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Scandinavian Negative Shift and Cyclic Linearization

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1 Introduction

In the Scandinavian languages, there are two ways of formulating the negative sentence in (1), either with a negation marker and an indefinite quantifier, (1)a, or with a negative indefinite object, (1)b. The example in (1) illustrates this for Danish; the same alternation is found in the other Scandinavian languages.

(1)	a.	Per	læste	måske	ikke	nogen bøger.	*Da*
		Per	*read*	*probably*	*not*	*any books*	
	b.	Per	læste	måske	ingen bøger.		
		Per	*read*	*probably*	*no books*		

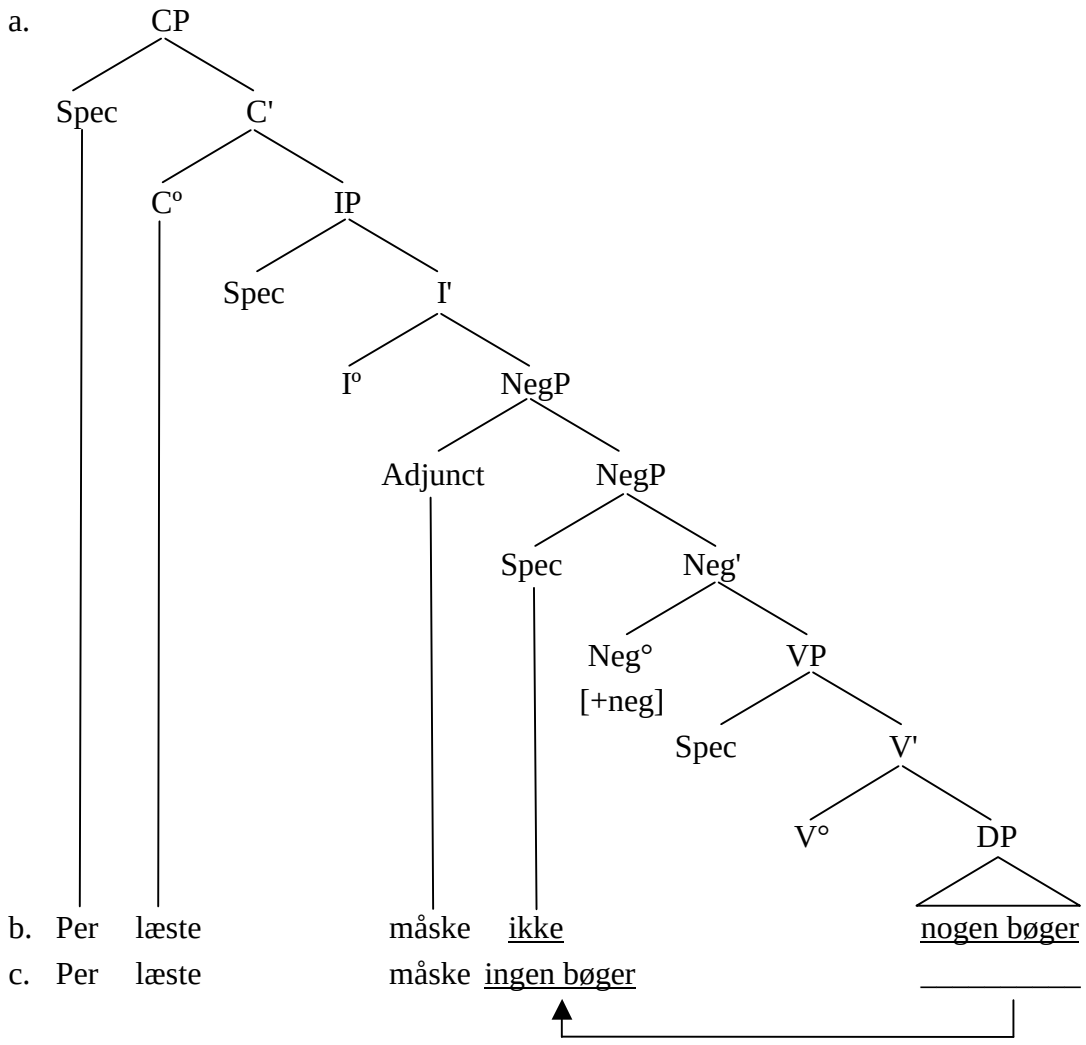
The paper focuses on the latter construction involving negative indefinite objects and investigates their distributional variation among the Scandinavian languages.

As shown in (2)a, a non-negative object may occur in its base position to the right of a non-finite main verb. In contrast, a negative object with sentential negation reading cannot occur in this position, (2)b.

(2)	a.	Per	har	måske	ikke	[$_{VP}$ læst	nogen bøger]	*Da*
		Per	*has*	*probably*	*not*	*read*	*any books*	
	b.	*Per	har	måske		[$_{VP}$ læst	ingen bøger]	
		Per	*has*	*probably*		*read*	*no books*	

The unacceptability of (2)b indicates that sentential negation must be expressed outside VP in the Scandinavian languages. A negative object must undergo movement out of VP. This movement operation is referred to as *Negative Shift*, NegS (cf. K. K. Christensen 1986, 1987, Rögnvaldsson 1987, Jónsson 1996, Svenonius 2000, 2002, K. R. Christensen 2005). NegS is taken to target the specifier position of NegP, where [+neg] is licensed in spec-head relation (cf. Haegeman & Zanuttini 1991, Haegeman 1995).

(3) a.



While string-vacuous NegS as in (1)b/(3)c is possible in all Scandinavian varieties, there is a considerable amount of cross-linguistic variation as to non-string-vacuous NegS. In particular, the varieties contrast in (a) which constituents may be crossed by NegS and (b) whether crossing of a certain constituent requires the presence of a main verb *in situ*.

Fox & Pesetsky (2003, 2005) present an analysis of object positions in Icelandic. Their cyclic linearization approach requires that non-string-vacuous movement proceed via intermediate positions. The following sections show how the variation among the Scandinavian languages as to the distribution of negative objects can be accounted for by differences in the availability of these intermediate positions.

2 Fox & Pesetsky's (2003, 2005) cyclic linearization approach and non-string-vacuous Negative Shift in Scandinavian

2.1 NegS across a verb *in situ*

As shown in (4), NegS may cross a verb *in situ* in Insular Scandinavian (ISc), Icelandic (Ic) and Faroese (Fa).[1]

(4) a. Ég hef engan **séð** _____. *Ic*
I have nobody seen (Rögnvaldsson 1987: 37)

b. Í dag hevur Petur einki **sagt** _____. *Fa*
today has Peter nothing said

For the Mainland Scandinavian languages (MSc), NegS across a verb *in situ* is usually claimed in the literature to be stylistically marked; see K. K. Christensen (1986), Faarlund et al. (1997), Svenonius (2000) on Norwegian (No), Holmes & Hinchliffe (2003) on Swedish (Sw), and K. R. Christensen (2005) on Danish (Da). It is found in literary or formal styles, referred to as *Scan1*, while it is ungrammatical in colloquial speech, referred to as *Scan2*; cf. the contrast between (5) and (6). (I use Danish spelling in MSc examples if not indicated otherwise.)

