The Infinitival Marker across Scandinavian

Abstract:
I this paper I argue that the base-position of the infinitive marker is fixed. 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 triggered by scope. In Faroese, Icelandic, and Swedish, on the other hand, it is triggered by φ-feature checking on Finº. In Icelandic and Swedish these φ-features are strong and induce obligatory $vº \rightarrow Finº$ movement, whereas they are weak in Faroese and do not induce $vº \rightarrow Finº$ movement.

1 Base-position of the Infinitive Marker
Within the VP-domain, $Vº \rightarrow vº$ movement is obligatory. I assume the infinitive marker to be merged as the functional head $vº_{INFº}$ above $vºP$ (and auxiliary VP-shells) but below TP as it may follow VP-adverbials:

(1)

![Diagram](phase_edge)
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 \( v_{\text{INF}}^\circ \).

Analyzing the base-position of *to* as a functional verbal head \( v_{\text{INF}}^\circ \) carrying the [Inf] feature captures the facts that (a) the infinitive marker is verbal and (b) [Inf(inite)] is a functional category rather than a lexical one: it’s an extended projection of the lexical verb. The latter is supported by the fact that in many languages (e.g. French, Latin, Polish, and Hebrew) the infinitive marker is realized as inflection on the verb.

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. Thus, [+/-Fin(ite)] on Finº is distinct from [+/-Inf(inive)] and the clausal hierarchy is as follows:

(2) \[ CP [FinP [Adv [NegP [TP [Adv [v_{\text{inf}}P [vP [VP]]]]]]]] \]

### 2 Optional Movement

In Danish, though having the infinitive marker *at* in situ is clearly the unmarked option, it may optionally move to Tº where it precedes left-adjoined VP-adverbials like *ofte* ‘often’, as in (3)b. It can not move to Finº as it can not precede negation, cf. (3)c (at least this is very marked and significantly worse than (3)b):

(3) Da. Vi overtalte dem til ...

We persuaded them to

a. ikke ofte at prøve igen \( (at \) in situ)  

b. ikke at ofte prøve igen \( (v_{\text{INF}}^\circ \rightarrow T^\circ) \)  

c. ??at ikke ofte prøve igen \( (v_{\text{INF}}^\circ \rightarrow \text{Fin}^\circ) \)  

\( \text{to not} \) often \( \text{try again} \)

According to Falk & 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 Finº (their examples only illustrate VP-adverbials):

(4) **EMD:** at lettelige foracte  

to easily despise  

\( (1575, \text{Anders Sørensen Vedel}, \text{Falk & Torp 1900: 300}) \)

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):

(5) **EMD:** sagde sig nu at skulle icke lade hannem vere der lenger  
said SELF now to should not let him be there longer  

\( (1574-1597, \text{Bishop Jens Nielsen, Visitatsbog}, \text{Falk & Torp 1900: 299}) \)
English *to* optionally undergoes $\text{v}^{\text{INF}} \rightarrow T^{\text{o}}$ to precede VP-adverbials, as in (6)b, and optionally $\text{v}^{\text{INF}} \rightarrow \text{Fin}^{\text{o}}$ to precede negation, as in (6)c (cf. Greenbaum & Quirk 1990:162, Radford 1997: 29; see also Gelderen 2004: 237-248): 1

(6) En: It could be dangerous

\begin{itemize}
  \item a. *not* fully to understand the gravity of the situation...
  \item b. not *to* fully understand the gravity of the situation...
  \item c. to not *fully* understand the gravity of the situation...
\end{itemize}

Like English, **Norwegian** has optional $\text{v}^{\text{INF}} \rightarrow T^{\text{o}}$, cf. (7) and (8), as well as optional $\text{v}^{\text{INF}} \rightarrow \text{Fin}^{\text{o}}$, cf. (9) and (10): 2

(7) No: Bjørn Eidsvåg hadde bestemt seg for ikke å gje konsertar i sommar

*“B.E. had decided not to give concerts in the summer.”* (Bergens Tidende)

(8) No: Det var meininga å ikke lyse ut nokon ny anbods

*“It was intention.the to not announce PRT any new tender-competition”* (Bergens Tidende)

(9) No: Dette er eit betre utgangspunkt enn berre å seia at ...

*This is a better starting-point than just to say that* (Bergens Tidende)

(10) No: Annleis vil det vere om dei har halde på med å berre slå

*“It would have been different if they had just kept hitting.”* (Lokalaviser)

3 **No Movement**

In **Faroese**, the infinitival marker never moves to Fin° as it cannot precede negation or sentential adverbials:

(11) Fa: a. Hon hevur lovað ikki at gera tað aftur

*“She has promised to not do that again”* (Zakaris Hansen, p.c.)

