

Object Shift and Remnant VP-Topicalisation in Scandinavian

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- (4) Sw a. *Kysst har jag inte ____ henne.
kissed have I not her (Erteschik-Shir 2001: 59)
 Da b. *Kysset har jeg ikke ____ hende.
kissed have I not her

The observation that the object only moves if the main verb has moved forms the basis of Holmberg's generalisation (Holmberg 1986: 165, 1997: 208).

- (5) **Holmberg's Generalisation (HG)** (Holmberg 1997: 208)
 Object Shift is blocked by any phonologically visible category preceding/c-commanding the object position within VP.
 [Here "within VP" has to mean that only elements "properly inside" VP (i.e. not adverbials or other elements adjoined to VP) may block OS. E.E.]

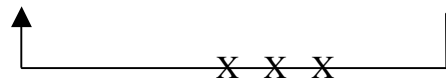
The definition in (5) is vague with respect to whether precedence and/or c-command of a phonologically visible category blocks movement. In the 1999 version of the paper, Holmberg formulates HG in terms of asymmetric c-command. For reasons to become clear in section 2.1 below, the first option will be pursued here, taking HG to be the consequence of a violable condition on order preservation (cf. Déprez 1994, Müller 2001, Sells 2001, Williams 2003, and Fox & Pesetsky 2005).

Holmberg (1997, 1999) supposes 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, (6)a. A violation of HG as in (6)c cannot be repaired by subsequent operations as in (6)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.

- (6) 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]].
 d. *[VP Sett [IP ____ arbeta]] har jag henne inte _____
 (Holmberg 1997: 206)

Holmberg concludes that the grammatical sentences in (3) cannot involve OS prior to remnant VP-topicalisation since that would violate HG, cf. (7). Rather, they must be derived by V°-topicalisation, with subsequent OS, cf. (8).

(7) Remnant VP-topicalisation

- Sw a. [CP har [IP jag [VP inte [VP kysst henne]]]]
- b. [CP har [IP jag henne [VP inte [VP kysst ____]]]]
- 

violation of HG!!!
- c. [CP [VP Kysst ____] har [IP jag henne [VP inte ____]]]

(8) V°-topicalisation

- Sw a. [CP har [IP jag [VP inte [VP kysst henne]]]]
- b. [CP [V° Kysst] har [IP jag [VP inte [VP ____ henne]]]]
- c. [CP [V° Kysst] har [IP jag henne [VP inte [VP ____ ____]]]]

Note that the V°-topicalisation analysis involves movement of an X° to an XP-position.

Moreover, if V°-topicalisation were possible, the sentences in (9)b/(10)b would be expected to be acceptable, contrary to fact.

- (9) Da a. Jeg har ikke smidt den ud.
I have not thrown it out
 b. *Smidt har jeg den ikke ____ ____ ud.
- (10) 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), remnant VP-topicalisation will be assumed to be possible, though it is subject to certain restrictions.

1.2 Fox & Pesetsky's (2005) Remnant VP-Topicalisation approach

As Fox & Pesetsky (2005) mention, 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 shifted position, (11)a. By contrast, stranding of an IO pronoun alone is not possible, (11)b.

- (11) Sw a. ?_{[VP} Gett henne ____] har jag den inte.
 given her have I it not
 b. *_{[VP} Gett ____ den] har jag henne inte. (Fox & Pesetsky 2005: 25)

Fox & Pesetsky (2005) 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). 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<O" is established, (12)b. At CP, Spell-out adds information about the linearisation of the new material, (12)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.

- (12) Da a. Jeg kyssede hende ikke ____ ____.
 I kissed her not
 b. VP: [_{VP} V O]
 Ordering: **V<O**
 c. CP: [_{CP} S V [_{IP} t_S O Adv [_{VP} t_v t_o]]]
 Ordering: **S<V** V<O
 V<O
 O<Adv
 Adv<VP → ∅

OS across a verb *in situ* as in (2)b, repeated as (13)a, gives rise to contradictory ordering statements. The ordering statements produced at Spell-out of CP, (13)c, are in opposition to the statement "V<O" established at Spell-out of VP, (13)b.

- (13) Da a. *Jeg har hende ikke kysset _____.
I have her not kissed
- b. VP: [_{VP} V O]
Ordering: **V<O**
- c. CP: [_{CP} S Aux [_{IP} t_S O Adv [_{VP} t_{Aux} [_{VP} V t_O]]]]
Ordering: **S<Aux** **V<O**
Aux<O
O<Adv
Adv<V

Hence, Fox & Pesetsky (2005) derive 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 (11) 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 (11)a but not in (11)b.

Note that Fox & Pesetsky (2005) predict that movement operations that do not obey HG have to proceed successive cyclically: The underlined constituents in (14) 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 and references there), *wh*-movement, topicalisation, and subject raising.

- (14) 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

- (15) Da a. Bøgerne har jeg læst _____.
books-the have I read
- b. Spell-out VP: $[_{VP} \underline{O} [_{VP} \underline{V} t_O]]$
Ordering: **O<V**
- c. Spell-out CP: $[_{CP} \underline{O} Aux [_{IP} S t_{Aux} [_{VP} \underline{V} t_O]]]$
Ordering: **O<Aux** **O<V**
Aux<S
S<V

Hence, the crucial difference between the various movement operations in (14) and OS is that the former may - and indeed must – go through the edge of VP, but as Fox & Pesetsky (2003) state, in their analysis OS cannot involve movement to the edge of VP, i.e. OS is the exception to their rule.

2 An OT approach to Object Shift and Remnant VP-topicalisation

2.1 Asymmetry I: Stranding of a DO vs. Stranding of an IO

2.1.1 OS and order preservation

Following Fox & Pesetsky (2005), HG will be assumed to result from a condition on order preservation. The constraint in (16) is based on Müller's (2001:279, ex. (1)) constraint on parallel movement.