(5) Manden havde ingenting **sagt** _____. *Scan1*
man-the had nothing said

(6) *Manden havde ingenting **sagt** _____. *Scan2*

As NegS cannot not take place (see (2)b above), the *ikke...nogen*-variant, which is always acceptable, must be used in case NegS is impossible.

(7) Manden havde ikke **sagt** noget. *Scan1/Scan2*
man-the had not said anything

[1] In contrast to the other Scandinavian languages, certain non-negative quantificational objects may undergo leftward movement in Ic as well. Quantifier Movement is different from NegS in that the former is optional whereas the latter is obligatory (if possible at all); cf. Rögnvaldsson (1987), Jónsson (1996), Svenonius (2000), and Thráinsson (2007).

(i) a. Ég hef lesið ýmsar bækur. *Ic*
b. Ég hef ýmsar bækur lesið _____.
I have various books read (Thráinsson 2007: 84)

(ii) a. *Ég hef lesið engar bækur. *Ic*
b. Ég hef engar bækur lesið _____.
I have no books read (Thráinsson 2007: 82-84)

However, non-string-vacuous NegS seems to be not only a matter of style but also subject to dialectal variation. Thelander (1980) observes differences between Northern (Västerbotten, Umeå) and Southern Sw (Eskilstuna, Örebro) in the distribution of negative indefinite objects. Moreover, in a dialect study on Western Jutlandic (WJ), 15 out of my 16 informants judged NegS across a verb *in situ* as unmarked.[2] In contrast, the vast majority of my Norwegian informants did not accept it at all, not even in formal style.[3]

In addition, in the *BySoc Corpus* of spoken Da, 7% (8 out of 114) of the matches on the lexical items *ingenting*/*intet* ('nothing') are clause-medial objects preceding a verb *in situ*, pointing out that the construction in (5) is in fact used in spoken language. Furthermore, a Google blog search (Google web for Fa) on certain clauses, negated by *ingenting/intet* to the left of the main verb or by the *ikke...nogen*-variant, produced the results in Figure 1. While negative objects preceding a main verb *in situ* are quite frequent in ISc and possible in Da and Sw, I found no hit for this construction on the Norwegian (Bokmål) sites.

Figure 1: Percentage of *negative indefinite object* < *main verb* orders

	Ic	*Fa*	*Da*	*Sw*	*No*
segja/siga/sige/ säga/si ('say')	100,0% (1/1)	63,6% (14/22)	7,7% (1/13)	17,4%[4] (8/46)	0,0% (0/3)
heyra/hoyra/høre/ höra/høre ('hear')	88,9% (16/18)	90,0% (63/70)	55,6% (35/63)	11,3% (6/53)	0,0% (0/7)
sjá/síggja/se/ se/se ('see')	83,3% (10/12)	13,6% (8/59)	22,2% (4/18)	13,2% (5/38)	0,0% (0/7)
fá/fáa/få/ få/få ('receive')	50,0% (1/2)	43,5% (10/23)	19,2% (5/26)	14,3% (5/35)	0,0% (0/2)
gera/gera/gøre/ göra/gjøre ('do')	20,0% (1/5)	48,1% (13/27)	15,2% (5/33)	18,4% (9/49)	0,0% (0/7)
total	**76,3%** (29/38)	**53,7%** (108/201)	**32,7%** (50/153)	**14,9%** (33/221)	**0,0%** (0/26)

(including: *(auxiliary) subject$_{1.SG}$ (auxiliary) <u>negative object</u> verb$_{pres/past/part}$*
(auxiliary) subject$_{1.SG}$ (auxiliary) <u>negation marker</u> verb$_{pres/past/part}$ <u>indefinite object</u>)

[2] The study was carried out within the NORMS Dialect Workshop in Western Jutland January 2008.
[3] One of my Norwegian informants accepts NegS across a verb *in situ* if negation is emphasized.

(i) Jeg får INGENTING gjort i dag.
I get nothing done today

[4] Instances of the Swedish saying *jag säger ingenting/inget så har jag ingenting/inget sagt* ('I could say a lot about this but I won't') are excluded.

The cross-linguistic variation as to NegS across a verb *in situ* is illustrated in Figure 2. Though NegS across an intervening verb would seem to be acceptable in WJ even in colloquial styles and ungrammatical in No even in formal styles (at least for the majority of speakers), I keep the Scan1/Scan2 labeling for those MSc varieties that do make a distinction between formal and colloquial styles regarding the acceptability of NegS across a verb *in situ*. Since No patterns with Scan2, it is not separately listed in the following figures.

Figure 2

NegS		*WJ*	*Ic*	*Fa*	*Scan1*	*Scan2*
across	∅ (= string-vacuous)	✓	✓	✓	✓	✓
	V	✓	✓	✓	✓	*

Assuming that derivations proceed "bottom-to-top", Fox & Pesetsky (2003, 2005), henceforth F&P, 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. Thereby, the material in the Spell-out domain D is linearized. The crucial property of Spell-out is that it may only add information about the linearization of a newly constructed Spell-out domain to the information cumulatively produced by previous applications of Spell-out. Previously established linearization statements cannot be changed or deleted, accounting for successive cyclic movement and order preservation effects.

(8) illustrates the derivation of string-vacuous NegS under the cyclic linearization approach. At Spell-out of VP, both the verb and its object occur in their base positions and the linearization statement "V<O" (= verb precedes object) is established. When the derivation proceeds, the subject is merged, the negative object moves to SpecNegP, where it checks the feature [+neg], and the finite main verb undergoes V°-to-I°-to-C° movement. At Spell-out of CP, the new ordering statements (boldfaced) added are consistent with the ones established at VP Spell-out. The relative ordering between verb and object is maintained.

(8) <u>string-vacuous NegS; ex. (1)b</u>

VP: $[_{VP}$ V O]
Ordering: **V<O**

CP: $[_{CP}$ S V ... $[_{NegP}$ O ... $[_{VP}$ t_V $t_O]]]$
Ordering: **S<V** V<O
V<O

In contrast, NegS across a verb *in situ* as in (9) leads to an ordering contradiction. At Spell-out of VP, the main verb precedes the object, V<O. If the negative object now undergoes NegS while the main verb remains *in situ*, the ordering statement established at Spell-out of CP, O<V, does not match the previously established one. NegS across a verb *in situ* is thus predicted to be blocked, as borne out in Scan2; cf. (6).

(9) No NegS across a verb *in situ*; Scan2, ex. (6)

VP: $[_{VP}$ V O$]$
Ordering: **V<O**

CP: *$[_{CP}$ S Aux ... $[_{NegP}$ O ... $[_{VP}$ V $t_O]]]$
Ordering: **S<Aux** V<O
Aux<O
O<VP => **O<V**

Though NegS across a verb *in situ* is ungrammatical in Scan2, it is acceptable in Ic, Fa, WJ, and Scan1; cf. examples (4) and (5) above. Under the cyclic linearization approach, non-string-vacuous movement must proceed via intermediate positions. As illustrated in (10), the object moves to the left edge of VP prior to Spell-out. As a consequence, the ordering statement O<V is established at VP Spell-out. From this edge position, the object may then undergo movement to SpecNegP without giving rise to an ordering contradiction at Spell-out of CP. The linearization statements added at CP Spell-out are consistent with the ones established at VP Spell-out.