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

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

2 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/](http://www.hf.uio.no/tekstlab/).
it). I shall assume it not to be the case and leave the question for future research. In Faroese, then, the infinitival marker never moves out of $v_{\text{INF}^0}$.

4 Obligatory Movement

In Swedish, the infinitive marker *att* obligatorily precedes negation (Holmes & Hinchliffe 2003: 476) and therefore there is obligatory $v_{\text{INF}^0} \rightarrow \text{Fin}^0$:

(12) **Sw:** Vi uppmanade dem *att* aldrig göra om det
We encouraged them to never do again it

(Holmes & Hinchliffe 2003: 476)

(13) **Sw:** För *att* inte tala om alla dessa kvinnor
For to not talk about 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 (14)d show, *að* may move to Fin$^0$ where it precedes negation (contrary to what is claimed by Holmberg 2000: 456, footnote 12). (14)b shows that *að* can not move to T$^0$ between sentential negation and the VP-adverbial and stay there, and (14)c shows that *að* for some reason can not cross two adverbials. As the difference between (14)c and d also shows, VP-adverbials are normally right-adjoined. The markedness of (14)a, is due to either (i) double stylistic fronting (of *ekki* and *strax*), (ii) *strax* is not right-adjoined, or (iii) *að* in situ.

(14) **Ic:** Það væri vitlaust
It would be stupid

<table>
<thead>
<tr>
<th></th>
<th>íkki</th>
<th>strax</th>
<th>að</th>
<th>lesa</th>
<th>þessa bók</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td><em>ekki</em></td>
<td>strax</td>
<td>að</td>
<td>lesa</td>
<td>þessa bók</td>
</tr>
<tr>
<td>b.</td>
<td><em>ekki</em></td>
<td>að</td>
<td>strax</td>
<td>lesa</td>
<td>þessa bók</td>
</tr>
<tr>
<td>c.</td>
<td><em>að ekk</em></td>
<td>strax</td>
<td>lesa</td>
<td>þessa bók</td>
<td><em>strax</em></td>
</tr>
<tr>
<td>d.</td>
<td><em>að ekk</em></td>
<td>lesa</td>
<td>þessa bók</td>
<td>strax</td>
<td>to not read this book immediately</td>
</tr>
</tbody>
</table>

The second (and unmarked) type of movement is the one in (15)a and b where the infinitive verb has moved to adjoin to *að* with subsequent movement to Fin$^0$ of this complex head [að+[v+V]], illustrated in (16). Note that with [að+[v+V]] movement, *strax* can be either left or right-adjoined:

(15) **Ic:** a. Það væri vitlaust að lesa *ekki strax* þessa bók
It would be stupid to read not this book immediately

b. Það væri vitlaust að lesa *ekki* þessa bók *strax*
(16) Icelandic $V^o\rightarrow v_{INF}^0$ incorporation:

Thus, movement to $Fin^o$ is obligatory: either by $a\delta$ alone (as in Swedish), or as the complex head $[a\delta+[v+V]]$ (as in Early Modern Danish):

(17) Ic:
What the examples above show is:

(i) that Icelandic allows split infinitives,
(ii) that Vº→Finº movement is not restricted to finite verbs, but
(iii) that the infinitive marker incorporates the infinitive verb and carries it to Finº as a complex head.

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 (18)c), as the following ECM examples show:

(18) Ic: a. Hann sá [mig ekki lesa bókina]
    b. *Hann sá [mig lesa ekki bókina]
    c. *Hann sá [mig lesa bókina ekki]

    He saw me.ACC read book.the not

    “He saw me not reading the book.”

(19) Ic: Og minn betri helmingur kvað ...

    And my better half said

    a. [mig ekki hafa látið svo ófriðlega í svefni]
    b. *[mig hafa ekki látið svo ófriðlega í svefni]

    me.ACC have not acted so unpeacefully in sleep

    “And my better half said that I hadn’t slept so unpeacefully.”

Johnson & 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 can not have a NegP:

(20) 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 & 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 (21) and (22):

(21) Ic: Pétur hafði talið

    Peter had believed

    a. *[Mariú ekki hafa vaskað upp diskana]
    b. *[Mariú hafa ekki vaskað upp diskana]
    c. [Mariú hafa vaskað upp diskana]

    Mary (not) have washed up dishes.the

    “Peter had believed that Mary had (not) washed the dishes.”

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

(22) Ic: a. Pétur taldi [Mariú ekki hafa vaskað upp diskana]
    b. *Pétur taldi [Mariú hafa ekki vaskað upp diskana]

    Peter believed Mary have not washed up dishes.the

    “Peter believed that Mary had not washed the dishes.”