- (16) ORDER PRESERVATION (ORDPRES):
 If α precedes β at level L_n , then α precedes β at level L_{n+1} (where α is non-adverbial).

OS is motivated by the constraint SHIFTPRON which outranks the constraint STAY that prohibits movement.²

- (17) SHIFT PRONOUN (SHIFTPRON):
 A [-focus] proform precedes and c-commands the lowest VP (of the same clause) that contains all other VPs and all VP-adjoined adverbials.
- (18) STAY:
 Trace is not allowed. (Grimshaw 1997: 374)

² Recall that OS may also apply to full DPs in Icelandic but not in MSc; cf. footnote 1. In Vikner & Engels (2006), we assume that full DP Shift is motivated by a more general version of SHIFTPRON, called SHIFT, which requires movement of all [-focus] constituents. Differences in the relative ranking between SHIFT and STAY account for the cross-linguistic contrasts as to the availability of full DP shift.

SHIFTPRON is satisfied if the pronoun is adjoined to the top VP, as illustrated in (19) below. The ranking $\text{ORDPRES} \gg \text{SHIFTPRON}$ predicts that OS is only possible if it maintains the base order of elements. The main verb does not necessarily have to undergo $V^\circ\text{-to-I}^\circ\text{-to-C}^\circ$ movement for OS to be possible. What is crucial is that the main verb moves to a position to the left of the target position of OS, such that the relative order between verb and object is preserved. This can also be achieved by placing a non-finite verb in topic position as in (3).

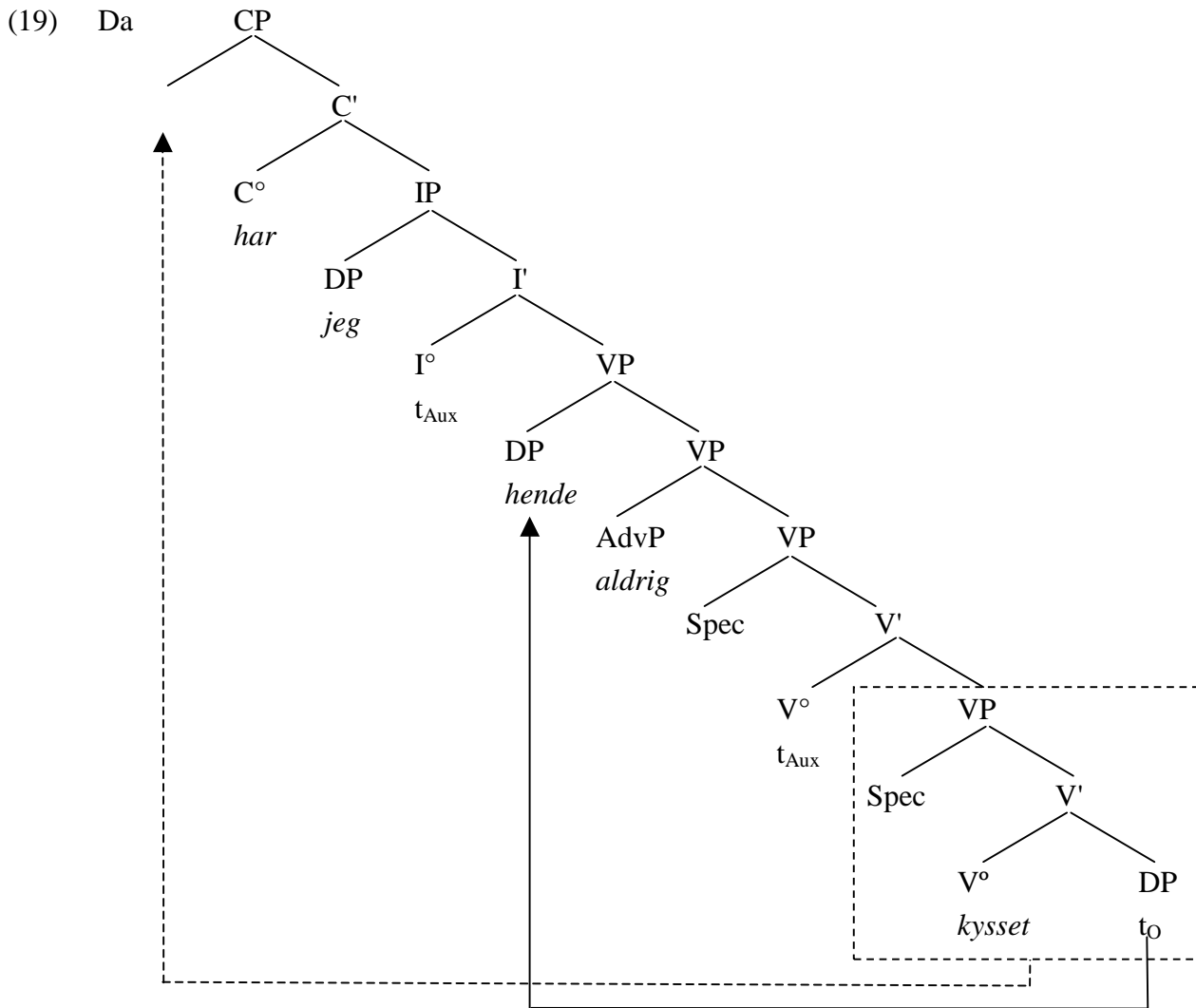


Tableau 1: OS & Holmberg's generalisation

Da:	ORDPRES	SHIFTPRON	STAY	ex.
☞ 1a S Aux Adv <u>V</u> <u>Pron-O</u>		*		(2)a
1b S Aux <u>Pron-O</u> Adv <u>V</u> t _O	*!		*	(2)b
2a S <u>V</u> Adv t _V <u>Pron-O</u>		*!		(1)a
☞ 2b S <u>V</u> <u>Pron-O</u> Adv t _V t _O			*	(1)b
3a <u>V</u> Aux S Adv t _V <u>Pron-O</u>		*!		(4)b
☞ 3b <u>V</u> Aux S <u>Pron-O</u> Adv t _V t _O			*	(3)b

(Only STAY-violations induced by OS are listed.)

