

# The Infinitive Marker across Scandinavian

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## Abstract:

In this paper I argue that the base-position of the infinitive marker in the Scandinavian languages and English share a common origin site. It is inserted as the top-most head in the VP-domain. The cross-linguistic variation in the syntactic distribution of the infinitive marker can be accounted for by assuming that it undergoes head movement. This movement is optional in Danish, English, Norwegian, and Early Modern Danish and is not feature-driven. In Faroese, Icelandic, and Swedish, on the other hand, it is triggered by  $\phi$ -feature checking on  $\text{Fin}^{\circ}$ . In Icelandic and Swedish these  $\phi$ -features are strong and induce obligatory  $v^{\circ} \rightarrow \text{Fin}^{\circ}$  movement, whereas they are weak in Faroese and do not induce  $v^{\circ} \rightarrow \text{Fin}^{\circ}$  movement.

## 1. Base-position of the Infinitive Marker<sup>1</sup>

Within the VP-domain,  $V^{\circ} \rightarrow v^{\circ}$  movement is obligatory, at least with ditransitive verbs in order to precede the indirect object.

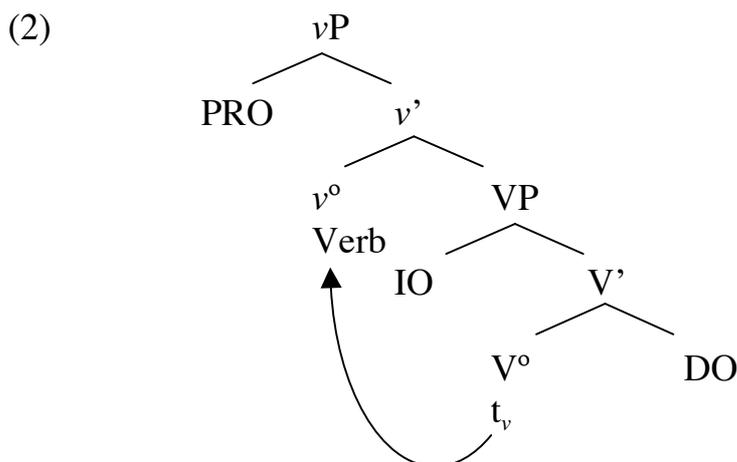
- (1) a. \*to someone give something  
b. to give<sub>v</sub> someone t<sub>v</sub> something

I will assume that the verb always raises to  $v^{\circ}$ , as in (2) below, even in mono- and intransitive verbs, although it is string-vacuous in such cases (as spec-VP between  $V^{\circ}$  and  $v^{\circ}$ , the base-position of an indirect object is not projected).

Throughout I use  $vP$  for the light verb projection regardless of transitivity, thus disregarding differences between  $v^{*o}$  and  $v^{\circ}$ . However, exceptions to obligatory  $V^{\circ}$ -to- $v^{\circ}$  movement may be structures that do not have an external argument, namely passives and unaccusatives, both of which have raising to subject, which can be argued to lack  $vP$  altogether. On the other hand, if  $v^{\circ}$  is the verbalizing head like  $n^{\circ}$  is the nominalizer (Chomsky 2004: 122), there is always a  $v^{\circ}$  in clauses with verbs, but not in verbless small clauses, e.g. (*I drove*) *her mad*.

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<sup>1</sup> The present paper is a shortened and revised version of sections 3.3.3 and 3.3.4 of Christensen (2005). Previous versions of the analysis has been presented at *Grammatik i Fokus* [Grammar in Focus], Lund University, Sweden, February 6, 2004, and at the *Grand Meeting for Scandinavian Dialect Syntax* (ScanDiaSyn), Leikanger, Norway, August 25, 2005. I would like to thank Kyle Johnson, Gunnar Hrafn Hrafnbjargarson, and Sten Vikner for helpful comments on previous versions, and an anonymous reviewer for comments on the present version.



The question is then where the infinitive marker is merged. Assuming the *Uniformity Principle*, I shall entertain the idea that it is merged in the same position across languages.

### (3) **The Uniformity Principle**

In the absence of compelling evidence to the contrary, assume languages to be uniform, with variety restricted to easily detectable properties of utterances. (Chomsky 2001:2, (1))

As the verb never moves across the infinitive marker and because the infinitive marker cannot be topicalized, it is reasonable to assume the infinitive marker to be a head. There are (at least) four logically possible answers:  $V^{\circ}$ ,  $v^{\circ}$ ,  $T^{\circ}$ , or a distinct functional head.

If the infinitive marker, e.g. English *to*, is first merged with the verb, forming a complex head [*to* [Verb]] which is then inserted as  $V^{\circ}$ , the unwanted process of excorporation would subsequently be necessary (Baker 1988). After the obligatory movement in (2), *to* would have to excorporate from the verb (i.e. move out of the complex [*to* [Verb]] head) and move to  $T^{\circ}$  to precede adverbials like for example *boldly* in the famous ‘split infinitive’ from Star Trek:

### (4) **To boldly** go where no man has gone before.

Allowing excorporation (basically allowing movement ‘through’ an intervening head by adjunction and subsequent extraction) would leave unexplained the blocking effect known as the Head Movement Constraint HMC (Travis 1984) or Relativized Minimality (Rizzi 1990). Therefore, I reject and disregard this analysis. (However, the absolute status of the HMC is questioned in recent linguistic theory, cf. Chomsky 1995:307 and Julien 2000:100, and head movement may be able skip intervening positions).

If the infinitive marker is base-generated in  $v^{\circ}$ , excorporation would again be necessary. The complex head [*to* [Verb]] that results from the obligatory  $V^{\circ}$ -to- $v^{\circ}$  movement would have to be split up again in order to get the split infinitive in (4). Hence, this analysis is also rejected.