    (Gunnar Hrafn Hrafnbjargarson, p.c.)
The analysis of Johnson & Vikner (1998) admittedly also wrongly predicts control infinitives to be extraction islands. They argue that $a\delta$ is base-generated in the higher C$^0$ in a recursive CP-domain and that PRO is topicalized to avoid government by the infinitive verb, which they argue is moved to the lower C$^0$, cf. the example in (23). Thus, they have to make additional stipulations. The present analysis does not make such a prediction as $[a\delta+[v+V]]$ moves to C$^0$, cf. the structure in (24) (whatever the status of government in contemporary linguistic theory, the facts remain):

(23) Ic: Hvernig$_1$ lofaði Pétur Jóni ...
    How promised Peter$_{NOM}$ Jón$_{DAT}$

$[CP \ a\delta \ [CP \ PRO \ fara \ [IP \ til \ London \ á \ morgun \ t1 \ ]]]?$

To go to London tomorrow

(Johnson & Vikner 1998: 31, (78b))

(24) Ic: Hvernig$_1$ lofaði Pétur Jóni ...
    How promised Peter$_{NOM}$ Jón$_{DAT}$

$[CP \ t1 \ C^0 \ [FinP \ PRO \ [Fin^\delta \ a\delta \ fara] \ til \ London \ á \ morgun \ t1 \ ]]]?$

To go to London tomorrow

The possibility of moving $[at+[v+V]]$ in Early Modern Danish and $[a\delta+[v+V]]$ in Icelandic seems to correlate with / be licensed by $V^o\rightarrow Fin^o$ ("V$^o$-to-I$^o$") movement. Among the modern Scandinavian languages, only Icelandic has $V^o\rightarrow Fin^o$ 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 Summary

The following table is a summary of the distribution of the infinitive marker (recall that negation and sentential adverbials are merged between Fin$^0$ and T$^o$, and ‘VP-adverbials’ are merged between T$^o$ and $v_{INF}^o$):

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

<table>
<thead>
<tr>
<th></th>
<th>Fa: at</th>
<th>Da: at</th>
<th>EMD: at, to, No: $\delta$</th>
<th>Ic: $a\delta$, Sw: att</th>
<th>EMD: at+Verb</th>
<th>Ic: $a\delta$+Verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fin$^o$</td>
<td>x</td>
<td>x</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>T$^o$</td>
<td>x</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>$v_{INF}^o$</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
</tr>
</tbody>
</table>

The base-position of the infinitive marker is the same cross-linguistically, namely in the functional projection $v_{INF}P$ at the top of the VP-domain. This is different from what is assumed elsewhere (but see also Ernst 1992: 129 and Pullum 1982: 197; see Christensen 2005 for a discussion of these and other proposals).

Contrary to what is argued by Johnson & Vikner (1998), Icelandic infinitive verbs do not move on their own as $V^o$s (they argue that the verb moves through Fin$^o$ to C$^0$). The infinitive marker
að attracts and incorporates the infinitive verbs prior to movement to Fin°. For this reason the verb is able to escape the vP 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 φ-features.

In Icelandic ECM constructions (non-control infinitives), there is no infinitival að and therefore no movement to Fin° as the infinitival verb itself cannot check the features on Fin°. I have presented data that show that ECM constructions may have a 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. (24), which the analysis in Johnson & Vikner (1998) predicts them to be.

6 Triggers for Movement

In control infinitives, PRO checks EPP on Fin°. I suggest that the infinitive marker may check φ-features on Fin°. This is clear with Swedish att and Icelandic að which obligatorily move to Fin°. This explains why the infinitive marker is obligatory in control infinitives.

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

<table>
<thead>
<tr>
<th></th>
<th>PRO</th>
<th>Infinitive marker</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPP</td>
<td>Inf, φ</td>
<td></td>
</tr>
</tbody>
</table>

(27) Sw:

\[
\text{FinP} \\
\text{Spec} \\
\text{PRO} \\
\text{Fin°} \\
\text{NegP} \\
\]

\[
\text{att} \quad [\varphi] \\
\text{Fin°} \quad [\#φ] \\
\text{Spec} \quad \text{inte} \\
\]

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 Fin° assigns/licenses/valuates (nominative) Case, Fin° has φ-features:

(28) Iff Fin° valuates Case, Fin° has φ-features

That means that Fin° has no φ-features in ECM constructions (and Icelandic DAT-ACC clauses which I ignore here, but see Hrafnbjargarson 2004).

In ECM constructions, the subject DP moves to check EPP on Fin°. There are no (strong unvalued) φ-features on Fin°, and Icelandic að like Swedish att are not attracted to Fin° and therefore, by economy, cannot move to Fin°, cf. (29)a and b.
In Christensen (2005) I argue that there are two types of infinitive, 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 (29)c, is that ECM verbs select [-Inf] clauses.