The asymmetry between stranding of an IO and stranding of a DO in (11), repeated in (20), can be captured by the ranking `ORDPRES >> SHIFTPRON`.

- Note that also both objects of a double object construction may be taken along, (21)a, or both of them may be stranded by remnant VP-topicalisation, (21)b.

- 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 2 and Tableau 3.

- Engels: Object Shift and Remnant VP-Topicalisation in Scandinavian, p. 9

Tableau 2: Remnant VP-topicalisation that strands both IO and DO

Da/Sw	Topic: V	TOPIC	ORD PRES	SHIFT PRON	STAY	ex.
a	[_{VP} V <u>Pron-IO</u> <u>Pron-DO</u>] Aux S Adv t _{VP}			*!*		(21)a
b	[_{VP} V <u>Pron-IO</u> t _{DO}] Aux S <u>Pron-DO</u> Adv t _{VP}			*!	*	(20)a
c	[_{VP} V t _{IO} <u>Pron-DO</u>] Aux S <u>Pron-IO</u> Adv t _{VP}		*!	*	*	(20)b
☞ d	[_{VP} V t _{IO} t _{DO}] Aux S <u>Pron-IO</u> <u>Pron-DO</u> Adv t _{VP}				**	(21)b

Tableau 3: VP-topicalisation that takes along both IO and DO

Da/Sw	Topic: V & Pron-IO & Pron-DO	TOPIC	ORD PRES	SHIFT PRON	STAY	ex.
☞ a	[_{VP} V <u>Pron-IO</u> <u>Pron-DO</u>] Aux S Adv t _{VP}			**		(21)a
b	[_{VP} V <u>Pron-IO</u> t _{DO}] Aux S <u>Pron-DO</u> Adv t _{VP}	*!		*	*	(20)a
c	[_{VP} V t _{IO} <u>Pron-DO</u>] Aux S <u>Pron-IO</u> Adv t _{VP}	*!	*	*	*	(20)b
d	[_{VP} V t _{IO} t _{DO}] Aux S <u>Pron-IO</u> <u>Pron-DO</u> Adv t _{VP}	*!*			**	(21)b

As Tableau 2 and Tableau 3 show, SHIFTPRON favours 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 4). 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 (20)a, the c-command relations are not - neither the verb nor the IO c-commands the shifted DO. 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 IO in OS position, compare Tableau 5 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 3 and Tableau 5. (But stranding of the IO is possible if it does not result in a violation of ORDPRES, namely if both objects are stranded as in (21)b.)

Tableau 4: Remnant VP-topicalisation that strands DO

Da/Sw	Topic: V & Pron-IO	TOPIC	ORD PRES	SHIFT PRON	STAY	ex.
a	[_{VP} V Pron-IO <u>Pron-DO</u>] Aux S Adv t _{VP}			***		(21)a
☞ b	[_{VP} V Pron-IO t _{DO}] Aux S <u>Pron-DO</u> Adv t _{VP}			*	*	(20)a
c	[_{VP} V t _{IO} <u>Pron-DO</u>] Aux S Pron-IO Adv t _{VP}	*!	*	*	*	(20)b
d	[_{VP} V t _{IO} t _{DO}] Aux S Pron-IO <u>Pron-DO</u> Adv t _{VP}	*!			**	(21)b

Tableau 5: No remnant VP-topicalisation that strands IO

Da/Sw	Topic: V & Pron-DO	TOPIC	ORD PRES	SHIFT PRON	STAY	ex.
☞ a	[_{VP} V <u>Pron-IO</u> Pron-DO] Aux S Adv t _{VP}			**		(21)a
b	[_{VP} V <u>Pron-IO</u> t _{DO}] Aux S Pron-DO Adv t _{VP}	*!		*	*	(20)a
c	[_{VP} V t _{IO} Pron-DO] Aux S <u>Pron-IO</u> Adv t _{VP}		*!	*	*	(20)b
d	[_{VP} V t _{IO} t _{DO}] Aux S <u>Pron-IO</u> Pron-DO Adv t _{VP}	*!			**	(21)b

More generally, the ranking $\text{ORDPRES} \gg \text{SHIFTPRON}$ predicts that stranding of an object is only acceptable if the object is right-peripheral within VP. As shown in (23)–(25), topicalisation of the entire VP but not remnant topicalisation is possible in constructions in which the object is followed by other elements within VP, e.g. in constructions with a infinitival clause, (23), a particle verb, (24), or a verb with an additional PP-complement, (25). (Recall that the unacceptable sentence in (23)c repeated from (6)d led Holmberg (1997, 1999) to assume that remnant VP-topicalisation is not possible.)

- (23) Sw a. [_{VP} Sett henne arbeta] har jag inte.
 seen her work have I not
 b. *[_{VP} Sett _____ arbeta] har jag henne inte. (Holmberg 1997: 206)
- (24) Da a. [_{VP} Smidt den ud] har jeg ikke.
 thrown it out have I not
 b. *[_{VP} Smidt _____ ud] har jeg den ikke.
- (25) 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.

2.1.2 OS and depth of embedding

From the discussion in the previous sections, it might be expected that all that matters is that the remnant object is at the edge of the VP right before this VP is topicalised. 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.

- (26) Da a. [_{VP} Set [_{IP} ham [_{VP} fotografere hende]]] har jeg ikke.
 seen him photograph her have I not
 b. * [_{VP} Set [_{IP} ham [_{VP} fotografere ____]]] har jeg hende ikke.

Thus, besides the linear restriction, there would seem to also be a structural restriction, ruling out stranding of an object which is too deeply embedded.

