
THE POSITION OF THE VERB IN SCANDINAVIAN INFINITIVES: IN V° OR IN C° BUT NOT IN I°

I. Introduction

1.1 Infinitival verb movement to C°

Icelandic is the only Scandinavian language in which the verb always moves past negation and sentence adverbials in embedded clauses. We shall take this as evidence that Icelandic as opposed to the other Scandinavian languages has V°-to-I° movement, following e.g. Kosmeijer (1986), Holmberg & Platzack (1990:101), Rohrbacher (1994:30-69), and Vikner (1994a:118-127, 1994b:ch. 5). If we assume that negation and sentence adverbials mark the left edge of VP (they could be adjoined to VP or to TP or they could be in TP-spec), the following embedded questions clearly show that the verb has to move to I° in Icelandic and remain in V° in Swedish:

(1) Inf.
   a. *Eg spurri af hverju hefri Helgi oft lesiessa bök
   b. Eg spurri af hverju Helgi hefri oft lesiessa bök
   c. *Eg spurri af hverju Helgi oft hefri lesiessa bök
   I asked why (had) Helgi (had) often (had) read this book
      (from Vikner (1994a:127, 15))

(2) Sw.
   a. *Jag frågade varför hade Helge ofta läst denna bok
   b. ??Jag frågade varför Helge hade ofta läst denna bok
   c. Jag frågade varför Helge ofta hade läst denna bok
   I asked why (had) Helge (had) often (had) read this book

In the references cited above, the difference between (1) and (2) is linked to the difference between the strong agreement in Icelandic and the weak one in the other Scandinavian languages, as witnessed-by the inflectional paradigms:

1 For more discussion of Faroese, see e.g. Rohrbacher (1994:48,130), Vikner (1994a:123-125, 1994b:sec. 5.3.3) and references cited there.

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In the light of the above, it is particularly interesting to notice that a parallel difference seems to exist between Icelandic and the other Scandinavian languages in a construction where there is no agreement inflection to be found on the moved verb: In control infinitives, the verb also leaves VP in Icelandic.

In the other Scandinavian languages, the verb has to remain inside VP in such constructions:

In our view, this analysis does not differ crucially from the analyses, where a (different) functional projection intervenes between CP and IP: The head of this projection is labelled Agr1 in Roberts (1993), and Agr2 in Sigurjónsdóttir (1993:191), suggests that the infinitive is in T rather than in F, but to some extent this suggestion is parallel to the other analyses, insofar as it is assumed that the subject is case checked in TP-spec rather than in IP-spec (which in turn is where the topic occurs).

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If the relevant $C^\circ$ is forced to exist (and if it is empty at D-structure), as is the case in embedded topicalisations, then the movement of the finite verb has to take place:

\[ \text{If embedded V2 is dependent on} \quad \text{matrix verb properties} \quad \text{then} \quad \text{CP-recursion} \]
As we saw in (17) above, there is one context in Icelandic (and Yiddish) which never allows V2: embedded questions, which thus provides the evidence for V-to-IP movement independent of V2:

As for the less than complete ungrammaticality of (18c), it might be an effect of (18e) violating less constraints that the other options: (18d-g) all violate relativised minimality, but in addition, (18f,g) also violate the following constraints: The top C in (18) is selected by the matrix verb as the head of an embedded question, which means that even at D-structure it is equipped with the feature [+w]. If the finite verb subsequently moves into this (higher) C, this feature will be deleted, which is a violation of the projection principle, which accounts for the ungrammaticality of (18a,d) (cf. also Rizzi & Roberts (1989:18) and Vikner (1994b:sec. 3.3.2)). (18f,g) are also ruled out as violations of V2, i.e. here the finite verb could have moved into a truly empty C, but it does not. (18g) (like (18c)) is furthermore also ruled out as a violation of V-to-IP movement, a finite verb may not stay in VP in Icelandic, irrespective of whether the matrix verb is taken to be a bridge verb or not. This is important because not all subject control verbs are bridge verbs: Of the verbs that allow infinitival complements with subject-controlled PRO as well as finite complements, some allow embedded V2 (e.g. promise, claim, decide) and some do not (e.g. demand, regret) in those Germanic languages where embedded V2 is only possible under bridge verbs (i.e. outside Icelandic and Yiddish).

For every language except Icelandic, two questions have to be answered: Why is the Icelandic word order ruled out? How does PRO then avoid being governed? The above considerations provide at least a partial answer to the first question (cf. also footnote 11): The reason why the Icelandic word order in control infinitives is not found with any control verbs in French or Italian nor with non-bridge control verbs in Swedish, Danish, Norwegian or English is that these verbs do not allow CP-recursion.

