and English.\(^{16}\)

(45) Da

a. Derfor har jeg ikke givet Elsa bogen.  
   therefore have I not given Elsa book-the
b. Derfor blev Elsa ikke givet ___ bogen.  
   therefore was Elsa not given ___ book-the
  c. *Derfor blev bogen ikke givet Elsa ___.

(46) En

a. I did not give Elsa the book. 
b. Elsa was not given ___ the book. 
  c. *The book was not given Elsa ______.

Tableau 14: Promotion to subject in passive double object constructions

<table>
<thead>
<tr>
<th>Da</th>
<th>SUBJECT</th>
<th>OrdPres</th>
<th>ShiftPron</th>
<th>Stay</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>e Aux V DP DP</td>
<td>*!</td>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>b</td>
<td>DP Aux V tDP DP</td>
<td>*</td>
<td>*</td>
<td></td>
<td>(45)b</td>
</tr>
<tr>
<td>c</td>
<td>DP Aux V DP tDP</td>
<td>**!</td>
<td>*</td>
<td></td>
<td>(45)c</td>
</tr>
</tbody>
</table>

---

\(^{16}\) However, promotion of the DO to subject in passive double object constructions is possible in Swedish and Norwegian.

(i) No

a. Marie gav ham den.  
   Maria gave him it
b. Han ble gitt ___ den.  
   he was given ___ it
  c. Den ble gitt ham ___.  
   it was given him ___
As expected by OrdPres, promotion of the DO to the subject of a passive is possible if the recipient is expressed by a PP because in that case the DO precedes the PP in the base order.

\[
\text{(47) Da a. Derfor har jeg ikke givet bogen til Elsa. Therefore have I not given book-the to Elsa.} \\
\text{b. Derfor blev bogen ikke givet _____ til Elsa. Therefore was book-the not given _____ to Elsa.} \\
\text{c. *Derfor blev Elsa ikke givet bogen til____.} \\
\]

\[
\text{(48) En a. I did not give the book to Elsa.} \\
\text{b. The book was not given _______ to Elsa.} \\
\text{c. *Elsa was not given the book to____.} \\
\]

Tableau 15: Promotion to subject in passive DP PP constructions

<table>
<thead>
<tr>
<th>Da</th>
<th>SUBJECT</th>
<th>OrdPres</th>
<th>ShiftPron</th>
<th>Stay</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>e Aux V DP PP</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>DP Aux V tDP PP</td>
<td>*</td>
<td>*</td>
<td></td>
<td>(47)b</td>
</tr>
<tr>
<td>c</td>
<td>DP Aux V DP [P tDP]</td>
<td>*<em>!</em></td>
<td>*</td>
<td></td>
<td>(47)c</td>
</tr>
</tbody>
</table>

Hence, the asymmetry between a subject and an object not moving along in remnant VP-topicalisations is accounted for by the difference in the ranking of SUBJECT and SHIFTPron relative to OrdPres: SUBJECT >> OrdPres >> SHIFTPron predicts that OS but not subject raising is blocked whenever it would result in a reversal of the order relations.

3.5 Asymmetry III: Remnant VP-topicalisation out of a main clause vs. an embedded clause

A third asymmetry in the availability of remnant VP-topicalisation concerns the depth of embedding of the topicalised VP, namely whether the remnant VP is topicalised out of a main clause or out of an embedded clause.

As shown in (49), a full VP may be topicalised from both main clauses and embedded clauses.
Topicalisation of a remnant VP, by contrast, is only possible out of a main clause, (50)a, not out of an embedded clause in Danish: The stranded object may neither follow the finite auxiliary (in its base position), (50)b, nor may it precede it, (50)c:

(50) Da  a. [VP Set ____] har jeg **ham** ikke, ...
seen have I him not
... hvis jeg skal være ærlig, men jeg har talt i telefon med ham.
if I should be totally honest but I have spoken in phone with him
b. *[VP Set ____] tror jeg ikke at du **ham**, ...
seen believe I not that you him
... men du kan måske nok have talt i telefon med ham.
but you may perhaps well have spoken in phone with him

c. *[VP Set ____] tror jeg ikke at du **ham**, ...
seen believe I not that you him have
... men du kan måske nok have talt i telefon med ham.
but you may perhaps well have spoken in phone with him