(10) NegS across a verb *in situ*; Ic/Fa/WJ/Scan1, ex. (4)/(5)

VP: $[_{VP}$ O V $t_O]$
Ordering: **O<V**

CP: $[_{CP}$ S Aux ... $[_{NegP}$ O ... $[_{VP}$ t_O V $t_O]]]$
Ordering: **S<Aux** O<V
Aux<O
O<VP => O<V

Consequently, cross-linguistic variation as to the acceptability of NegS across a verb *in situ* may be captured under the cyclic linearization approach by differences in the availability of the edge of VP as intermediate position; see Figure 3. NegS may proceed via the edge of VP in Ic, Fa, WJ, and Scan1, but not in Scan2.[5] However, in contrast to phase-based approaches, where the edge of a phase represents the only escape hatch for movement out of the phase (cf. Chomsky 2000), movement need not proceed via the edge of a Spell-out domain and, in fact, does not do so in string-vacuous cases; cf. (8). "Movement is possible from the non-edge of a relevant domain so long as the previously established linearization is not disrupted" (F&P 2003: 2).

[5] Notice that different types of object movement contrast in whether or not they may cross a verb *in situ*. On one hand, Object Shift presupposes movement of the main verb, as captured by Holmberg's generalization (see Holmberg 1986, 1999). It cannot cross a verb *in situ* in any of the Scandinavian languages.

(i)	a.	*Han	læste		sikkert	aldrig		dem.	*Da*
	b.	Han	læste	dem	sikkert	aldrig		___.	
		he	*read*	*them*	*certainly*	*never*			
(ii)	a.	Han	havde		sikkert	aldrig	**læst**	dem.	*Da*
	b.	*Han	havde	dem	sikkert	aldrig	**læst**	___.	
		he	*had*	*them*	*certainly*	*never*	*read*		

On the other hand, various types of A- and A'-movement may cross a verb *in situ* even in Scan2/No. This is illustrated for topicalization and passivization in (iii).

(iii)	a.	Bøkene	har	jeg	**solgt**	_____.	*No*
		books-the	*have*	*I*	*sold*		
	b.	I går	ble	bøkene	**solgt**	_____.	
		yesterday	*were*	*books-the*	*sold*		

In terms of the cyclic linearization approach, the above facts indicate that the availability of the edge of VP as intermediate position depends on the movement operation. F&P (2005: 39) state that "[their] proposals say nothing in themselves, however, about the circumstances under which movement to these left-edge positions is allowed or prohibited". Under the assumption that movement is triggered by features – e.g. topicalization by a [+top] feature, passivization by an [EPP]-feature, and NegS by a [+neg] feature –, let us assume that the availability of the edge position is connected to the feature composition of an object (though the features are not checked there). For instance in Scan2/No, the features [+top] and [EPP] but not [+neg] permit movement via the edge of VP; topicalization and subject movement but not NegS may cross an intervening verb. Alternatively, it may be assumed that there are contrasts as to which projections may pass on an edge feature to VP: CP and IP but not NegP may do so in Scan2/No.

In this connection, notice that a negative DP may occur in topic or subject position in the presence of a verb *in situ* in Scan2/No. (Since definite phrases are better topics, an *ingen*-phrase with definite NP is used in (iv)a below.)

(iv)	a.	Ingen av bøkene	har	jeg		**solgt**	_____.	*No*
		none of books-the	*have*	*I*		*sold*		
	b.	I går	ble	ingen bøker		**solgt**	_____.	
		yesterday	*were*	*no books*		*sold*		
	c.	*I dag	har	jeg	ingenting	**solgt**	_____.	
		today	*have*	*I*	*nothing*	*sold*		

Given that the negative DP must license [+neg] in NegP, topicalization and subject movement in (iv) must be able to proceed via SpecNegP although the negative DP cannot remain in this position. The [+top]/[EPP]-feature (the edge feature in CP/IP) makes movement of the negative DP across the verb *in situ* (i.e. via the edge of VP) to SpecNegP possible and requires further movement to SpecCP and SpecIP, respectively.

Figure 3

NegS		*WJ*	*Ic*	*Fa*	*Scan1*	*Scan2*
across	∅ (= string-vacuous)	✓	✓	✓	✓	✓
	V	✓	✓	✓	✓	*
via edge of	∅ (= directly)	+	+	+	+	+
	VP	+	+	+	+	-

The following sections show that NegS across a preposition and (section 2.2) and NegS out of an infinitival clause (section 2.3) even require the presence of a verb *in situ* in some varieties. In other varieties, in contrast, they are permitted or prohibited, independent of verb position.

2.2 NegS across a preposition

K. R. Christensen (2005) claims that NegS out of a PP is not permitted in MSc at all, neither in Scan1 nor in Scan2 (see also Faarlund et al. 1997).

(11)	a.	*Jeg	har	ingen	**peget**	**på**	_____.	*Scan1/Scan2*
		I	*have*	*nobody*	*pointed*	*at*		
	b.	*Jeg	pegede	ingen		**på**	_____.	
		I	*pointed*	*nobody*		*at*		(K. R. Christensen 2005: 131)

However, the majority of my Danish informants, referred to as DaL[6] below, display a so-called *Inverse Holmberg Effect* (F&P 2005) with NegS of the complement of a preposition. NegS across the preposition is (marginally) acceptable if the main verb stays *in situ*, but it is ungrammatical if the main verb undergoes leftward movement as well.[7] (Holmberg's generalization, in contrast, states that movement of the main verb must take place for Object Shift to be possible; cf. footnote 5.)

(12)	a.	?Jeg	har	ingen	**peget**	**på**	_____.	*DaL*
		I	*have*	*nobody*	*pointed*	*at*		
	b.	*Jeg	pegede	ingen		**på**	_____.	
		I	*pointed*	*nobody*		*at*		

[6] As these informants are linguists at the University of Aarhus, from different regions of Denmark, they do not represent a dialect group.

[7] Two out of my six Swedish informants display an Inverse Holmberg Effect with NegS across a preposition, too. For the others, NegS of the complement of a preposition is excluded altogether; cf. (11).

Moreover, in contrast to the other Scandinavian languages, a (non-negative) object follows a particle in Sw.

(i)	a.	Per	har	inte	kastat		bort	någonting.	*Sw*
	b.	*Per	har	inte	kastat	någonting	bort.		
		Per	*has*	*not*	*thrown*	*anything*	*away*		

NegS across a particle does not require the presence of a main verb *in situ* for four of my informants while the other two display an Inverse Holmberg Effect with NegS across a particle; cf. (ii). (Inter-speaker variation is marked by % below.)