Base-generating the infinitive marker as  $T^{\circ}$  is also problematic, because examples where *to* follows VP-adverbials, as in example (5) below, would have to involve rightward movement or lowering of *to* from  $T^{\circ}$  to  $v^{\circ}$  across the VP-adverbial adjoined to  $vP$ .

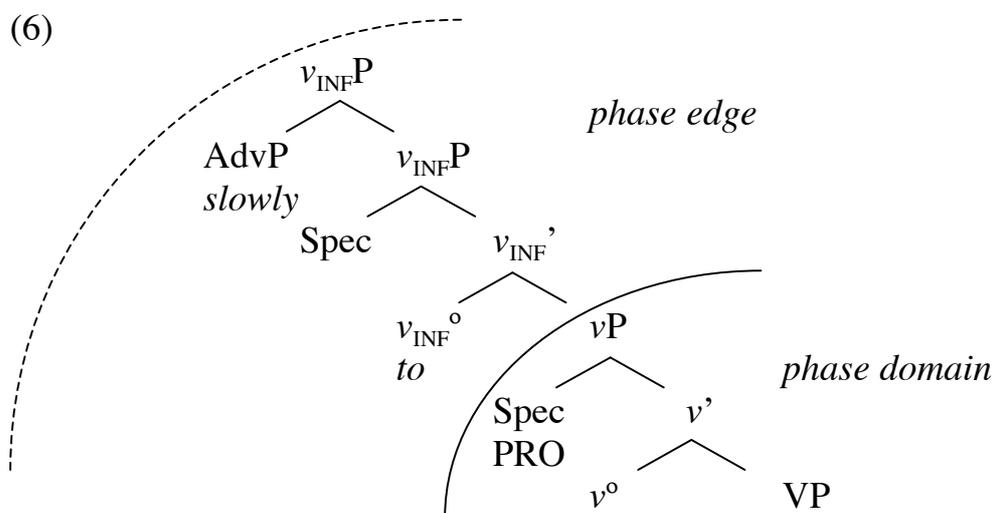
(5) The snails were beginning **slowly to** move in all directions.

This analysis is also disregarded.

In the analysis adopted here, the infinitive marker is merged as a separate functional head  $v_{\text{INF}}^{\circ}$  above  $vP$  (and auxiliary VP-shells) but below TP as it may follow VP-adverbials, which are then adjoined to  $v_{\text{INF}}P$  (see also Pullum 1982 and Ernst 1992 for arguments that English *to* is merged as a verbal head). This analysis raises none of the problems associated with excorporation and lowering.

Assuming the framework of *Derivation by Phase* (Chomsky 2001, 2004),  $v_{\text{INF}}P$  is the strong phase boundary. Under the *Phase Impenetrability Condition* (PIC), a  $v_{\text{INF}}P$  external probe cannot see beyond  $v_{\text{INF}}^{\circ}$ .

(6)



In Chomsky (2001), only transitive  $vPs$  are strong phases, and since the infinitive marker is not obviously transitive, it may seem to be a problem. However, Legate (2003) presents arguments that not only transitive  $vPs$  but also unaccusative and passive  $vPs/VPs$  are strong phases. Thus, transitivity may in fact not be a requirement on phasehood.<sup>2</sup>

Analyzing the base-position of *to* as a functional verbal head  $v_{\text{INF}}^{\circ}$  carrying the [Inf(itive)] feature captures the facts that (i) the infinitive

<sup>2</sup> Thanks to an anonymous reviewer for pointing this out.

marker is verbal, and (ii) [Inf] is a functional category rather than a lexical one; it is an extended projection of the lexical verb. (For an alternative view, see Abraham 2004, who argues that German *zu* and Dutch *te* are prefixes base-generated as spec-*vP* absorbing the external  $\theta$ -role of the verb.)

I assume sentential negation to be realized as NegP in the IP-domain. In the Scandinavian languages there are, however, three possible positions for negation: (i) sentence initial, which I take to be fronted or topicalized negation and which is not possible in all the languages (Christensen 2003, 2005), (ii) sentence medial, namely spec-NegP, which I take to be ‘true’ sentential negation, and finally (iii) adjoined to *vP*, where it has narrow or non-sentential scope (Christensen 2004, 2005). (See also Cormack and Smith 2002 and Zanuttini 1997).<sup>3</sup>

I assume the projection immediately above NegP to be Fin(iteness)P, not TP which is situated between NegP and the VP-domain. As tense is dependent on finiteness (+Fin  $\rightarrow$  +/-Past, -Fin  $\rightarrow$  0Past), it makes sense to assume that TP is selected by the head carrying the [Fin] feature (from a probe-goal perspective, the unvalued Fin<sup>o</sup> has, say, an [*u*Past] feature which must find a matching goal within its domain). (See Christensen 2005:236-241 for elaboration). Thus, [+/-Fin(ite)] on Fin<sup>o</sup> is distinct from [+/-Inf(inive)] and the clausal hierarchy is as follows:

(7) [CP [FinP [Adv [NegP [TP [Adv [*v*<sub>INF</sub>P [*vP* [VP]]]]]]]]]]]

## 2. Optional Movement

In Danish, though having the infinitive marker *at* in situ is clearly the unmarked option, it may optionally move to T<sup>o</sup> where it precedes left-adjoined VP-adverbials like *ofte* ‘often,’ as in (8b). It cannot move to Fin<sup>o</sup>