2. Ruling out the alternative analyses of Icelandic "að"

Let us start by making explicit our background assumptions. We follow Chomsky (1981:60, 191), and much subsequent work, in taking PRO to be impossible in governed positions. We combine this with Kayne's (1991:667) proposal that infinitival markers, such as Icelandic að, French de, and English to are among those elements that cannot govern PRO. Further, we will adopt the by-now commonplace "Derived Subjects Hypothesis," which claims that the D-structure position of subjects is within VP. Finally, we assume that whatever is responsible for guaranteeing that overt subjects are moved into their surface position also forces PRO to leave its D-structure position. Thus, for instance, if overt subjects must move to Specifier of AgP in order to check Case, we have no account to offer here, but can only point out that the data concerning extraction in embedded V2 contexts in Icelandic is notoriously difficult, cf. e.g. Vikner & Schwartz (1992:sec. 3.3 and 3.5) and references cited there.

In this section, we argued that, as opposed to all the other Germanic languages, the possibility of embedded V2 does not depend on lexical properties of the matrix verb in Icelandic (and Yiddish). As we want to suggest in this paper that all Icelandic control infinitives are cases of CP-recursion, it is important to establish that CP-recursion is generally available in Icelandic, irrespective of whether the matrix verb is taken to be a bridge verb or not. This is important because not all subject control verbs are bridge verbs: Of the verbs that allow infinitival complements with subject-controlled PRO as well as finite complements, some allow embedded V2 (e.g. promise, claim, decide) and some do not (e.g. demand, regret) in those Germanic languages where embedded V2 is only possible under bridge verbs (i.e. outside Icelandic and Yiddish).

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thereby passing the Case Filter, we will assume that PRO too raises to the Specifier of the highest IP within infinitival clauses to satisfy the Case Filter (here we are thus following Sigurðsson (1989:183-192, 1991:328-339), Chomsky & Lasnik (1993:561), and Thráinsson (1993:206).

These assumptions combine to ensure that PRO is driven into the highest Specifier position of infinitives, and that this position cannot be governed, even by infinitival markers. It is this avoidance of government by an infinitival marker that we will show is responsible for the obligatory CP recursion in Icelandic infinitival clauses.

2.1 Why must CP-recursion take place?

Why does CP-recursion have to take place? Why is it not possible to have just one C, containing aØ, and to leave the infinitive in V, as in (19a.b)?

(19) a. Pétur lofði Jóni ...
   Pétur promised Jón-D ...
   [CP e aØ [IP PRO þo [VP fara til London & morgun]]]
   a. "... [CP e aØ [IP PRO þo [VP fara til London & morgun]]]
   b. "... [CP PRO aØ [IP t þo [VP fara til London & morgun]]]
   ... to after-all go to London tomorrow

In (19a) PRO would be governed by aØ; IP is not a barrier, because of its "defective character", cf. e.g. Chomsky (1986:15).

In (19b) PRO would be governed by lofði 'promised'; CP is not a barrier, because it is L-marked by lofði, cf. Chomsky (1986:13).

In other words, as no version without CP-recursion is possible, CP-recursion has to take place.

2.2 Why must the infinitive move to C?

Even given CP-recursion, what forces the infinitive to move?

(20) a. Hvernig lofðið þu aØ búa alftaf grænmetið til?
   "How promised you to prepare always vegetable-the PRT?"
   b. Hvernig lofðið Pétur Jóni aØ fara til London & morgun?
   "How promised Pétur Jón-D to go to London tomorrow?"
   c. Með hvaða flugvél lofðið Pétur Jóni aØ fara til London?
   "With which airplane promised Pétur Jón-D to go to London?"
   d. Hvernir lofðið Pétur Jóni aØ fara til London?
   "When promised Pétur Jón-D to go to London?"

If this line of argumentation is correct, this would then further show that V2 is not caused by tense- or agreement-features in C, given that infinitives have neither tense nor agreement. The fact that Danish at and Norwegian to and English zu (and in our view also Swedish att) do not have to move to C, cf. e.g. (45) below, shows, however, that V2 may be caused by verb-specific features in C.

2.3 If the infinitive moves to C, why is topicalisation not possible?

Given CP-recursion, cf. 2.1, and given that the infinitive has to move, cf. 2.2, why is it not possible for a topicalised element to occur between aØ and the infinitive, i.e. in the lower CP-spec?