(ii)	a.	Per	har	ingenting	**kastat**	**bort**	_____.	*Sw*
		Per	*has*	*noting*	*thrown*	*away*		
	b.	%Per	kastade	ingenting		**bort**	_____.	
		Per	*threw*	*noting*		*away*		

Likewise, NegS across a preposition is possible in Fa if the main verb stays *in situ* whereas most of my informants (25 out of 34) rejected it if the main verb occurred in V2 position.[8]

(13) a. Í dag hevur Petur ongan **tosað við** _____. *Fa*
today has Petur nobody spoken with
b. *Í dag tosaði Petur ongan **við** _____.
today spoke Peter nobody with

Similarly, NegS of the complement of a preposition improves in Ic if it also crosses the main verb, though this contrast is not that strong, (14)b is degraded but not ungrammatical (cf. Svenonius 2000).[9]

(14) a. Ég hef engan **talað við** _____. *Ic*
I have nobody spoken with
b. ?Ég talaði engan **við** _____.
I spoke nobody with (Svenonius 2000: 272)

Finally in WJ, NegS just across the preposition is not even marked; i.e. NegS of the complement of the preposition is acceptable, independent of the position of the main verb.[10]

(15) a. Måske har hun ingen **snakket med** _____. *WJ*
maybe has she nobody spoken with
b. I går snakkede hun ingen **med** _____.
yesterday spoke she nobody with

The above data indicate that there is not only cross-linguistic variation as to which constituents can be crossed by NegS but also variation as to whether or not crossing of a

[8] The Fa data were collected during the NORMS Dialect Workshop in the Faroe Islands August 2008.

Actually, there seems to be dialectal variation in Fa as to NegS just across a preposition. All of my informants from Miðvágur (M) accepted (13)b while the sentences was judged acceptable by only two informants from the other places – Tvøroyri (Tv), Sandur (S), Klaksvik (K), Tórshavn (T), Fuglafjørður (F). Moreover, some informants from T and F permitted preposition pied-piping during NegS in the absence of a verb *in situ*; see Engels (submitted-b) for details.

(i) a. Í dag hevur Petur við ongan tosað _____. **M/*Tv/*S/*K/*T/*F*
today has Petur with nobody spoken
b. Í dag tosaði Petur við ongan _____. **M/*Tv/*S/*K/%T/%F*
today spoke Peter with nobody

[9] Depending on the verb-preposition combination, the preposition is stranded or pied-piped in Ic; see Jónsson (1996) and Svenonius (2000).

[10] An example of NegS across a preposition is found in Poulsen's story in Western Jutland dialect *Te Mar'ken i Holsbrow'* from 1956, published in Ord og Sag 21 (2001).

(i) A haa engen **snak'ker** **te** _____ om' er ino. WJ
I have nobody spoken to about this yet (Poulsen 2001: 55)

certain constituent presupposes the presence of a verb *in situ*. NegS across a preposition is acceptable in WJ and Ic but ungrammatical in Scan1 and Scan2, irrespective of verb position, while Fa and DaL display an Inverse Holmberg Effect with NegS across a preposition (see Figure 4).

Figure 4

NegS			*WJ*	*Ic*	*Fa*	*DaL*	*Scan1*	*Scan2*
across	∅ (= string-vacuous)		✓	✓	✓	✓	✓	✓
	V		✓	✓	✓	✓	✓	*
	P	verb *in situ*	✓	✓	✓	?	*	*
		verb moved	✓	?	*	*	*	*

The Inverse Holmberg Effect observed with NegS across a preposition in Fa and DaL points to the conclusion that it is not the intervening preposition itself which blocks NegS, contrary to what e.g. K. R. Christensen (2005) suggests. NegS across the preposition is possible in these varieties if it also crosses the main verb. Correspondingly, the starting position cannot be crucial for the availability of NegS.

(16) **Inverse Holmberg Effect**

a. *S V $\underline{O}_{[+neg]}$ $[_{VP}\ t_V\ [_{PP}\ \mathbf{P}\ t_O]]$

b. S Aux $\underline{O}_{[+neg]}$ $[_{VP}\ t_{Aux}[_{VP}\ \mathbf{V}\ [_{PP}\ \mathbf{P}\ t_O]]]$

At first glance, the fact that an intervening main verb cancels out the blocking might seem to suggest that the Inverse Holmberg Effect has to do with the target position of NegS, to the left/right of the main verb (see Svenonius 2000 for an analysis along these lines). However, section 2.3 will show that the emergence of an Inverse Holmberg Effect varies across constructions, arguing against this hypothesis.

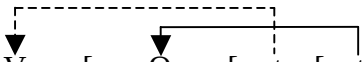
Under the cyclic linearization approach, non-string-vacuous movement is dependent on the availability of intermediate positions. F&P (2003:14) account for the fact that NegS across a preposition is possible in Ic independent of verb position by the assumption that not only the edge of VP but also the edge of PP is available as intermediate position (cf. also Baltin 1978 and van Riemsdijk 1978). As illustrated in (17), the object moves to the left edge of PP where it intervenes between the main verb and the preposition at VP Spell-out, V<O<P.

Consequently, finite verb movement and NegS can take place without giving rise to ordering contradictions at CP Spell-out.

(17) NegS across P, main verb in C°; Ic/WJ, ex. (14)b/(15)b

PP: $[_{PP}$ O P $t_O]$
Ordering: **O<P**

VP: $[_{VP}$ V $[_{PP}$ O P $t_O]]$
Ordering: **V<PP => V<O** O<P



CP: $[_{CP}$ S V ... $[_{NegP}$ O ... $[_{VP}$ t_V $[_{PP}$ t_O P $t_O]]]]$
Ordering: **S<V** V<O O<P
V<O
O<VP => O<P

In Engels (submitted-a), I assume that intermediate movement may only target the edge of Spell-out domains (see also the Appendix). Hence, PP must be a Spell-out domain (cf. Sabbagh 2007). As a consequence, all movement across a preposition must always proceed via the edge of PP: In the presence of a verb *in situ*, the complement of the preposition moves from the edge of PP to the edge of VP, from where it targets SpecNegP; cf. (18).

(18) NegS across P, main verb *in situ*; Ic/Fa/WJ/DaL, ex. (12)a/(13)a/(14)a/(15)a

PP: $[_{PP}$ O P $t_O]$
Ordering: **O<P**

VP: $[_{VP}$ O V $[_{PP}$ t_O P $t_O]]$
Ordering: **O<V** O<P
V<PP => V<P

CP: $[_{CP}$ S Aux ... $[_{NegP}$ O ... $[_{VP}$ t_O V $[_{PP}$ t_O P $t_O]]]]$
Ordering: **S<Aux** O<V O<P
Aux<O V<PP => V<P
O<VP => O<V

Given that PP is a Spell-out domain, the prohibition against NegS across a preposition in Scan1 and Scan2, (11), can be accounted for by the assumption that the edge of PP is not

available as intermediate landing site for NegS in these varieties; see Figure 5. As a result, the first step in the derivations in (17) and (18) cannot take place, blocking movement of a negative complement out of PP altogether. Moreover, the Inverse Holmberg Effect observed for NegS across a preposition in DaL and Fa, (12) and (13), indicates that the edge of PP is available for intermediate movement to the edge of the next Spell-out domain, VP (see the derivation in (18) above). However, the edge of PP is apparently not available as starting position for the final step of NegS, namely movement to SpecNegP; cf. (17). Movement of the negative complement across the preposition is only possible if it proceeds via the edge of VP, i.e. if it also crosses the main verb.