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<sup>3</sup> In Cormack and Smith (2002) the initial negation is called ‘echo negation.’ This type of negation is also possible in Scandinavian and is distinct from topicalized negation. For example, the former selects an embedded clause and is also possible in Danish, whereas the latter induces inversion and is ungrammatical in Danish, as well as in English, see Christensen (2005:38-44):

- (i) Ikke at jeg ved noget om det.  
*not that I know anything about it*
- (ii) \*Ikke ved jeg noget om det.  
*not know I anything about it*

as it cannot precede negation, cf. (8c) (at least this is very marked and significantly worse than (8b)):<sup>4</sup>

- (8) Vi overtalte dem til... (Danish)  
*we persuaded them to*  
 ‘We persuaded them to...’
- a. **ikke** ofte **at** prøve igen. (at in situ)  
*not often to try again*
- b. **ikke at** ofte prøve igen. ( $v_{\text{INF}}^{\circ} \rightarrow T^{\circ}$ )  
*not to often try again*
- c. ??**at ikke** ofte prøve igen. ( $v_{\text{INF}}^{\circ} \rightarrow \text{Fin}^{\circ}$ )  
*to not often try again*  
 ‘to not often try again.’

According to Falk and Torp (1900:300), in Early Modern Danish (EMD) the infinitive marker often precedes negation and other adverbials. In other words, Early Modern Danish has optional movement to  $\text{Fin}^{\circ}$  (though their examples only illustrate VP-adverbials):

- (9) **at lettelige** foracte (Early Modern Danish)  
*to easily despise*  
 ‘to easily despise’  
 (1575, Anders Sørensen Vedel, Falk and Torp 1900:300)

Interestingly, both the infinitive marker and the verb may precede adverbials in EMD, an option also found in Modern Icelandic (I return to Icelandic below):

- (10) sagde sig nu **at** skulle **ikke** lade hannem vere der lenger (EMD)  
*said SELF now to should not let him.OBL be there longer*  
 ‘told herself/himself now not to let him stay any longer’  
 (1574-1597, Bishop Jens Nielsen, Visitatsbog, Falk and Torp 1900:299)

(According to Bentzen 2005:158-159, some northern dialects of Norwegian also allow infinitives, especially modals (also participial forms), to precede certain adverbials, but not negation.)

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<sup>4</sup> An adverb such as Danish *bare* (English *only*, Norwegian *berre*) is not a good indicator, because it has properties that other adverbials do not have. It appears to be a focus particle that can attach to the verb itself to signal contrastive focus, e.g. *Jeg ville prøve at bare SNAKKE i stedet for at råbe* (‘I wanted to try to only SPEAK instead of SHOUTING’). It can thus move with the verb under V2, e.g. *Hun bare skriger og skriger* (‘she just screams and screams’) and may thus intervene between the subject and the finite verb (V3) which is very exceptional in Danish.

English *to* optionally undergoes  $v_{\text{INF}}^{\circ} \rightarrow T^{\circ}$  to precede VP-adverbials, compare (6a) and (6b), and optionally  $v_{\text{INF}}^{\circ} \rightarrow \text{Fin}^{\circ}$  to precede negation, as in (6c) (cf. Greenbaum and Quirk 1990:162, Radford 1997:29; see also Gelderen 2004:237-248):

- (11) It could be dangerous (English)
- a. **not fully** to understand the gravity of the situation.
  - b. **not to fully** understand the gravity of the situation.
  - c. **to not fully** understand the gravity of the situation.

(In spoken English, the intermediate copies of *to* may also be pronounced, cf. Gelderen 2004:239.)

Like English, Norwegian has optional  $v_{\text{INF}}^{\circ} \rightarrow T^{\circ}$ , cf. (12) and (13), as well as optional  $v_{\text{INF}}^{\circ} \rightarrow \text{Fin}^{\circ}$ , cf. (14) and (15):<sup>5</sup>

- (12) Begge disse tinga var nok med på (Norwegian)  
*both these things were probably with on*  
 å redusere brannen til **kun** å gjelde garasjen.  
*to reduce fire.the to only to cover garage.the*  
 ‘Both of these things probably played a part in containing the fire to the garage.’
- (13) Det er viktig å **framleis** gjere det vi kan. (Norwegian)  
*it is important to continuously do that we can*  
 ‘It is important to keep doing what we can.’
- (14) For **ikkje** å spara på kreftene (Norwegian)  
*for not to save on strenghts.the*  
 ‘In order to save strength’
- (15) Han oppmoda representantane til (Norwegian)  
*he encouraged representatives.the to*  
 å **ikkje** binda seg opp i kroner og øre.  
*to not bind SELF up in kroner and ører*  
 ‘He encouraged the representatives to not focus on the exact amount of money.’

### 3. No Movement

In Faroese, the infinitival marker never moves to  $\text{Fin}^{\circ}$  as it cannot precede negation or sentential adverbials (Zakaris Hansen, p.c.):

<sup>5</sup> All Norwegian examples are from the Nynorsk part of the Oslo Corpus of Tagged Norwegian Texts, University of Oslo, <<http://www.hf.uio.no/tekstlab/>>.

- (16) a. Hon hevur lovað **ikki at** gera tað aftur. (Faroese)  
 b. \*Hon hevur lovað **at ikki** gera tað aftur.  
*she has promised not to not do that again*  
 ‘She has promised to not do that again.’

I have not been able to establish whether VP-adverbials are allowed to intervene between *at* and the infinitive verb in Faroese (and neither Lockwood 2002 nor Thráinsson et al. 2004 discuss it). I shall assume it not to be the case and leave the question for future research. In Faroese, then, the infinitive marker never moves out of  $v_{\text{INF}}^{\circ}$ .