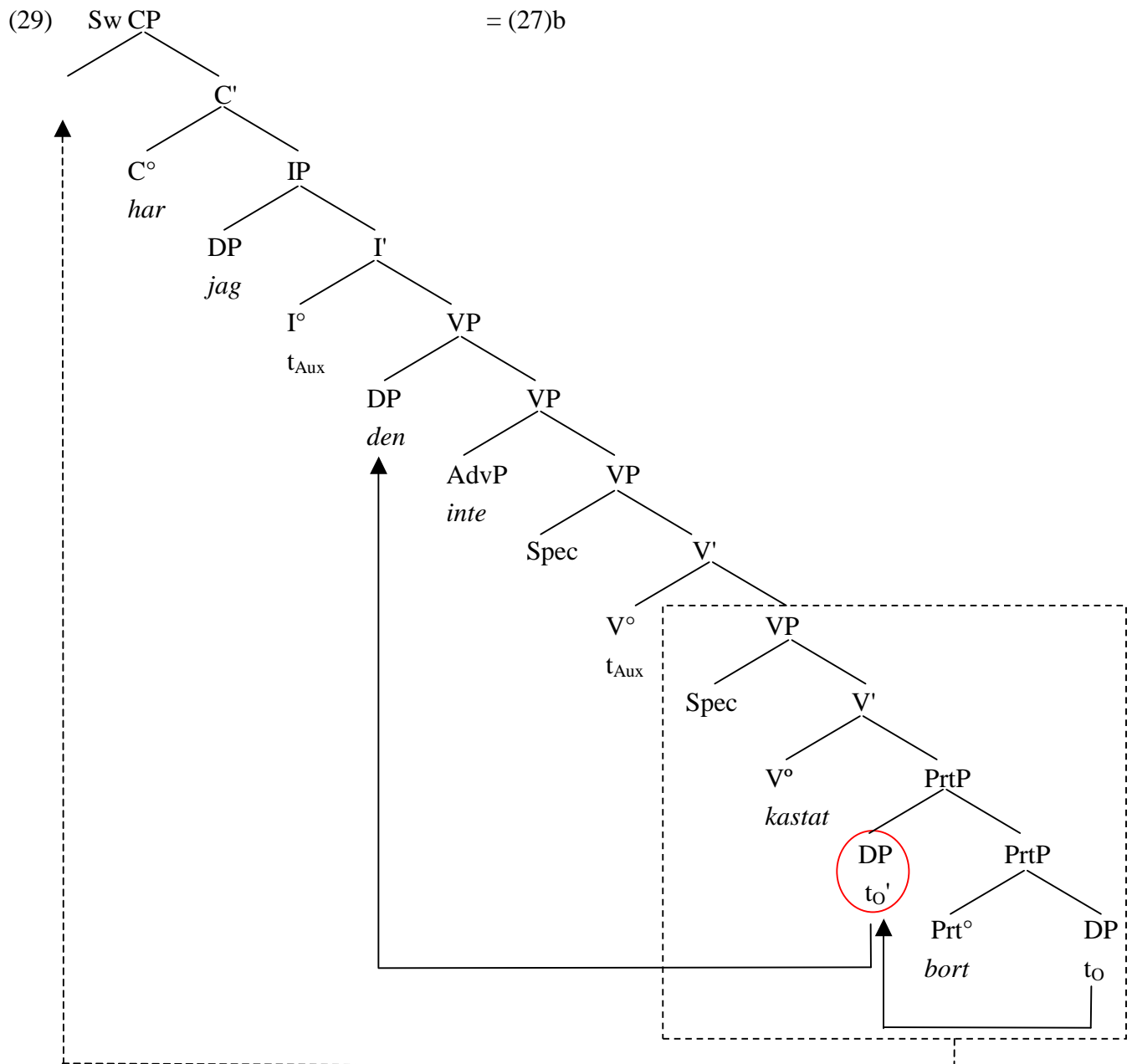
Also the object of a Swedish particle verb cannot be left behind during remnant VP-topicalisation even though the particle precedes the object in Swedish and therefore stranding of the object would not violate ORDPRES.

- (27) Sw a. [VP Kastat bort den] har jag inte.
 thrown out it have I not
 b. *[VP Kastat bort ____] har jag den inte. (Gunlög Josefsson, p.c.)