If there was a topicalised element in the lower CP-spec, PRO would have to be in IP-spec, and then PRO would be governed by the infinitive in C, (21a.b):

(21) a. Pétur lofði Jóni ...
   Pétur promised Jón-D ...
   [CP e aØ [IP PRO þo [VP fara til London]]]
   a. "... [CP e aØ [IP PRO þo [VP fara til London]]]
   b. "... [CP PRO aØ [IP t þo [VP fara til London]]]
   c. "... [CP aØ [IP PRO þo [VP fara til London & morgun]]]
   ... to after-all go to London tomorrow

PRO cannot occur in IP-spec, regardless of whether C contains aØ or the infinitive, because IP cannot be a barrier, as argued in section 2.1. Nor can PRO occur in the higher CP-spec, as it would be governed by the matrix verb.6

PRO therefore has to occur in the lower CP-spec. The lower CP is a barrier, because it is neither IP nor is it L-marked, cf. that the lower CP is only the sister of a complementiser, not of a theta-assigner.7

6The higher CP-spec may not contain a topicalised element either, but this is a different phenomenon: The specifier of an overt (non-verbal) C may never contain an overt element, although a trace is allowed. This also holds for finite clauses across the Germanic and the Romance languages. As far as we know, no satisfying account for this has ever been suggested.

7This analysis makes the incorrect prediction that extractions out of such infinitives should be impossible. The examples in (a-e) are almost completely acceptable in the relevant reading, i.e. with the extracted element interpreted as related to the embedded infinitive. In (a,b,d) the other reading, with the extracted element related to the matrix clause, is fully acceptable, in (i,e) it is ruled out for reasons of incompatibility with the matrix predicate or tense:

(i) a. Hvernir lofðið þu aØ búa alftaf grænmetið til?
   "How promised you to prepare always vegetable-the PRT?"
   b. Hvernir lofðið Pétur Jóni aØ fara til London & morgun?
   "How promised Pétur Jón-D to go to London tomorrow?"
   c. Með hvaða flugvél lofðið Pétur Jóni aØ fara til London?
   "With which airplane promised Pétur Jón-D to go to London?"
   d. Hvernir lofðið Pétur Jóni aØ fara til London?
   "When promised Pétur Jón-D to go to London?"
3. Icelandic Infinitives which are not Control: No CP-Level at all

The next question is why verb movement in Icelandic infinitives is limited to control infinitives. We want to suggest that the reason is that other infinitives do not have a C' at all.8 Holmberg (1986:156), Sigurðsson (1989:50), Sigurjónsdóttir (1989:23), and Thráinsson (1986a:257) all point out that in such constructions, the infinitive cannot precede the negation or a sentential adverbial. However, as shown by Sigurðsson (1989:85-86), it is actually not possible to have a negation or a sentential adverbial anywhere to the left of the object of the infinitival verb in any of the four following types of infinitival constructions.

Exceptional case marking:

(22) Ic. a. •Petur hafói talið Mariu ekki hafa vaskað upp diskana
b. •Petur hafói talið Mariu hafa ekki vaskað upp diskana
c. Petur hafói talið Mariu hafa vaskað upp diskana

Petur had believed Maria-A (have) not (have) washed up dishes-the

Raising:

(23) Ic. a. •Maria hafóir virð ekki hafa vaskað upp diskana
b. •Maria hafóir virð hafa ekki vaskað upp diskana

c. Maria hafóir virð hafa vaskað upp diskana

Maria had seemed (have) not (have) washed up dishes-the

Causatives with let:

(24) Ic. a. •Mör hafóir virð María ekki hafa vaskað upp diskana
b. •Mör hafóir virð María hafa ekki vaskað upp diskana

c. Mör hafóir virð María hafa vaskað upp diskana

Me-D had seemed María-N (have) not (have) washed up dishes-the

One possible answer might be that the infinitival clauses selected by raising verbs are only VPs in Icelandic but TPs or IP's in Danish, and that the relevant adverbial/negation must be joined to TP or in TP-spec.

4. The difference between the Icelandic infinitival marker and the ones in Swedish and French

We have suggested in the previous sections that control infinitives in Icelandic require CP-recursion and therefore obligatory movement of the verb past negation, in order to create a position for PRO in which it will escape government. In particular, by creating a CP boundary between PRO and a complementiser, CP-recursion creates a structure in which PRO can elude government by this complementiser. The fact that CP-recursion is not forced in the control infinitives of Norwegian and Danish then follows from the fact that these languages do not have a complementiser associated with non-finite clauses: the Danish and Norwegian infinitival markers are not in C' (cf. section 4.3 below). In general, therefore, our proposal pairs the obligatoriness of CP-recursion in infinitival clauses with the presence of the

8In this paper, we do not discuss modal verbs, but we assume that in all the languages discussed, the complements of modal verbs are VPs (cf. e.g. Thráinsson & Vikner (1993:sec. 4.1)). For discussions of the particular properties of Icelandic modal verbs, some of which require the presence of the infinitival marked að in their complement, see e.g. Thráinsson (1986a, 1993) and Thráinsson & Vikner (1993).

9In all of (22)-(26) and (28)-(29), Icelandic ekki 'not' can be exchanged for aldrei 'never' or ofte 'often', and in (27) Danish ikke 'not' for aldri 'never' or ofte 'often', with no consequences for the grammaticality status of any of the examples.