Figure 5

NegS			*WJ*	*Ic*	*Fa*	*DaL*	*Scan1*	*Scan2*
across	∅ (= string-vacuous)		✓	✓	✓	✓	✓	✓
	V		✓	✓	✓	✓	✓	*
	P	verb *in situ*	✓	✓	✓	?	*	*
		verb moved	✓	?	*	*	*	*
via edge of	∅ (= directly)		+	+	+	+	+	+
	VP		+	+	+	+	+	-
	PP	to next edge	+	+	+	+	-	-
		to SpecNegP	+	+	-	-	-	-

2.3 NegS out of an infinitival clause

In Ic, NegS out of a control infinitive is only possible if the object of the infinitival verb also crosses the matrix main verb.[11]

(19)	a.	Hún	hefur	engan	**lofað**	**að kyssa**	_____.		*Ic*
		she	*has*	*nobody*	*promised*	*to kiss*			
	b.	*Hún	lofaði	engan		**að kyssa**	_____,	(var það nokkuð?)	
		she	*promised*	*nobody*		*to kiss,*		*was it rather*	
		'She didn't promise to kiss anybody (did she?)'							

Some of the DaL (DaL1) and WJ (WJ2) speakers exhibit an Inverse Holmberg Effect with NegS out of an infinitival clause, too.[12]

[11] Though slightly more marked (possibly for pragmatic reasons), NegS out of a more deeply embedded infinitival clause is possible as well:

(i)	a.	Pétur	hefur	engu bréfi	**lofað**		**að svara**	_____.	*Ic*
		Petur	*has*	*no letter*	*promised*		*to reply*		
	b.	Pétur	hefur	engu bréfi	**reynt**		**að svara**	_____.	
		Petur	*has*	*no letter*	*tried*		*to reply*		
	c.	Pétur	hefur	engu bréfi	**lofað**	**að reyna**	**að svara**	_____.	
		Petur	*has*	*no letter*	*promised*	*to try*	*to reply*		
									Da
(ii)	a.	Jeg	har	ingen penge	**planlagt**		**at opdrive**	_____	til at fortsætte projektet.
		I	*have*	*no money*	*planned*		*to find*		*for to continue project-the*
	b.	Jeg	har	ingen penge	**prøvet**		**at opdrive**	_____	til at fortsætte projektet.
		I	*have*	*no money*	*tried*		*to find*		*for to continue project-the*
	c.	?Jeg	har	ingen penge	**planlagt**	**at prøve**	**at opdrive**	_____	til at fortsætte projektet.
		I	*have*	*no money*	*planned*	*to try*	*to find*		*for to continue project-the*

[12] Notice that NegS just across the *to*-infinitive is not prohibited as such; it is possible under a narrow scope reading of negation in DaL and WJ; cf. (i).

(i)	a.	Han	har	lovet	ingen kager	**at købe**	_____.		*DaL/WJ*
		he	*has*	*promised*	*no cakes*	*to buy*			
	b.	Han	lovede		ingen kager	**at købe**	_____,	ikke?	
		he	*promised*		*no cakes*	*to buy*		*not*	
		'He promised not to buy any cakes (didn't he?)'							

Under a narrow scope reading, the negative object targets a NegP situated inside the infinitival clause (cf. footnote 14). Given that NegS may proceed via the edge of (infinitival) VP in these varieties, this local movement is expected to be possible while NegS out of the infinitival clause might not, due to the unavailability of the edge of CP; cf. (ii) and the examples in (20)-(22) above.

(ii)	a.	Han lovede	$[_{VP}\ t_V\ [_{CP}\ e$ ... $[_{NegP}$ ingen kager ... **at** ... $[_{VP}\ t_O$ **købe** $t_O]]]]$
			✓WJ1/✓WJ2/✓DaL1/✓DaL2
	b.	Han lovede $[_{NegP}$ ingen kager	$[_{VP}\ t_V\ [_{CP}\ t_O\ e$ ... **at** ... $[_{VP}\ t_O$ **købe** $t_O]]]]$
			*✓WJ1/*WJ2/*DaL1/*DaL2*

(20) a. Han har ingen kager **lovet** **at købe** _____. *DaL1/WJ2*
he has no cakes promised to buy
b. *Han lovede ingen kager **at købe** _____, vel?
he promised no cakes to buy well
'He didn't promise to buy any cakes (did he?)'

The other DaL speakers (DaL2) do not permit NegS out of an infinitival clause at all, (21).

(21) a. *Han har ingen kager **lovet** **at købe** _____. *DaL2*
he has no cakes promised to buy
b. *Han lovede ingen kager **at købe** _____, vel?
he promised no cakes to buy well
'He didn't promise to buy any cakes (did he?)'

In contrast, the other WJ speakers (WJ1) permit NegS out of the infinitival clause, irrespective of the position of the matrix main verb; cf. (22). The same pattern is found in Fa.

(22) a. Han har ingen kager **lovet** **at købe** _____. *WJ1*
he has no cakes promised to buy
b. Han lovede ingen kager **at købe** _____, vel?
he promised no cakes to buy well
'He didn't promise to buy any cakes (did he?)'

(23) a. Allarhelst hevur Petur einki **roynt** **at eta** _____. *Fa*
probably has Peter nothing tried to eat
b. Allarhelst royndi Petur heldur einki **at eta** _____.
probably tried Peter also nothing to eat

Figure 6 summarizes the observed variation.

Figure 6

NegS			*WJ1*	*WJ2*	*Ic*	*Fa*	*DaL1*	*DaL2*	*Scan1*	*Scan2*
across	∅ (= string-vacuous)		✓	✓	✓	✓	✓	✓	✓	✓
	V		✓	✓	✓	✓	✓	✓	✓	*
	P	verb *in situ*	✓	✓	✓	✓	?	?	*	*
		verb moved	✓	✓	?	*	*	*	*	*
	Infin	matrix main verb *in situ*	✓	✓	✓	✓	✓	*	?[13]	*
		matrix main verb moved	✓	*	*	✓	*	*	?	*

Hence, as with NegS out of PP, there is cross-linguistic variation as to whether or not NegS out of an infinitival clause is possible at all and, if so, whether it depends on the position of the matrix main verb. Crucially, NegS out of PP and NegS out of an infinitival clause vary with regard to these parameters. For instance, an Inverse Holmberg Effect arises with NegS of the complement of a preposition in Fa and DaL. But while NegS out of an infinitival clause also exhibits an Inverse Holmberg Effect in DaL1, it is acceptable in Fa and unacceptable in DaL2, independent of verb position. These facts point to the conclusion that the target position (to the left/right of the matrix main verb) is not decisive for the availability of NegS as such, corroborating the cyclic linearization approach, which relies on intermediate positions.