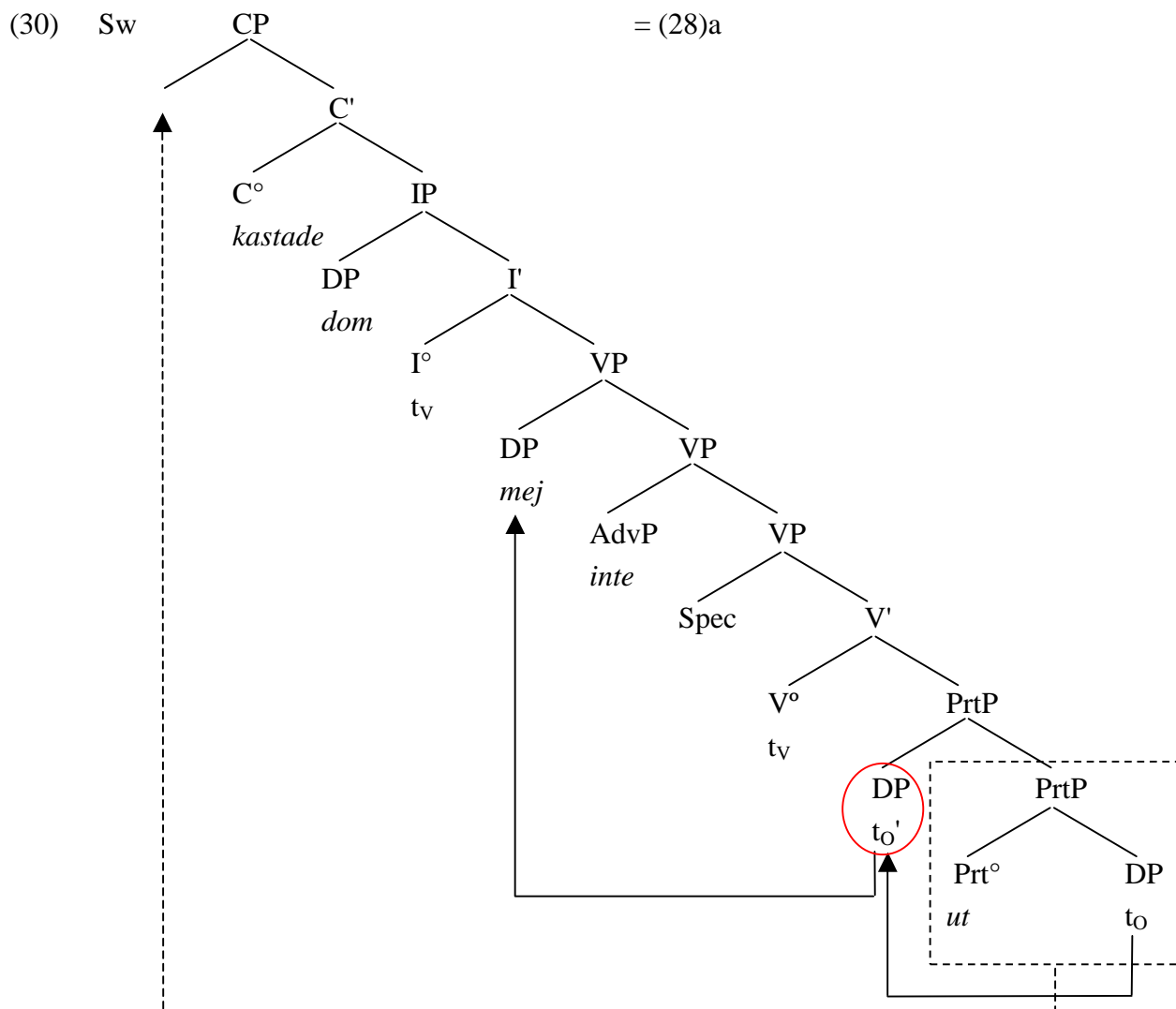
However, OS is possible in particle verb constructions where the particle is topicalised and the verb occurs in V2 position, (28):

- (28) 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) IN släpper jag den inte ____ ____.
 (All right, I will feed your cat but) in let I it not
- (Holmberg 1999: 17)

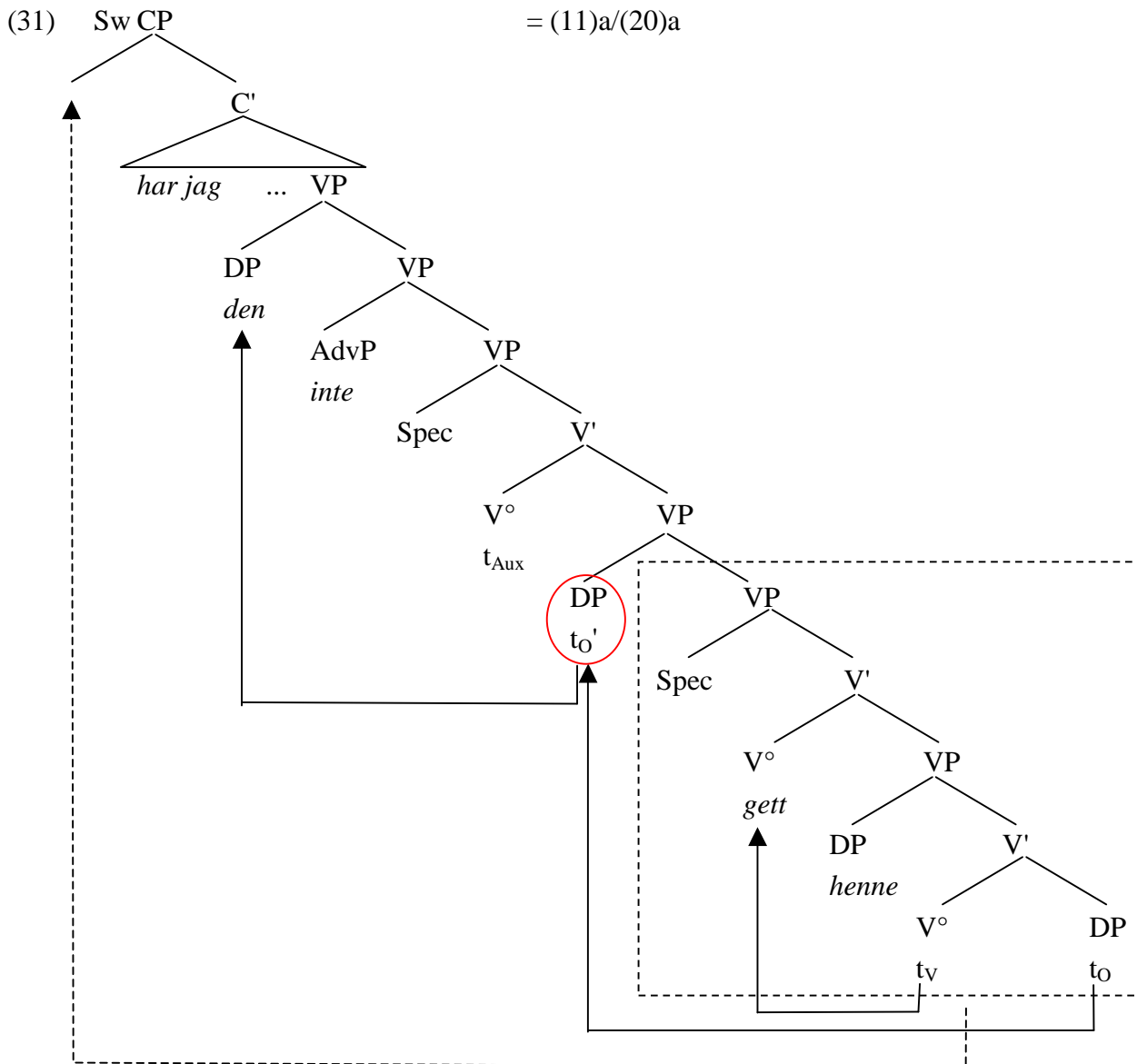
It has been observed for German that a topicalised remnant VP must not contain an intermediary trace (cf. den Besten & Webelhuth 1990, Müller 1998, Abels 2007). Assume that a shifted object has to adjoin to the minimal XP whose X° contains its selecting/theta-assigning head before moving to OS position. As a consequence, OS in particle verb constructions such as (27) and (28) proceeds via adjunction to PrtP. Subsequent remnant VP-topicalisation as in (27)b would thus have to take along an intermediary trace.