This asymmetry is expected under the present analysis: As discussed in section 3.2, stranding of an object involves OS (it is motivated by SHIFTPRON); constituents whose movement out of VP is not independently triggered by some constraint cannot be stranded by remnant VP-topicalisation due to STAY. Targeting a position to the left of the base position of the finite verb, OS is only available if the verb has itself left its base position (ORDPRES >> SHIFTPRON) which it does not in embedded clauses in MSc; cf. (3) above. Hence, the difference between main clauses and embedded clauses in finite verb movement...
is crucial for the asymmetry of remnant VP-topicalisation out of main clauses vs. out of embedded clauses.

**Tableau 16: Remnant VP-topicalisation out of a main clause**

<table>
<thead>
<tr>
<th>Da</th>
<th>Topic: V</th>
<th>ORD PRES</th>
<th>SHIFTPRON</th>
<th>STAY</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>[VP V Pron-Obj] Aux Sub Adv tvP</td>
<td></td>
<td>*!</td>
<td></td>
<td>(49)a</td>
</tr>
<tr>
<td>b</td>
<td>[VP V tO] Aux Sub Adv Pron-Obj tvP</td>
<td></td>
<td>*! *</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>c</td>
<td>[VP V tO] Aux Sub Pron-Obj Adv tvP</td>
<td></td>
<td>*</td>
<td></td>
<td>(50)a</td>
</tr>
</tbody>
</table>

**Tableau 17: No remnant VP-topicalisation out of an embedded clause**

<table>
<thead>
<tr>
<th>Da</th>
<th>Topic: V</th>
<th>ORD PRES</th>
<th>SHIFTPRON</th>
<th>STAY</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>¬ a</td>
<td>[VP V Pron-Obj] V Sub Adv Comp Sub [VP Aux tvP]</td>
<td></td>
<td>*</td>
<td></td>
<td>(49)b</td>
</tr>
<tr>
<td>b</td>
<td>[VP V tO] V Sub Adv Comp Sub [VP Aux Pron-Obj tvP]</td>
<td></td>
<td>* *!</td>
<td></td>
<td>(50)b</td>
</tr>
<tr>
<td>c</td>
<td>[VP V tO] V Sub Adv Comp Sub Pron-Obj [VP Aux tvP]</td>
<td>*!</td>
<td>*</td>
<td></td>
<td>(50)c</td>
</tr>
</tbody>
</table>

Note that remnant VP-topicalisation from embedded clauses is possible in passives, i.e. if the element left behind occurs in subject position. This follows from SUBJECT being ranked higher than ORD PRES, as in Tableau 13 above.

(51) Da  a. [VP Set ____] blev han ikke, ...
          seen was he not

b. [VP Set ____] tror jeg ikke at han blev, ...
          seen think I not that he was
          ... men der var nok mange der hørte ham.
          but there were probably many who heard him

The hypothesis that object stranding has to involve OS seems to be supported by the fact that Icelandic (which has Vº-to-Iº movement and, consequently, also OS in embedded clauses, cf. footnote 2), marginally permits a stranded object in
VP-topicalisation out of an embedded clause (as opposed to the Danish (50)b,c which are completely ungrammatical).

(52) Ic ??[VP Kysst __] hélt ég ekki að þú [v hefðir] hana oft, ...
     kissed think I not that you have her often
     ... bara haldið í höndina á henni.
     only held in hand.the on her
     (Gunnar Hrafn Hrafnbjargarson, p.c.)

4 Conclusion

Holmberg (1997, 1999) considers occurrences of a non-finite verb in topic position such as (10) 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.

However, Fox & Pesetsky (2005) have presented 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 base order of elements, and suggesting that HG is representational. We have collected more data that corroborate Fox & Pesetsky's observation and we agree with them in the assumption that HG is to be accounted for in terms of order preservation. 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 (2005) 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 through the left edge of VP while this is impossible for OS.

In contrast, in our OT approach, order preservation is required by a violable constraint. This means that it is the ranking of the ORDERPRESERVATION constraint relative to the constraints that motivate the various types of movement which 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 our approach; the properties distinguishing it from other movement types result from constraint interaction.