#### 4. Obligatory Movement

In Swedish, as the infinitive marker *att* obligatorily precedes negation (Holmes and Hinchliffe 2003:476), there is obligatory  $v_{\text{INF}}^{\circ} \rightarrow \text{Fin}^{\circ}$ :

- (17) Vi uppmanade dem **att aldrig** göra om det. (Swedish)  
*we encouraged them to never do again it*  
 ‘We encouraged them to never do again it.’  
 (Holmes and Hinchliffe 2003:476)

- (18) For **att inte** tala om alla dessa kvinnor. (Swedish)  
*for to not talk about all these women*  
 ‘Not to mention all these women.’  
 (Title of a 1964 screenplay by Ingmar Bergman)

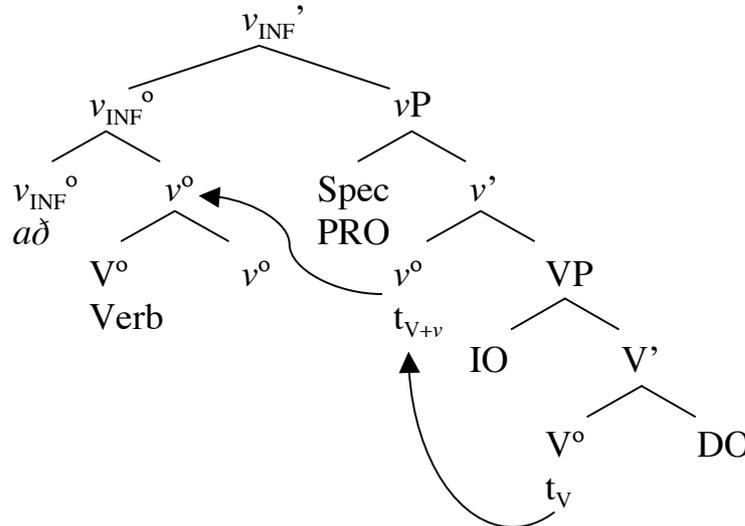
In Icelandic, there are two possible movements of the infinitive marker *að*: Alone or together with the verb (judgements due to Gunnar Hrafn Hrafnbjargarson, p.c.). As (19d) shows, *að* may move to  $\text{Fin}^{\circ}$  where it precedes negation (contrary to what is claimed by Holmberg 2000:456, footnote 12). (19b) shows that *að* cannot move to  $T^{\circ}$  between sentential negation and the VP-adverbial (and stay there), and (19c) shows that *að* for some reason cannot cross two adverbials, here *ekki* ‘not’ and *strax* ‘immediately.’ As the difference between (19c) and (19d) also shows, VP-adverbials are normally right-adjoined. The markedness of (19a), is due to either (i) double stylistic fronting (of *ekki* and *strax*), (ii) *strax* not being right-adjoined, or (iii) *að* being in situ.

- (19) Það væri vitlaust (Icelandic)  
*it be.SUBJUNCTIVE stupid*  
 ‘It would be stupid...’
- a. ?**ekki** strax **að** lesa þessa bók.  
*not immediately to read this book*
- b. \***ekki að** strax lesa þessa bók.  
*not to immediately read this book*

- c. \***að ekki** strax lesa þessa bók.  
*to not immediately read this book*
- d. **að ekki** lesa þessa bók strax.  
*to not read this book immediately*  
 ‘to not read this book immediately.’

The second and unmarked type of movement is illustrated in (20) below and exemplified in (21a) and (21b). Here the infinitive verb is first incorporated by *að* and subsequently this complex head [*að*+ $[V+v]$ ] moves to  $\text{Fin}^\circ$ . (This incorporation analysis involves right-adjunction of the verb to the infinitive marker similar to the analysis of particle incorporation in Haegeman and Guéron 1999:258.)

(20) Icelandic  $V^\circ \rightarrow v_{\text{INF}}^\circ$  incorporation:



Note that with [*að*+ $[V+v]$ ] movement, *strax* can be either left or right-adjoined:

- (21) a. Það væri vitlaust **að** lesa **ekki** strax þessa bók.  
*it be.SUBJ. stupid to read not immediately this book*
- b. Það væri vitlaust **að** lesa **ekki** þessa bók strax.  
*it be.SUBJ. stupid to read not this book immediately*  
 ‘It would be stupid to not read this book immediately.’

Thus, movement to  $\text{Fin}^\circ$  is obligatory: either by *að* alone (as in Swedish), or as the complex head [*að*+ $[V+v]$ ] (as in Early Modern Danish).

What the examples above show is (i) that Icelandic (marginally) allows split infinitives, as in (19d) above, (ii) that  $V^\circ \rightarrow v_{\text{INF}}^\circ$  movement is not restricted to finite verbs, but (iii) in the unmarked case, the infinitive marker incorporates the infinitive verb and carries it to  $\text{Fin}^\circ$  as a complex head, as in (21a,b) (such that the infinitive remains ‘unsplit’ and [*að*+ $[V+v]$ ] precedes sentential adverbials). However, the movement of the

infinitive verb is only licensed in the company of the infinitive marker *að*, regardless of subsequent OBJ-shift as in (22c), as the following ECM examples show:

- (22) a. Hann sá [mig **ekki lesa** bókina]. (Icelandic)  
*he saw me.ACC not read book.DEF*
- b. \*Hann sá [mig **lesa ekki** bókina].  
*he saw me.ACC read not book.DEF*
- c. \*Hann sá [mig **lesa bókina ekki**].  
*he saw me.ACC read book.DEF not*  
 ‘He saw me not reading the book.’