The difference between (27) and (28) is that in (28), only the *PrtP* is topicalised (the main verb is also moved, but by a different movement, V2) and so there does not have to be an intermediary trace inside *Spec,CP*.



In a double object construction such as (11)a/(20)a above, the selecting/theta-assigning verb undergoes VP-internal movement such that OS may proceed via adjunction to the higher VP (cf. Baker 1988). Consequently, remnant VP-topicalisation may take place without bringing along any intermediary trace.



Given that just as in German, a topicalised remnant VP must not contain any intermediary trace in the Scandinavian languages, the prohibition against stranding of a too deeply embedded object can be ruled out by requiring that OS proceed via adjunction to the minimal XP whose X° contains its selecting/theta-assigning head.³

³ This condition is also able to account for the fact that remnant topicalisation taking along a manner adverb is not only ungrammatical if the adverb occurs in right-peripheral position within VP (ORDPRES), (i), but also if the adverb is left-adjoined to VP, (ii). In both cases, the remnant VP includes an intermediary trace of the object.

Tableau 6: Stranding of a Subject vs. Stranding of an Object

Da:	Topic: V & Prt	SUBJECT	ORDPRES	SHIFTPRON	STAY	ex.
☞ 1a	[_{VP} V <u>Pron-O</u> Prt] Aux S Adv			*		(24)a
1b	[_{VP} V <u>t_O</u> Prt] Aux S <u>Pron-O</u> Adv		*!		*	(32)a
2a	[_{VP} V <u>Pron-S</u> Prt] Aux e Adv	*!		*		-
☞ 2b	[_{VP} V <u>t_S</u> Prt] Aux <u>Pron-S</u> Adv		*		*	(32)b

Accordingly, constraints triggering other movement operations such as Negative Shift, *wh*-movement or topicalisation that are not subject to HG, (14), outrank ORDPRES (e.g. NEGSPEC, WHSPEC, TOPIC >> ORDPRES >> SHIFTPRON). Hence, OS with its almost unique property of being order preserving does not receive a special treatment in the present analysis; rather, the contrast between the various movement devices follows from the familiar OT-mechanism of constraint ranking (relative to ORDPRES).

2.3 Asymmetry III: Remnant VP-Topicalisation out of a Main vs. an Embedded Clause

Moreover, there is an asymmetry between remnant VP-topicalisation out of a main clause and remnant VP-topicalisation out of an embedded clause in the Mainland Scandinavian languages (MSc).

While the finite verb undergoes V^o-to-I^o-to-C^o movement in main clauses, (34), it stays *in situ* in embedded clauses in MSc, (35). As a consequence, OS is not possible in embedded clauses (ORDPRES >> SHIFTPRON); cf. (36).

- (34) Da a. *Hvorfor e Peter aldrig læste bogen?
why never read book-the
b. Hvorfor læste Peter aldrig ____ bogen?
- (35) Da a. Jeg spurgte hvorfor Peter e aldrig læste bogen.
I asked why Peter never read book-the
b. *Jeg spurgte hvorfor Peter læste aldrig ____ bogen.
- (36) Da a. Jeg spurgte hvorfor Peter aldrig læste den.
I asked why Peter never read it
b. *Jeg spurgte hvorfor Peter den aldrig læste ____.

-
- (ii) 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 ____.

A full VP may be topicalised from both main clauses and embedded clauses.

- (37) Da a. [_{VP} Set ham] har jeg ikke, ...
 seen him have I not
 ... hvis jeg skal være helt 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 ham] tror jeg ikke at hun har, ...
 seen him believe I not that she has
 ... men hun kan måske nok have talt i telefon med ham.
 but she may perhaps well have spoken in phone with him

Topicalisation of a remnant VP, by contrast, is only possible out of a main clause, (38)a, not out of an embedded clause in Danish: The stranded object may neither follow the finite auxiliary (in its base position), (38)b, nor may it precede it, (38)c:

- (38) Da a. ?[_{VP} Set ____] har jeg ham ikke, ...
 seen have I him not
 ... hvis jeg skal være helt ærlig, men jeg har talt i telefon med ham.
 if I should be totally honest but I have spoken on phone-the with him
- b. *[_{VP} Set ____] tror jeg ikke at hun [_{V°} har] ham, ...
 seen believe I not that she has him
- c. *[_{VP} Set ____] tror jeg ikke at hun ham [_{V°} har] , ...
 seen believe I not that she him have
 ... men hun kan måske nok have talt i telefon med ham.
 but she may perhaps well have spoken in phone with him

This asymmetry shows that stranding must involve OS, because OS requires the (stranded) object to occur in a position to the left of the base position of a finite verb (SHIFTPRON), but it can only do so if this verb has itself left its base position (ORDPRES).