(24) a. S Aux $\underline{O}_{[+neg]}$ $[_{VP}$ t_{Aux} $[_{VP}$ **V** **P** $t_O]]$ *Fa/DaL1/DaL2*
b. S V $\underline{O}_{[+neg]}$ $[_{VP}$ t_V **P** $t_O]$ **Fa/*DaL1/*DaL2*

(25) a. S Aux $\underline{O}_{[+neg]}$ $[_{VP}$ t_{Aux} $[_{VP}$ **V** **Inf** $t_O]]$ *Fa/DaL1/*DaL2*
b. S V $\underline{O}_{[+neg]}$ $[_{VP}$ t_V **Inf** $t_O]$ *Fa/*DaL1/*DaL2*

[13] Judgments for different styles of MSc, Scan1 and Scan2, are taken out of the literature. Unfortunately, NegS out of infinitival clauses is not discussed there. However, the four Swedish informants mentioned in footnote 7, who show the Scan1 pattern regarding NegS across a verb and NegS across a preposition, all (marginally) accepted NegS out of an infinitival clause. Moreover, recall that No patterns with Scan2, independent of style; NegS out of an infinitival clause is impossible in No.

(26) illustrates how NegS out of an infinitival clause across an intervening matrix main verb, found in Ic, Fa, WJ, and DaL1, is derived under the cyclic linearization approach. The object must move successive cyclically via the edges of all Spell-out domains to ensure consistent ordering statements: Movement of the object to the edge of embedded VP places it to the left of the infinitival verb; subsequent movement to the edge of embedded CP places it to the left of the infinitival marker *at* 'to', which is considered to be merged outside VP[14]; finally, movement of the object to the edge of matrix VP places it to the left of the matrix main verb, from where it may then move to its target position, SpecNegP.

(26) NegS out of infinitival clause, matrix main verb *in situ*; Ic/Fa/WJ/DaL1, ex. (19)a/(20)a/(22)a/(23)a

embedded VP: $[_{VP}\ O\ V_{inf}\ t_O]$
Ordering: **O<V_{inf}**

embedded CP: $[_{CP}\ O\ e\ [_{IP}\ PRO$ at ... $[_{VP}\ t_O\ V_{inf}\ t_O]]]$
Ordering: **O<at** O<V_{inf}
at<VP => at<V_{inf}

matrix VP: $[_{VP}\ O\ V_{matr}\ [_{CP}\ t_O\ e\ [_{IP}\ PRO$ at ... $[_{VP}\ t_O\ V_{inf}\ t_O]]]]$
Ordering: **O< V_{matr}** O<at O<V_{inf}
V_{matr} <CP => V_{matr}<at at<VP=> at<V_{inf}

matrix CP:
$[_{CP}$ S Aux ... $[_{NegP}$ O ... $[_{VP}\ t_O\ V_{matr}\ [_{CP}\ t_O\ e\ [_{IP}\ PRO$ at ... $[_{VP}\ t_O\ V_{inf}\ t_O]]]]]]$
Ordering: **S<Aux** O<V_{matr} O<at O<V_{inf}
Aux<O V_{matr}<CP => V_{matr}<at at<VP => at<V_{inf}
O<VP => O<V_{matr}

[14] While the infinitival marker *at* 'to' follows narrow scope negation in Da (and Fa), (i)a, Sw *att* and No *å* precede narrow scope negation; cf. (i)b. This indicates that the infinitival marker occurs in a position outside VP. Following Johnson & Vikner (1998), I assume that Sw *att* (and No *å*) is merged in I°, i.e. above the embedded NegP, whereas Da *at* (and Fa *at*) is merged in T°, below NegP. (On the position of the infinitival marker in Ic see below.)

(i) a. Per har lovet $[_{IP}$ *PRO* I° $[_{NegP}$ ikke $[_{TP}$ **at** $[_{VP}$ købe nogen cykler]]]] *Da*

b. Per har lovat $[_{IP}$ *PRO* **att** $[_{NegP}$ inte $[_{TP}$ T° $[_{VP}$ köpa några cyklar]]]] *Sw*
Per has promised to not buy any bikes

NegS out of the infinitival clause in the absence of a matrix verb *in situ* as observed in WJ1 and Fa, (22) and (23), may be derived by leaving out intermediate movement to the edge of matrix VP. The object remains at the left edge of embedded CP such that the ordering statement V_{matr}<O<*at* is established at Spell-out of matrix VP, (27), which is consistent with subsequent movement of the matrix main verb to C° and movement of the negative object to SpecNegP.[15]

(27) NegS out of infinitival clause, matrix main verb in C°; Fa/WJ1, ex. (22)b/(23)b

embedded VP: $[_{VP}$ O V_{inf} $t_O]$
Ordering: **O<V_{inf}**

embedded CP: $[_{CP}$ O *e* $[_{IP}$ *PRO* at ... $[_{VP}$ t_O V_{inf} $t_O]]]$
Ordering: **O<at** O<V_{inf}
at<VP => at<V_{inf}

matrix VP: $[_{VP}$ V_{matr} $[_{CP}$ O *e* $[_{IP}$ *PRO* at ... $[_{VP}$ t_O V_{inf} $t_O]]]]$
Ordering: **V_{matr}<CP => V_{matr}<O** O<*at* O<V_{inf}
at<VP=> *at*<V_{inf}

matrix CP: $[_{CP}$ S V_{matr} ... $[_{NegP}$ O ... $[_{VP}$ t_V $[_{CP}$ t_O *e* $[_{IP}$ *PRO* at ... $[_{VP}$ t_O V_{inf} $t_O]]]]]]$
Ordering: **S<V_{matr}** V_{matr}<CP => V_{matr}<O O<*at* O<V_{inf}
V_{matr}<O *at*<VP => *at*<V_{inf}
O<VP => O<CP => O<*at*

In contrast to WJ1 and Fa, which permit NegS out of an infinitival clause irrespective of verb position, DaL2 prohibits it altogether (see (21) above); NegS out of an infinitival clause can be excluded by the assumption that the edge of (embedded) CP is not available as intermediate position during NegS in this variety. In addition, the Inverse Holmberg Effect found in Ic, WJ2, and DaL1 can be accounted for by the assumption that the final step of NegS – i.e. movement to SpecNegP – may start out from the edge of matrix VP, (26), but not from the edge of embedded CP, (27) (though intermediate movement from the edge of CP to the edge of matrix VP must be possible).

[15] Notice that in contrast to phase-based approaches (Chomsky 2000), movement out of a deeper Spell-out domain, namely CP in (27), must be permitted in the present analysis. See also (17) above, where the final step of NegS starts out from the edge of PP, leaving the VP domain.

Figure 7 illustrates the cross-linguistic variation as to NegS and the availability of the various edge positions for movement to another intermediate position and movement to SpecNegP, respectively.