The linear conception of HG as expressed by the constraint ORDERPRES and its dominance over the constraint that triggers OS, SHIFTPRON, predicts that only pronominal objects that originate in a right-peripheral position within VP might be left behind in OS position during remnant VP-topicalisation, accounting for the asymmetry in stranding of an IO and stranding of a DO observed by Fox & Pesetsky (2005). However, depth of embedding also plays a role for whether or not an object may have undergone OS out of a topicalised VP: The remnant VP in Spec,CP may not include an intermediate trace of a shifted object. Moreover, we presented new data that showed that subject raising does not underly either of these restrictions, and this may be accounted for by a different ranking of SUBJECT and SHIFTPRON relative to the corresponding prohibitions (including ORDERPRES).

Finally, the asymmetry between main and embedded clauses as to the applicability of remnant VP-topicalisation in MSc illustrates that object stranding has to involve OS. Object stranding is only possible in sentences in which finite verb movement has taken place, something that would be expected if any object left behind during remnant VP-topicalisation would have to undergo OS (and that as always, OS has to respect order preservation).
Appendix 1: Structure Preservation

There are native speakers of Danish whose intuitions do not agree with the acceptability judgments given above. Rather than to subject remnant VP-topicalisation to a linear restriction, permitting stranding of an object in OS position as long as it does not change the base order of elements (cf. (23) and (24) above), these speakers do not allow for object stranding during remnant VP-topicalisation at all. Topicalisation of a full VP, in contrast, is judged acceptable.

(53) Da a. [$_{VP}$ Givet $hende$ $den$] har jeg ikke.
    given her it have I not
b. *[[$_{VP}$ Givet ____] $hende$ $den$] har jeg $hende$ $den$ ikke.
c. *[[$_{VP}$ Givet $hende$ ____] $hende$ $den$] har jeg $hende$ $den$ ikke.
d. *[[$_{VP}$ Givet ____ $den$] $hende$ $den$] har jeg $hende$ $den$ ikke.

The pattern in (53) can be accounted for if in addition to order preservation, a constraint on structure preservation is considered to restrict OS (cf. Déprez 1994, Müller 2001, Sells 2001, and Williams 2003).

(54) Structure Preservation (STRUCPRES):
    If the foot of the chain of some non-adverbial element $\alpha$ c-
    commands the foot of the chain of some element $\beta$, the head of the
    chain of $\alpha$ also c-commands the head of the chain of $\beta$.

In other words, where ORDRES says "preserve the sequence", STRUCPRES says
"preserve the c-command relationships".

Like ORDRES, the constraint STRUCPRES and its dominance over SHIFTPRON
predicts that OS cannot cross an intervening non-adverbial element: For example, OS across a verb *in situ* as in (55)b changes the c-command relation between the verb and the shifted object.
In contrast to ORDPRES, however, STRUCPRES (>> SHIFTPRON) rules out stranding of an object during VP-topicalisation. While the linear relations between the verb and the objects are maintained in (53)b,c above, their structural relations are not: The verb (and IO) in Spec,CP is too deeply embedded to c-command the stranded (IO and) DO. Consequently, STRUCPRES >> SHIFTPRON rules out stranding of an object during remnant VP-topicalisation while permitting topicalisation of a full VP.

**Tableau 18: No remnant VP-topicalisation**

<table>
<thead>
<tr>
<th>Da</th>
<th>Topic: V</th>
<th>TOPIC</th>
<th>STRUCPRES</th>
<th>SHIFTPRON</th>
<th>ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>[VP V Pron-IO Pron-DO] Aux Sub Adv tvP</td>
<td></td>
<td><em>!</em></td>
<td></td>
<td>(53)a</td>
</tr>
<tr>
<td>b</td>
<td>[VP V tIO tDO] Aux Sub Pron-IO Pron-DO Adv tvP</td>
<td><em>!</em></td>
<td></td>
<td></td>
<td>(53)b</td>
</tr>
<tr>
<td>c</td>
<td>[VP V Pron-IO tDO] Aux Sub Pron-DO Adv tvP</td>
<td><em>!</em> *</td>
<td></td>
<td></td>
<td>(53)c</td>
</tr>
</tbody>
</table>

Hence, variation between speakers as to the strandability of objects during VP-topicalisation may be accounted for by a contrast in the ranking of two very similar constraints, one requiring order preservation, the other structure preservation.