In raising constructions, the raising subject DP checks φ and EPP on both the embedded Finº and the matrix Finº. Again, ad/att would not be able to check φ and is therefore not licensed.

Danish at, English to, and Norwegian å are obligatory in both ECM and Raising constructions:

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.

The distribution of the infinitive marker is summarized in the table in (34) below (see also Beukema & den Dikken 1989: 66-67):

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 (25) above follows: In Icelandic and Swedish, the infinitive marker checks the φ-features (obligatory v$_{INF}^o$→Fin$^o$ movement), while in Danish, English, and Norwegian this is done by PRO (optional v$_{INF}^o$→Fin$^o$).

(35) Features checked by PRO and the infinitive marker (version 2):

<table>
<thead>
<tr>
<th></th>
<th>PRO</th>
<th>Infinitive marker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ic að+Verb, Sw att</td>
<td>EPP</td>
<td>Inf, φ</td>
</tr>
<tr>
<td>Da at, En to, No å</td>
<td>EPP, φ</td>
<td>Inf</td>
</tr>
</tbody>
</table>

As mentioned in section 4 above, the movement of the Icelandic að without the infinitival verb is marked (movement of [að+[v+V]] is preferred). The feature distribution in (35) provides us with a possible explanation for this markedness. Not moving að is marked because the φ-features on Fin$^o$ remain unchecked. Moving að alone to check the φ-features on Fin$^o$ is marked because the infinitival verb is ‘stranded’, or rather að has failed to incorporate it.

I propose that the optionality of movement of Danish at, English to, and Norwegian å has to do with scope, (e.g. whether the infinitive scopes over negation or vice versa) and/or information structure (focus and presupposition), not feature checking. The adverbials cannot move (assuming that XP movement is driven by EPP, movement to adjunction is out), but the infinitive marker, being a head, can. In this way, the scope-taking elements are XPs (demanding that certain other elements, including heads, be in their domain) rather than heads (cf. 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 has retained this ability. This indicates that it might be licensed by Vº→Finº movement (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]).

(36) Features (on or) checked by PRO and the infinitive marker (version 3):

<table>
<thead>
<tr>
<th></th>
<th>PRO</th>
<th>Infinitive marker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ic að</td>
<td>EPP</td>
<td>Inf, +Incorp, φ</td>
</tr>
<tr>
<td>Sw att</td>
<td>EPP</td>
<td>Inf, –Incorp, φ</td>
</tr>
<tr>
<td>Da at, En to, No å</td>
<td>EPP, φ</td>
<td>Inf, –Incorp</td>
</tr>
</tbody>
</table>

If it is true that Faroese at does not leave v$_{INF}^o$, it is an interesting ‘intermediate’ candidate. As shown in (34), it patterns with its Swedish and Icelandic counterparts, as at is not licensed in ECM and Raising constructions but obligatory in control infinitives (examples from Lockwood 2002: 138-139; see also Thráinsson et al. 2004):

(37) Fa: a. Hon ynskti sær [PRO at verða jarðað í Borðoy]
    b. *Hon ynskti sær [PRO verða jarðað í Borðoy]
    She wished SELF to be buried in Borðoy.

3 I leave to future research to answer the question why Icelandic and Swedish PRO can not check φ-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 φ-features from the infinitive marker, reducing the number of moving elements by one.
In control infinitives, the infinitive marker stays in $v_{\text{INF}}^o$ because it can not check $\varphi$ on $\text{Fin}^o$ (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 \textit{at checks $\varphi$ in control infinitives ‘covertly’ and PRO checks EPP, and it is blocked in ECM and Raising because $\text{Fin}^o$ has no $\varphi$-features}. In control infinitives, $\text{Fin}^o$ probes for a $\varphi$-match and \textit{at} in $v_{\text{INF}}^o$ is available because it is already at the phase edge. In other words, instead of $\text{Fin}^o$ attracting \textit{at} as in Icelandic and Swedish, $\text{Fin}^o$ and \textit{at} enter into long-distance agreement. If correct, there is thus a difference in strength of the $\varphi$-features on $\text{Fin}^o$:

7 Conclusions

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

The variation can be accounted for by assuming movement of the infinitive marker, either to $T^o$ or to $\text{Fin}^o$, apart from the option of having the infinitive marker remain in situ. Movement to $\text{Fin}^o$ in Faroese, Icelandic and Swedish is triggered by $\varphi$-feature checking. The $\varphi$-features on $\text{Fin}^o$ are strong in Icelandic and Swedish and $v_{\text{INF}}^o \rightarrow \text{Fin}^o$ movement is obligatory while 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 $\text{Fin}^o$.

Optional movement on the infinitive marker in Danish, English, and Norwegian is triggered by scope, while the $\varphi$-features on $\text{Fin}^o$ are checked by PRO.
References