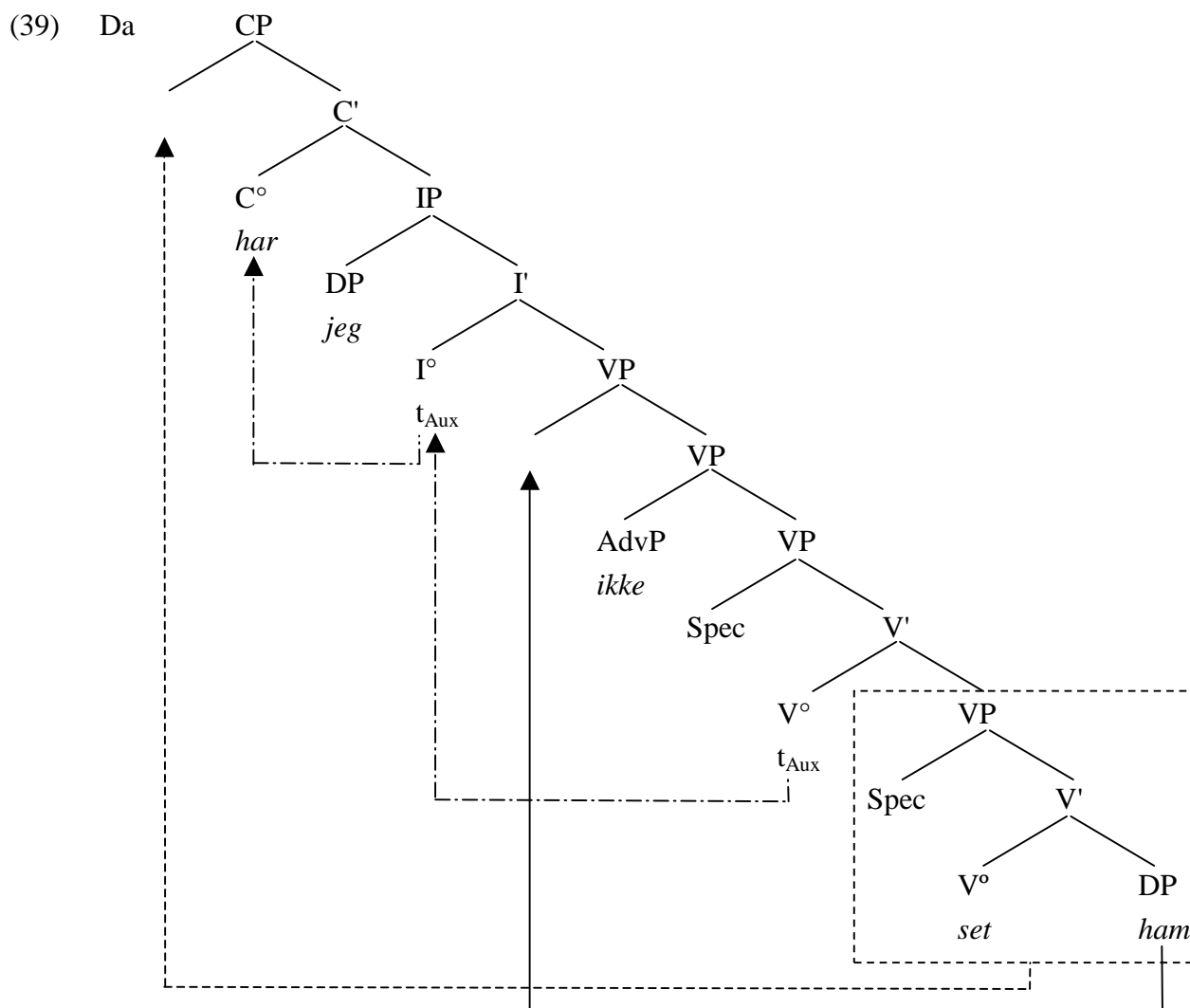


Tableau 7: Remnant VP-topicalisation out of a main clause

Da:	Topic: V	ORDPRES	SHIFTPRON	STAY	ex.
a	[_{VP} V <u>Pron-O</u>] Aux S Adv t _{VP}		*!		(37)a
b	[_{VP} V t _O] Aux S Adv <u>Pron-O</u> t _{VP}		*!	*	(4)b
☞ c	[_{VP} V t _O] Aux S <u>Pron-O</u> Adv t _{VP}			*	(38)a