- (23) Og minn betri helmingur kvað... (Icelandic)  
*and my better half said*  
 ‘And my better half said...’
- a. mig **ekki hafa** látið svo ófriðlega í svefni.  
*me.ACC not have acted so unpeacefully in sleep*
- b. \*mig **hafa ekki** látið svo ófriðlega í svefni.  
*me.ACC have not acted so unpeacefully in sleep*  
 ‘I hadn’t slept unpeacefully.’

(The example in (22a) is actually ambiguous between matrix and embedded negation. If it is matrix negation (*He didn’t see [me reading the books]*), the pronominal subject of the embedded clause has undergone obligatory OS into the main clause. If, on the other hand, negation is in the embedded clause (*~What he saw was [me not reading the books]*), the infinitive verb must follow negation.)

Johnson and Vikner (1998), arguing for generalized V2 and CP recursion in Icelandic also note that ECM constructions have some peculiar properties. Following Sigurðsson (1989), they claim that ECM constructions cannot have a NegP: ‘For some unknown reason, non-control infinitives in Icelandic are so anemic, that they do not allow for the kinds of adverbs usually used to determine whether verbs have moved or not’ (Johnson and Vikner 1998:15-16). However, the data presented above are counterexamples to such a claim. The problem appears to be connected to the presence of an auxiliary verb in the matrix clause, not the negation in the embedded clause, compare (24) and (25):

- (24) Pétur hafði talið... (Icelandic)  
*Peter had believed*  
 ‘Peter had believed...’

- a. \*Maríu **ekki hafa** vaskað upp diskana.  
*Mary not has washed up dishes.DEF*
- b. \*Maríu **hafa ekki** vaskað upp diskana.  
*Mary has not washed up dishes.DEF*  
 ‘Mary had not washed the dishes.’
- c. Maríu **hafa** vaskað upp diskana.  
*Mary has washed up dishes.DEF*  
 ‘Mary had washed the dishes.’

(Johnson and Vikner 1998:14, (41))

(25) Pétur taldi... (Icelandic)  
*Peter believed*

- a. [Maríu **ekki hafa** vaskað upp diskana].  
*Mary not have washed up dishes.DEF*
- b. \*[Maríu **hafa ekki** vaskað upp diskana].  
*Mary have not washed up dishes.DEF*  
 ‘Peter believed that Mary had not washed the dishes.’

As Johnson and Vikner (1998) also acknowledge, their analysis wrongly predicts control infinitives to be extraction islands and therefore they have to make additional stipulations. They argue that *að* is base-generated in the higher C° in a recursive CP-domain and that PRO is topicalized (moved to the lower spec-CP) to avoid government by the infinitive verb, which they argue is moved to the lower C°, cf. the example in (26). The present analysis does not make such a prediction as [*að*+*[V+v]*] moves to C°, cf. the structure in (27) (whatever the status of government in contemporary linguistic theory, the facts remain):

(26) Hvernig<sub>1</sub> lofaði Pétur Jóni (Icelandic)  
*how promised Peter.NOM Jón.DAT*  
 [<sub>CP</sub> **að** [<sub>CP</sub> PRO **fara** [<sub>IP</sub> til London á morgun t<sub>1</sub> ]]]?  
*to go to London tomorrow*  
 ‘How did Peter promise John to go to London tomorrow?’

(27) Hvernig<sub>1</sub> lofaði Pétur Jóni (Icelandic)  
*how promised Peter.NOM Jón.DAT*  
 [<sub>CP</sub> t<sub>1</sub> C° [<sub>FinP</sub> PRO [<sub>Fin°</sub> **að fara**] til London á morgun t<sub>1</sub> ]]]?  
*to go to London tomorrow*  
 ‘How did Peter promise John to go to London tomorrow?’

The possibility of moving [*at*+*[V+v]*] in Early Modern Danish and [*að*+*[V+v]*] in Icelandic seems to correlate with and may be licensed by V°→Fin° (‘V°-to-I°’) movement. Among the modern Scandinavian

languages, only Icelandic has  $V^{\circ} \rightarrow \text{Fin}^{\circ}$  movement while Danish lost it sometime between 1300 and 1700. The movement of the infinitive marker alone is clearly not subject to such licensing condition.

### 5. Interim Summary

The table in (28) below is a summary of the distribution of the infinitive marker (recall from (7) that negation and sentential adverbials are merged between  $\text{Fin}^{\circ}$  and  $T^{\circ}$ , and ‘VP-adverbials’ are merged between  $T^{\circ}$  and  $v_{\text{INF}}^{\circ}$ ). The base-position of the infinitive marker is the same cross-linguistically, namely in the functional projection  $v_{\text{INF}}\text{P}$  at the top of the VP-domain. This is different from what is assumed elsewhere (e.g. Chomsky 1981; Haegeman and Guéron 1999; Johnson and Vikner 1998; Platzack 1986, 1998; Radford 1997; but see also Ernst 1992:129 and Pullum 1982:197; Beukema and den Dikken 1989 and Gelderen 2004 also assume the infinitive marker to undergo movement but from  $T^{\circ}$  to  $C^{\circ}$ ; see Christensen 2005:226 for a summary of these proposals).