Figure 7

NegS			*WJ1*	*WJ2*	*Ic*	*Fa*	*DaL1*	*DaL2*	*Scan1*	*Scan2*
across	∅ (= string-vacuous)		✓	✓	✓	✓	✓	✓	✓	✓
	V		✓	✓	✓	✓	✓	✓	✓	*
	P	verb *in situ*	✓	✓	✓	✓	?	?	*	*
		verb moved	✓	✓	?	*	*	*	*	*
	Infin	matrix main verb *in situ*	✓	✓	✓	✓	✓	*	?	*
		matrix main verb moved	✓	*	*	✓	*	*	?	*
via edge of	∅ (= directly)		+	+	+	+	+	+	+	+
	VP		+	+	+	+	+	+	+	-
	PP	to next edge	+	+	+	+	+	+	-	-
		to SpecNegP	+	+	+	-	-	-	-	-
	CP	to next edge	+	+	+	+	+	-	+	-
		to SpecNegP	+	-	-	+	-	-	+	-

Note that the present analysis of NegS out of an infinitival clause crucially relies on the assumption that infinitival clauses are CPs or, more precisely, that they comprise a Spell-out domain other than (infinitival/matrix) VP. NegS across a verb *in situ*, i.e. NegS via the edge of VP, is acceptable in all varieties except Scan2. Therefore, in order to account for the prohibition against NegS out of an infinitival clause in DaL2 under the cyclic linearization approach, infinitival constructions must involve an additional Spell-out domain. Movement out of the infinitival clause may then be excluded by prohibiting movement to the edge of this Spell-out domain. Moreover, this additional Spell-out domain between infinitival VP and matrix VP is needed to account for NegS out of an infinitival clause in the absence of a matrix main verb as observed in WJ1 and Fa. Only if the negative indefinite object intervenes between the matrix main verb and the infinitival marker at Spell-out of matrix VP (V<O<*at*)

is NegS out of an infinitival clause expected to be compatible with finite verb movement, i.e. consistent with the ordering statements previously established.

There is, in fact, empirical evidence that control infinitives are CPs in Ic (cf. Johnson & Vikner 1998). As illustrated in (28), V°-to-I° movement takes place in Ic control infinitives; the infinitival verb precedes negation. Correspondingly, the infinitival marker *að* 'to' must be located in a higher head position, C°.

(28) a. *Þú lofaðir [$_{CP}$ að [$_{IP}$ PRO I° [$_{NegP}$ ekki ... [$_{VP}$ segja orð]]]] *Ic*
b. Þú lofaðir [$_{CP}$ að [$_{IP}$ PRO segja [$_{NegP}$ ekki ... [$_{VP}$ ____ orð]]]]
you promised to say not word
(Svenonius 2000: 271)

Though it is possible to move a negative object out of an infinitival clause in certain Scandinavian varieties (see the examples in (19)-(23) above) as well as out of an embedded subjunctive clause in Ic, (29), NegS out of an embedded indicative clause is ungrammatical; cf. (30) and (31). Given that all these constructions involve embedded CPs, these data suggest that the availability of the edge of CP depends on modal anchoring (cf. Svenonius 2000).

(29) a. Hún hafði viljað að hann gæti ekkert keypt ____. *Ic*
b. Hún hafði ekkert viljað að hann gæti keypt ____.
she had nothing wanted that he could bought

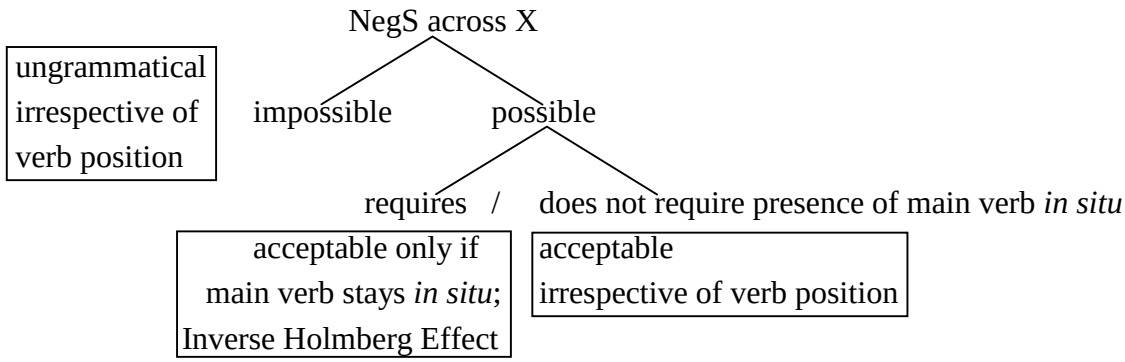
(30) a. Hún hefur vitað að hann getur ekkert keypt ____. *Ic*
b. *Hún hefur ekkert vitað að hann getur keypt ____.
she has nothing known that he can bought

(31) a. Du skal sige at du ingen penge får _____. *Da*
b. *Du skal ingen penge sige at du får _____.
you should no money say that you receive

3 Conclusion

While string-vacuous NegS exists in all the Scandinavian varieties, there is a considerable amount of variation as to the availability of non-string-vacuous NegS. In particular, the varieties contrast in which constituents can be crossed by NegS and whether or not crossing of a certain constituent requires the presence of a main verb *in situ*.

(32)



Contrary to the widely held belief, non-string-vacuous NegS in MSc was shown to be not only a matter of style but also subject to dialectal and inter-speaker variation. While Scan2 only permits string-vacuous NegS, the presence of a main verb *in situ* does not block NegS in Ic, Fa, WJ, DaL, and Scan1, and is even required for NegS out of PP and NegS out of an infinitival clause in some varieties (cf. Figure 7 above).

As mentioned above, neither the intervening constituents (matrix main verb/preposition/ infinitive), nor the object's base position (as complement of matrix/infinitival verb/ preposition), or its target position (to the left/right of the main verb) may account for the observed variation as to non-string-vacuous NegS themselves. Under the cyclic linearization approach adopted here, these are only indirectly crucial insofar as they determine which intermediate positions NegS would have to proceed through. Cross-linguistic variation as to NegS was considered to result from differences in the availability of these intermediate positions. Inverse Holmberg Effects arise if the edge of VP but not the edge of a lower constituent, PP or embedded CP, is available as starting position for the final step of NegS, movement to SpecNegP.

Appendix: NegS across an indirect object - Restricting intermediate landing sites to the edge of Spell-out domains

In those varieties which permit NegS across a verb *in situ* (WJ, Ic, Fa, DaL, and Scan1), NegS of a direct object (DO) across an indirect object (IO) as in (33) is possible, too.[16]

(33) a. Jón hefur ekkert **sagt** **Sveini** _____. *Ic*
Jón has nothing said Sveinn (Rögnvaldsson 1987: 46)

b. Í dag hevur Petur einki **givið** **Mariu** _____. *Fa*
today has Petur nothing given Mariu

c. Jeg har ingen bøger **lånt** **børnene** _____. *WJ/DaL/Scan1*
I have no books lent children-the

That NegS of the DO across the IO is acceptable in these varieties follows from the fact that NegS may proceed via the edge of VP. Thereby, the DO is linearized to the left of the IO at Spell-out of VP; cf. (34).

(34) NegS across IO, main verb *in situ*; Ic/Fa/WJ/Scan1, ex. (33)

VP: $[_{VP}$ DO V IO $t_{DO}]$
Ordering: **DO<V**
V<IO

CP: $[_{CP}$ S Aux ... $[_{NegP}$ DO ... $[_{VP}$ t_{DO} V IO $t_O]]]$
Ordering: **S<Aux** DO<V
Aux<DO V<IO
DO<VP => DO<V

However, NegS of the DO across the IO gives rise to an Inverse Holmberg Effect. It is acceptable if the main verb stays *in situ*, (33), but it is ungrammatical if the main verb undergoes leftward movement, (35).