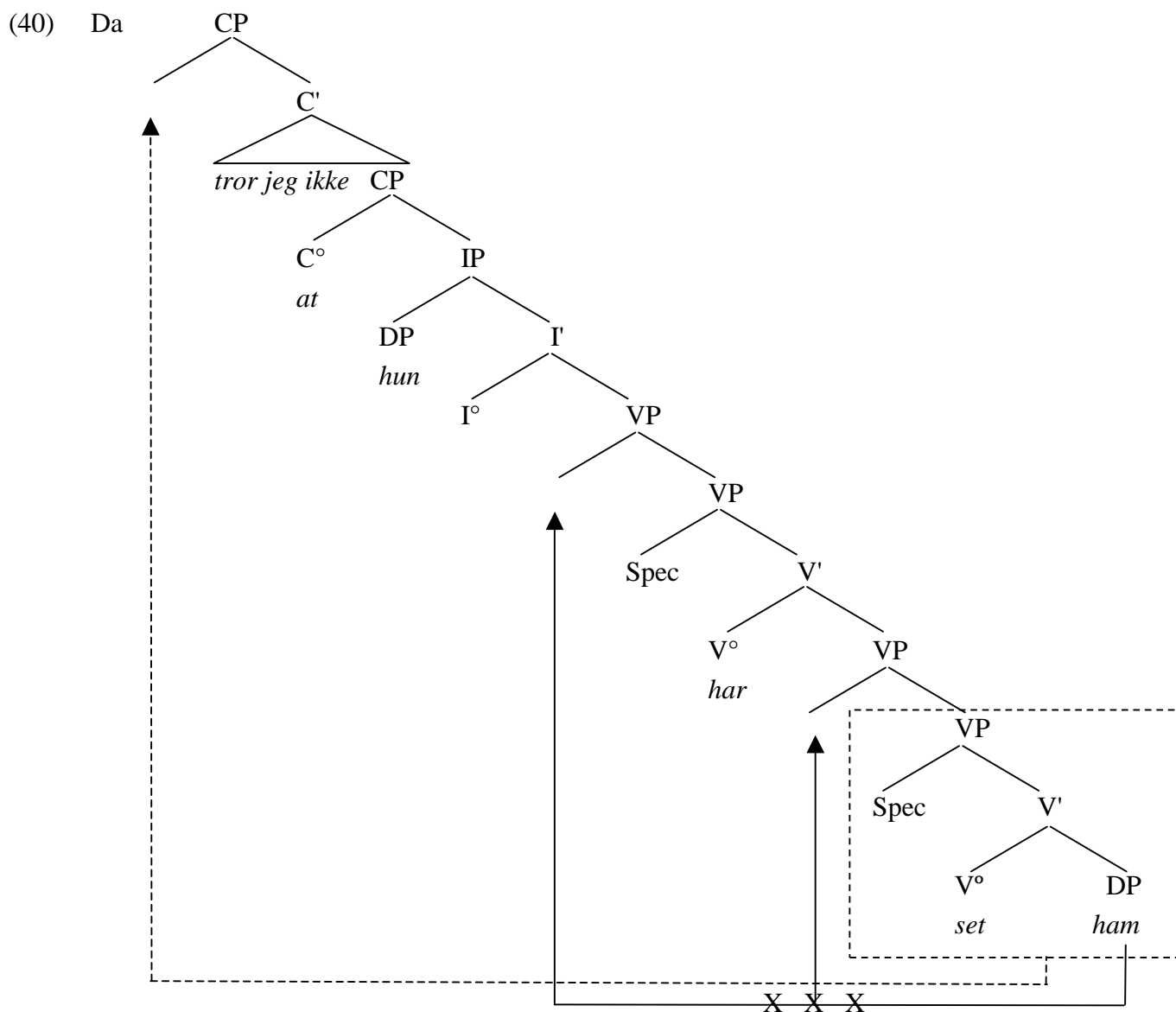


Tableau 8: No remnant VP-topicalisation out of an embedded clause

Da:	Topic: V	ORDPRES	SHIFTPRON	STAY	ex.
☞ a	[_{VP} V <u>Pron-O</u>] V S Adv Comp S Aux t _{VP}		*		(37)b
b	[_{VP} V t _O] V S Adv Comp S Aux <u>Pron-O</u> t _{VP}		*	*!	(38)b
c	[_{VP} V t _O] V S Adv Comp S <u>Pron-O</u> Aux t _{VP}	*!		*	(38)c

The hypothesis that (a) a stranded object has to undergo movement to some position to the left of the finite verb and (b) that this movement is only possible if the finite verb itself has left its base position (i.e. that OS has to take place) seems to be supported by phenomena of remnant VP topicalisation in Icelandic. Icelandic which has V^o-to-I^o movement and thus also OS in embedded clauses, (41), marginally permits a remnant object in VP-topicalisation out of an embedded clause (as opposed to the Danish (38)b,c which are completely ungrammatical).

- (41) Ic a. *Ég spurði af hverju Pétur e aldrei læsi hana.
I asked why Pétur never read it
 b. Ég spurði af hverju Pétur læsi hana aldrei ____ ____.
 (Vikner 2005: 396)

- (42) Ic ??[_{VP} Kysst ____] hélt ég ekki að þú [_I 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.)

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 ORDPRES, as in Tableau 6 above.

- (43) 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

3 Conclusion

Holmberg (1997, 1999) considers occurrences of a non-finite verb in topic position such as (3) to result from V^o-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, 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 (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.

Having collected more data that corroborate Fox & Pesetsky's observation, the present OT approach agrees with them in the assumption that HG is to be accounted for in terms of order preservation, as required by the violable constraint ORDPRES. The ranking of 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.

The linear conception of HG as expressed by the constraint ORDPRES 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 intermediary trace of a shifted object. Moreover, new data were presented that showed that subject raising does not underly either of these restrictions; this may be accounted for by a different ranking of SUBJECT and SHIFTPRON relative to the corresponding prohibitions (including ORDPRES).

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: 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. (20) and (21) 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.

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

The pattern in (44) 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).

- (45) STRUCTURE PRESERVATION (STRUCPRES):
 If α c-commands β at level L_n , then α c-commands β at level L_{n+1} (where α is non-adverbial).

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

Like ORDPRES, 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 (2)b changes the c-command relation between the verb and the shifted object. In contrast to ORDPRES, however, STRUCPRES (\gg SHIFTPRON) rules out stranding of an object during VP-topicalisation. While the linear relations between the verb and the objects are maintained in (44)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 \gg SHIFTPRON rules out stranding of an object during remnant VP-topicalisation while permitting topicalisation of a full VP.

Tableau 9: No remnant VP-topicalisation

Da	Topic: V	TOPIC	STRUCPRES	SHIFTPRON	ex.
☞ a	[_{VP} V <u>Pron-IO</u> <u>Pron-DO</u>] Aux S Adv t _{VP}			**	(44)a
b	[_{VP} V t _{IO} t _{DO}] Aux S <u>Pron-IO</u> <u>Pron-DO</u> Adv t _{VP}		*!*		(44)b
c	[_{VP} V <u>Pron-IO</u> t _{DO}] Aux S <u>Pron-DO</u> Adv t _{VP}		*!*	*	(44)c
d	[_{VP} V t _{IO} <u>Pron-DO</u>] Aux S <u>Pron-IO</u> Adv t _{VP}		*!*	*	(44)d

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.

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