(28) Variation in the position of the infinitive marker:

	Fa: <i>at</i>	Da: <i>at</i>	EMD: <i>at</i> En: <i>to</i> No: <i>å</i>	Ic: <i>að</i> Sw: <i>att</i>	EMD: <i>at+Verb</i> Ic: <i>að+Verb</i>
<b>Fin<sup>°</sup></b>	✗	✗	✓	✓	✓
<b>T<sup>°</sup></b>	✗	✓	✓	✗	✗
<b>v<sub>INF</sub><sup>°</sup></b>	✓	✓	✓	✗	✗

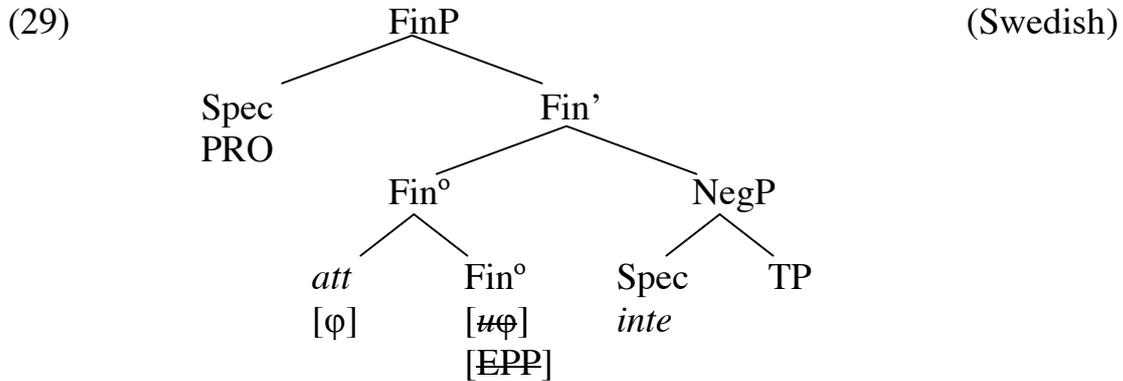
Contrary to what is argued by Johnson and Vikner (1998), Icelandic infinitive verbs do not move on their own as  $V^{\circ}$ s (they argue that the verb moves through  $\text{Fin}^{\circ}$  to  $C^{\circ}$ ). The infinitive marker *að* attracts and incorporates the infinitive verbs prior to movement to  $\text{Fin}^{\circ}$ . For this reason the verb is able to escape the  $v\text{P}$  phase in Icelandic as opposed to the other languages in question. In the next section I shall argue that the complex head [*að*+ $[V+v]$ ], not the infinitive verb, is able to check  $\phi$ -features.

In Icelandic ECM constructions (non-control infinitives), there is no infinitival *að* and therefore no movement to  $\text{Fin}^{\circ}$  as the infinitival verb itself cannot check the features on  $\text{Fin}^{\circ}$ . I have presented data that show that ECM constructions may have a  $\text{NegP}$  which makes it possible to positively identify the structural position of the verb.

The analysis presented here correctly predicts that control infinitives are not extraction islands, cf. (27), which the analysis in Johnson and Vikner (1998) predicts them to be.

## 6. Triggers for Movement

In control infinitives, PRO checks EPP on  $\text{Fin}^\circ$ . I suggest that the infinitive marker may check  $\varphi$ -features on  $\text{Fin}^\circ$ , see (29) below. This is clear with Swedish *att* and Icelandic *að*, which obligatorily move to  $\text{Fin}^\circ$ . This explains why the infinitive marker is obligatory in control infinitives.



According to Chomsky (2001:6), ‘structural case is not a feature of the probes (T, v), but is assigned a value under agreement then removed by Spell-Out from the narrow syntax.’ In line with this, I assume that if and only if  $\text{Fin}^\circ$  assigns/licenses/valuates Case,  $\text{Fin}^\circ$  has  $\varphi$ -features:

(30) Iff  $\text{Fin}^\circ$  valuates Case,  $\text{Fin}^\circ$  has  $\varphi$ -features

That means that  $\text{Fin}^\circ$  has no  $\varphi$ -features in ECM constructions (and Icelandic DAT-ACC clauses which I ignore here, but see Hrafnbjargarson 2004). In control infinitives, on the other hand, I assume that PRO is assigned (null) case by  $\text{Fin}^\circ$  which then has  $\varphi$ -features (see also Sigurðsson 1991).

In ECM constructions, the subject DP moves to check EPP on  $\text{Fin}^\circ$ . There are no (strong unvalued)  $\varphi$ -features on  $\text{Fin}^\circ$ , and Icelandic *að* like Swedish *att* are not attracted to  $\text{Fin}^\circ$  and therefore, by economy, cannot move to  $\text{Fin}^\circ$ , cf. (31a) and (31b):

(31) Pétur taldi (Icelandic)  
*Peter believed*

- a. \***[að Maríu ekki hafa vaskað upp diskana].**  
*to Mary not have washed up dishes.DEF*
- b. \***[Maríu að ekki hafa vaskað upp diskana].**  
*Mary to not have washed up dishes.DEF*
- c. \***[Maríu ekki að hafa vaskað upp diskana].**  
*Mary not to have washed up dishes.DEF*

- d. [Maríu **ekki** hafa vaskað upp diskana].  
*Mary not have washed up dishes.DEF*  
 ‘Peter believed that Mary hadn’t done the dishes.’

In Christensen (2005) I argue that there are two types of infinitives, one [+Inf] and one [-Inf], with and without overt marker, respectively (and with different syntactic properties cross-linguistically). The reason why the infinitive marker is never allowed in ECM, not even in its base-position, as in (31c), is that ECM verbs select [-Inf] clauses.

In raising constructions, the raising subject DP checks  $\phi$  and EPP on both the embedded  $\text{Fin}^\circ$  and the matrix  $\text{Fin}^\circ$ . Again, *að/att* would not be able to check  $\phi$ -features and is therefore not licensed.

- (32) a. Hann virtist [(**\*að**) **ekki** tala fullkomna íslensku]. (Icelandic)  
*he seemed (to) not speak perfect Icelandic*  
 ‘He seemed not to speak Icelandic perfectly.’  
 b. \*Hann virtist [**að** tala **ekki** fullkomna íslensku].  
*he seemed to speak not perfect Icelandic*  
 ‘He seemed not to speak Icelandic perfectly.’