[16] In contrast, in Scan2, where a verb *in situ* blocks NegS (i.e., where the edge of VP is not available as intermediate position for NegS), NegS across an IO is not acceptable, (i).

(i) *Jeg har ingen bøger **lånt** **børnene** _____. *Scan2*
I have no books lent children-the

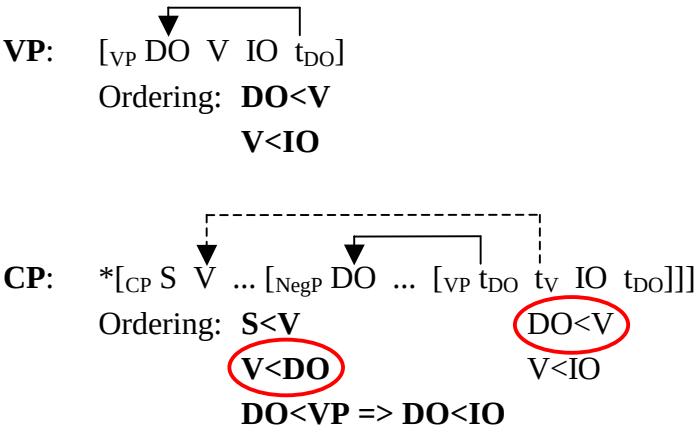
(35) a. *Jón sagði ekkert **Sveini** _____. *Ic*
Jón said nothing Sveinn (Rögnvaldsson 1987: 46)

b. *Í gjár gav Petur einki **Mariu** ____. *Fa*
yesterday gave Petur nothing Maria

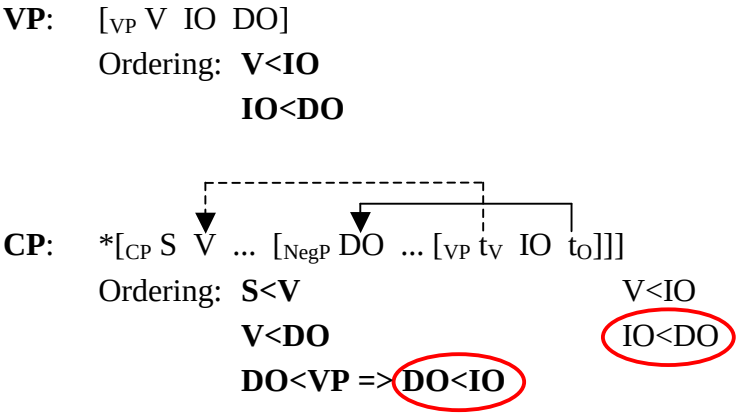
c. *Jeg lånte ingen bøger **børnene** _____. *WJ/DaL/Scan1*
I lent no books children-the

The fact that NegS across an IO is incompatible with movement of the main verb is expected under the cyclic linearization approach. On one hand, if NegS of the DO proceeds via the left edge of VP, the ordering statement "DO<V" is established at VP Spell-out. Verb movement to a position to the left of the object in SpecNegP would thus result in a contradiction regarding the ordering of DO and V; cf. (36). On the other hand, if NegS does not proceed via the edge of VP, a contradiction with regard to the ordering of IO and DO arises; cf. (37).

(36) No NegS across IO via the edge of VP, main verb in C°; ex. (35)

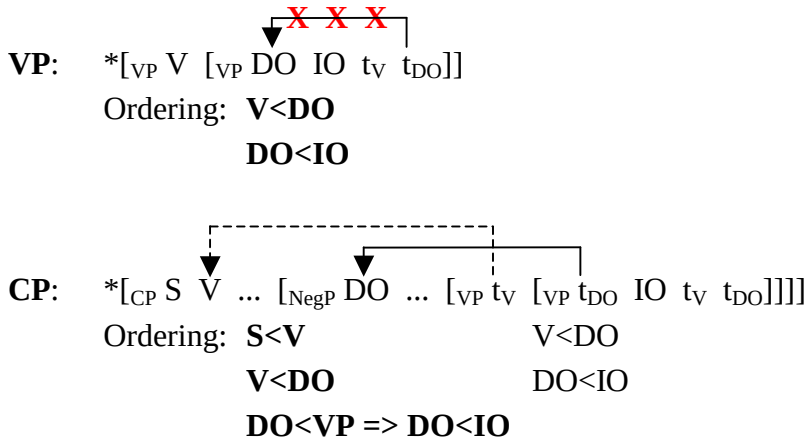


(37) No NegS across IO without intermediate landing site, main verb in C°; ex. (35)



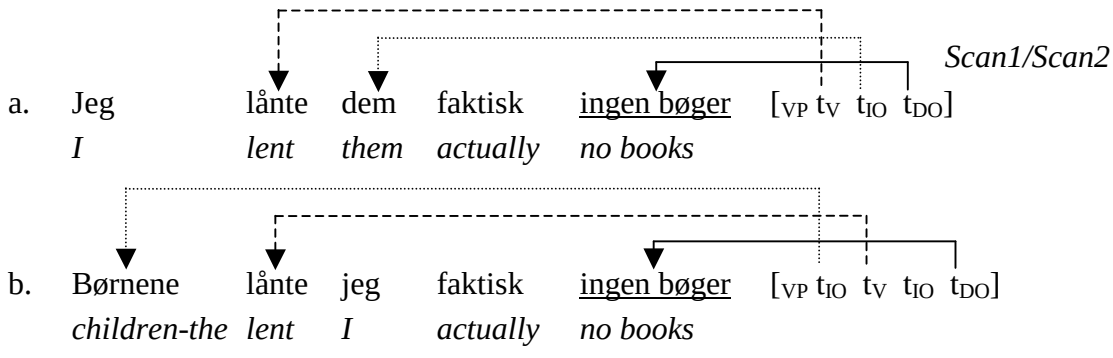
Hence, irrespective of whether or not NegS proceeds via the edge of VP, NegS just across an IO gives rise to an ordering contradiction and is thus ruled out. Moreover, under the assumption that double object constructions involve a Larsonian shell structure, the ungrammaticality of (35) indicates that the edge of the lower VP shell does not constitute a potential intermediate position. Otherwise, the negative DO could be linearized between the main verb and the IO at VP Spell-out, V<DO<IO, which would then predict that NegS just across the IO is possible, contrary to fact. This is illustrated in (38).

(38) No intermediate landing site at the edge of the lower VP shell; ex. (35)



The left edge of the lower VP shell can be excluded as an intermediate landing site by the hypothesis that intermediate movement may only target the edges of Spell-out domains. (This hypothesis is not explicitly advanced by F&P.) Under the assumption that only the highest projection of a head may be a Spell-out domain, the lower VP shell does not provide an intermediate position at its left edge since it does not constitute a Spell-out domain in itself – the main verb moves from the lower V° position to the one in the higher VP shell.

Finally, notice that NegS of the DO is compatible with movement of the main verb if the IO undergoes leftward movement as well. In this case, NegS of the DO is string-vacuous and, consequently, need not proceed via any intermediate position. Accordingly, it is expected to be possible even in Scan2. This expectation is borne out.



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