**Appendix 2: Remnant VP-topicalisation in German and Dutch**

As observed by Fox & Pesetsky (2005) for Swedish, there is also an asymmetry between stranding IO and stranding DO by remnant VP-topicalisation in
German. However, it goes in the opposite direction: Stranding of the IO is preferred over stranding of the DO though the contrast is not as sharp as in Swedish/Danish, (56)c being marginal but not ungrammatical. In other words, changing the base order of the objects as in (56)b is preferable to keeping the base order as in (56)c under remnant VP-topicalisation in German. Furthermore, note that remnant VP-topicalisation in an OV language necessarily reverses the order between the verb and the stranded object.

(56) Ge
a. \[VP Dem Mann das Buch gegeben] hat sie schon gestern.  
   the man   the book  given   has she already yesterday
b. [VP ______ Das Buch gegeben] hat sie dem Mann schon gestern.
c. ??[VP Dem Mann ______ gegeben] hat sie das Buch schon gestern.
d. [VP ______ ______ Gegeben] hat sie dem Mann das Buch schon gestern.

That German allows order reversal in remnant VP-topicalisations is not surprising. The fact that German scrambling of pronominal and non-pronominal elements may change the order of arguments as in (57) requires OrdPres to be outranked by both ShiftPron and the more general constraint Shift (see footnote 7) which are taken to trigger scrambling in the continental West Germanic languages as well (see Vikner & Engels 2006). Consequently, it is expected that an argument may be stranded (satisfying Shift or ShiftPron) although stranding changes the base order precedence relations (violating OrdPres). (Further research is needed concerning the marginal status of (56)c.)
In contrast to German, however, scrambling of full DPs has to maintain the order of arguments in Dutch, (58), indicating that the constraint ORDPRES outranks SHIFT.

   she has yesterday the man the book given
b. Ze heeft de man gisteren het boek gegeven.
   she has the man yesterday the book given
c. *Ze heeft de man het boek gisteren gegeven.
   she has the man the book yesterday given
d. *Ze heeft het boek de man gisteren gegeven.
   she has the book the man yesterday given

However, as pointed out to us by Hans Broekhuis (p.c.), the ranking ORDPRES >> SHIFT predicts that remnant topicalisation is not possible at all in Dutch, contrary to fact. Although as an OV-language Dutch necessarily reverses the order of topicaal verb and stranded object in remnant VP-topicalisations, stranding of the IO and stranding of both IO and DO during remnant VP topicalisation is acceptable; stranding of the DO, in contrast, is ungrammatical (59).

(59) Du a. [VP De man het boek gegeven] heeft ze gisteren al.
   the man the book given has she yesterday already
b. [VP Het boek gegeven] heeft ze de man gisteren al.
   the book given has she the man yesterday already
c. *[VP De man gegeven] heeft ze het boek gisteren al.
   the man given has she the book yesterday already
d. *[VP Gegeven] heeft ze de man het boek gisteren al.
   Gegeven has she the man the book yesterday already
   (Hans Broekhuis, p.c.)
It is interesting to note that the scrambling operation that precedes VP-topicalisation does not violate HG in (59)b, but only in (59)c (compare (58)b,c above). Maybe the fact that (59)b is grammatical even though it violates ORDRES says something about ORDRES being a repair strategy in case HG is violated.

Remember that in the Scandinavian languages, stranding of an object during remnant VP-topicalisation necessarily involves a violation of HG and it is only possible if the base order of elements is maintained, as required by ORDRES (cf. sections 2.2 and 3.2, respectively). In other words, remnant VP-topicalisation may give rise to a repair effect in these languages, re-establishing the base order relations. In contrast, remnant VP-topicalisation does not restore the base order relations in OV-languages. The violation of HG in (58)c cannot be repaired by remnant VP-topicalisation, (59)c. However, the derivation of (59)b does not violate HG and, consequently, no repair strategy is needed. The fact that remnant VP-topicalisation reverses the order of elements would seem to be irrelevant.

References


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