Danish *at*, English *to*, and Norwegian *å* are obligatory in both ECM and Raising constructions, as in (33) and (34), respectively:

- (33) Jeg anser [ham for ikke **(at)** være kompetent]. (Danish)  
*I consider him for not (to) be competent*  
 ‘I don’t consider him competent.’  
 (34) Hun synes [**(at)** tale flydende dansk]. (Danish)  
*she seems (to) speak fluent Danish*  
 ‘She seems to speak Danish fluently.’

An exception to the rule is ECM under perception verbs which do not license the infinitive marker in the Germanic languages: Perception verbs select complements with a [-Inf] feature.<sup>6</sup>

- (35) a. I heard [her (**\*to**) play the piano]. (English)  
 b. Jeg hørte [hende (**\*at**) spille klaver]. (Danish)  
*I heard her.ACC (to) play piano*  
 ‘I heard her play the piano.’

<sup>6</sup> As pointed out by an anonymous reviewer, (35a) has a grammatical reading if it describes an illusion, for example: *I heard her to play the piano, but in fact she wasn’t; it was just the TV; or I heard her to be saying my name but she was actually just swearing*. This type of reading, however, is irrelevant for the present analysis.

- c. Ég heyrði [hana (\*að) leika á píanó]. (Icelandic)  
*I heard her.ACC (to) play on piano*  
 ‘I heard her play the piano.’

The table in (36) below is a summary of the distribution of the infinitive marker (see also Beukema and den Dikken 1989:66-67):

(36) Distribution of the infinitive marker:

Infinitive marker	Control infinitives	ECM	Raising
Danish <i>at</i>	✓	✓	✓
English <i>to</i>	✓	✓	✓
Norwegian <i>å</i>	✓	✓	✓
Icelandic <i>að</i> / <i>að</i> +Verb	✓	✗	✗
Swedish <i>att</i>	✓	✗	✗
Faroese <i>at</i>	✓	✗	✗

But why, then, are Danish *at*, English *to*, and Norwegian *å* obligatory in ECM and Raising (leaving Faroese aside for the moment)?

If it is assumed that there is a (lexical) difference in the properties of PRO and the infinitive marker, the observed variation in (28) above follows: In Icelandic and Swedish, the infinitive marker checks  $\phi$ -features (obligatory  $v_{\text{INF}}^{\circ} \rightarrow \text{Fin}^{\circ}$  movement), while in Danish, English, and Norwegian this is done by PRO (optional  $v_{\text{INF}}^{\circ} \rightarrow \text{Fin}^{\circ}$ ).<sup>7,8</sup>

(37) Features checked by PRO and the infinitive marker (version 1):

	PRO	Infinitive marker
Ic <i>að</i> +Verb, Sw <i>att</i>	EPP	Inf, $\phi$
Da <i>at</i> , En <i>to</i> , No <i>å</i>	EPP, $\phi$	Inf

Normally,  $\phi$ -features are checked by DPs or by a finite verb, but in the present analysis it is done by a non-finite verbal head in Icelandic and

<sup>7</sup> I leave to future research to answer the question why Icelandic and Swedish PRO cannot check  $\phi$ -features. However, assuming Icelandic to reflect earlier diachronic stages, a possible answer may be that PRO in the other Scandinavian languages is (or has been) getting stronger (by reanalysis) and is taking over checking of  $\phi$ -features from the infinitive marker, reducing the number of moving elements by one.

<sup>8</sup> It may seem odd that PRO cannot check  $\phi$ -features given that it controls agreement (Sigurðsson 1991). However, as suggested by an anonymous reviewer, it could be argued that PRO only controls case agreement while the other features come from PRO's controller.

Swedish. Alexiadou and Anagnostopoulou (1998) argue for another ‘unusual’ checking by a verbal head. They argue that in VSO constructions in e.g. Greek and Spanish (which lack an expletive pronoun like *it/there*), the verb moves to  $\text{Fin}^\circ$  and checks the EPP. The mirror image, i.e. an ‘unusual’ checking by a DP, can be found in Pesetsky and Torrego (2001) who argue that in English interrogative main clauses,  $\text{C}^\circ$  has an uninterpretable [ $u\text{T}$ ] feature which is checked either by verb movement ( $\text{T}^\circ \rightarrow \text{C}^\circ$ ) or by a *wh*-subject.

As mentioned in section 4 above, the movement of the Icelandic *að* without the infinitival verb is marked (movement of [ $að + [\text{V} + v]$ ] is preferred). The feature distribution in (37) provides us with a possible explanation for this markedness. Not moving *að* is marked because the  $\varphi$ -features on  $\text{Fin}^\circ$  remain unchecked. Moving *að* alone to check the  $\varphi$ -features on  $\text{Fin}^\circ$  is marked because the infinitival verb is ‘stranded’ or, rather, *að* has failed to incorporate it.

The optional movement of Danish *at*, English *to*, and Norwegian *å* is not feature-driven. The [ $u\text{Inf}$ ] feature on  $\text{Fin}^\circ$  is valued and checked via long-distance agreement between the probing  $\text{Fin}^\circ$  and the goal  $v_{\text{INF}}^\circ$ , which is at the edge of the phase and therefore need not move. See also Chomsky (2001:37), who argues that head movement falls within the phonological component.

Swedish *att* has lost its ability to incorporate while Icelandic *að* and Early Modern Danish *at* have retained this ability. (This indicates that it may be licensed by  $\text{V}^\circ \rightarrow \text{Fin}^\circ$  movement though the exact connection between the two remains to be explained). I propose that incorporation is triggered by an uninterpretable feature [+Incorp] on the infinitive marker (there are thus two versions of *að*, one [+Incorp] and one [-Incorp]).

(38) Features checked (on or) by PRO and the inf. marker (version 2):

	<b>PRO</b>	<b>Infinitive marker</b>
Ic <i>að</i>	EPP	Inf, +/-Incorp, $\varphi$
Sw <i>att</i>	EPP	Inf, -Incorp, $\varphi$
Da <i>at</i> , En <i>to</i> , No <i>å</i>	EPP, $\varphi$	Inf, -Incorp

If it is true that Faroese *at* does not leave  $v_{\text{INF}}^\circ$ , as it has been assumed here, it is an interesting ‘intermediate’ candidate. As shown in (32), it patterns with its Swedish and Icelandic counterparts, as *at* is not licensed in ECM, (39), and Raising constructions, (40), but obligatory in control infinitives, as in (41) (examples from Lockwood 2002:138-139; see also Thráinsson et al. 2004):

- (39) Nú haldi eg [meg (\***at**) hava prátað nóg nógv]. (Faroese)  
*now think I me to have talked quite enough*  
 ‘Now I think I’ve talked quite enough.’
- (40) Mær tókti [(**\*at**) hóma býir við føgrum marmorborgum](Fa)  
*I seemed to remember cities with beautiful marble-palaces*  
 ‘I seemed to remember cities with beautiful marble palaces.’
- (41) Hon ynskti sær [PRO **\*(at)** verða jarðað í Borðoy]. (Faroese)  
*she wished SELF (to) be buried in Borðoy*  
 ‘She wished to be buried in Borðoy.’

In control infinitives, the infinitive marker stays in  $v_{\text{INF}}^{\circ}$  because it cannot check  $\phi$ -features on  $\text{Fin}^{\circ}$  (and possibly because scope does not influence the surface string). The question is why it is blocked in ECM and Raising. I propose that Faroese is like Icelandic and Swedish, such that *at* checks  $\phi$ -features in control infinitives ‘covertly’ while PRO checks EPP, whereas it is blocked in ECM and Raising because  $\text{Fin}^{\circ}$  has no  $\phi$ -features. In control infinitives,  $\text{Fin}^{\circ}$  probes for a  $\phi$ -match and *at* in  $v_{\text{INF}}^{\circ}$  is available because it is already at the phase edge. In other words, instead of  $\text{Fin}^{\circ}$  attracting *at* as in Icelandic and Swedish,  $\text{Fin}^{\circ}$  and *at* enter into long-distance agreement. If correct, there is thus a difference in strength of the  $\phi$ -features on  $\text{Fin}^{\circ}$ :

- (42) Features checked (on or) by PRO and the inf. marker (final version):

	<b>PRO</b>	<b>Infinitive marker</b>	<b>Fin<sup>°</sup> [<math>\phi</math>]</b>
Ic <i>að</i>	EPP	Inf, +/-Incorp, $\phi$	Strong
Sw <i>att</i>	EPP	Inf, -Incorp, $\phi$	Strong
Fa <i>at</i>	EPP	Inf, -Incorp, $\phi$	Weak
Da <i>at</i> , En <i>to</i> , No <i>å</i>	EPP, $\phi$	Inf, -Incorp	Strong

Admittedly, the features proposed to drive movement here are, at least in principle, also compatible with a base-generation account, given a few extra assumptions. In Danish, English, and Norwegian, the movement is not feature-driven anyway and is straightforwardly compatible with base-generation. Icelandic and Swedish, the infinitive marker may be inserted into  $\text{Fin}^{\circ}$  from where it incorporates the verb. This, however, requires that the  $\phi$ -features on  $\text{Fin}^{\circ}$  can be checked by direct insertion, rather than via probe-goal agreement, a mechanism otherwise reserved for EPP checking (as with expletive subjects). At any rate, the infinitive marker cannot be inserted higher than  $\text{Fin}^{\circ}$  (see also the arguments concerning (27) above). Furthermore, it would have to be argued that in Icelandic only the incorporating infinitive marker must be inserted in  $\text{Fin}^{\circ}$ , whereas the non-

incorporating version can be freely inserted in lower head positions. The present analysis, arguing for a universal base-position and movement, does not suffer from these inconsistencies.

## 7. Conclusions

The cross-linguistic as well as language-specific distribution of the infinitive marker shows that a position is needed between VP-adverbials and  $v^{\circ}$ , namely the lowest possible position the infinitive marker can occupy: its base-position  $v_{\text{INF}}^{\circ}$ . This leads to a more articulated VP-domain consisting of (at least)  $v_{\text{INF}}\text{P}$ ,  $v\text{P}$ , and VP.

The variation can be accounted for by assuming movement of the infinitive marker, either to  $T^{\circ}$  or to  $\text{Fin}^{\circ}$ , apart from the option of having the infinitive marker remain in situ. In Faroese, Icelandic, and Swedish the infinitive marker checks  $\phi$ -features on  $\text{Fin}^{\circ}$ . These  $\phi$ -features are strong in Icelandic and Swedish, and  $v_{\text{INF}}^{\circ} \rightarrow \text{Fin}^{\circ}$  movement is obligatory, whereas they are weak in Faroese, where movement does not apply. Icelandic has an incorporating version of the infinitive marker that attracts the infinitive verb and carries it along to  $\text{Fin}^{\circ}$ . Finally, the optional movement of the infinitive marker in Danish, English, and Norwegian is not feature-driven; the  $\phi$ -features on  $\text{Fin}^{\circ}$  are checked by PRO.

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