Perception verbs:

(26) Da. a. Marie ser ud til ikke at være i godt humør
b. Marie ser ud til at være i godt humør

Consequently, the question whether or not the infinitive moves cannot be answered, as there is no way to find out. This leaves us with a different unanswered question, namely how come it is possible in Danish to have a negation in e.g. a raising constructions, (27), when this is not possible in the exactly parallel construction in Icelandic, (28)-(29).

(27) Da. a. Marie ser ud til ikke at være i godt humør
b. Marie ser ud til at være i godt humør

One way of making our analysis compatible with these facts could be to adapt the analysis suggested in Rizi (1991, 1992, 1993), under which CP-spec may turn into an A-position if occupied by the subject in a V2-construction. This derives from a definition of A-positions as all positions which either receive a thematic role or are construed with agreement. CP-spec counts as being construed with agreement when it contains a subject which agrees with a verb in C'. It might be a problem is that the verb which occurs in C' in our cases is an infinitive, i.e. a verb that does not show any overt agreement.

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infinitival marker in C* in infinitival clauses. It is widely believed, however, that there are languages which have infinitival markers in C* but for which we nevertheless would not want to conclude that CP-recursion is obligatory. French de and Italian di, for instance, have been argued to be in C* (cf. Kayne (1991:667-668) and references there), and yet the obligatory movement of the infinitival verb that we are taking to be indicative of CP-recursion is absent in these languages. As for Scandinavian, Platzack (1986a) argues that att is in C* in the control infinitives of Swedish, thereby grouping Swedish with Icelandic. And yet Swedish control infinitives lack verb movement, just as its mainland Scandinavian neighbours do, cf. (6) (repeated here as (30)):

(30) Sw. a. *Maria lovade att läna inte läsa boken
   b. Maria lovade att inte läsa boken

In this section we take up these apparently problematic cases. We begin by sketching two strategies that might appear promising for explaining away the apparent counterexamples of the Swedish and French infinitival markers, but which we believe fail. We then turn to a suggestion which we believe succeeds; in section 4.3 we argue that Swedish att is, in fact, not in C*, and in section 4.4 we will argue that French makes use of a mechanism (not found in Germanic) that protects PRO from government.

10 Cecilia Falk (p.c.) points out that there is no verb movement in Old Swedish control infinitives, as seen by the infinitival following the negations in (i) and (ii):

(i) OS. Siunda är at ei *bryta skrivitalmen
   Sin is to not make(f) confession
   (from Et jomsvikens levendalium, 1276-1307, Stephens (1847:166))

(ii) En att aff them hafde lovat aldrigh åta köt om löphardagin
   One of them had promised never eat meat on Saturdays
   (from Järnecubboken, 1835, Klemm (1877:119))

In terms of our analysis, the fact that the verb stays inside VP must mean that PRO is in IP-spec and has not moved to CP-spec, which leaves open two questions:

- The first is how PRO can avoid being governed by at in (i). The answer could be whatever it is for Modern Swedish, i.e. either, that at does not count as a governor (cf. section 4.1 below), or that at is in CP-spec (section 4.2) or that at is id Π (section 4.3). We have not been able to check whether the argumentation concerning Modern Swedish in sections 4.1-4.3 might hold for Old Swedish. It would be particularly interesting to know whether Old Swedish at was possible in ECM-constructions and in raising constructions. Our analysis would lead us to expect the answer to be yes, as it is for modern Swedish (cf. section 4.3 below).
- The second question left open by (i) and (ii), how PRO can avoid being governed by the matrix verb, will be discussed in footnote 11.

A different kind of complication is presented by 16th century Danish, which, according to Falk & Torp (1990:299-300), could have the modern Icelandic word order with auxiliaries and the modern (and old) Swedish word order when no auxiliaries were present.

11 We will thus be concerned below with explaining why (30b) is not ruled out. As for the impossibility of (30a) (also in Danish and Norwegian), we will simply have to say that control verbs subcategorise for the infinitival marker in a particular position, which is Π in Swedish and V* in Danish and Norwegian (cf. section 4.3). In other words, the Icelandic word order, (30a), is ruled out in all cases in Swedish, Danish, Norwegian and English by the infinitival marker occurring in Π or in V*. The empty C* does not attract the infinitival marker, but only verbs. The infinitival verb, however, cannot move across the infinitival marker, because of the Head Movement Constraint (c.f. e.g. Chomsky (1986:71), Rizzi (1990:11), Vikner (1994b:sec. 2.4).

4.1 Deletion of the infinitival marker in C*

Let us begin by concentrating on the difference between Swedish and Icelandic with respect to CP-recursion. If we grant that in both languages, the infinitival marker is in C*, then we must search for another factor that distinguishes Icelandic from Swedish which might allow PRO to survive in Swedish control infinitives without CP-recursion, which would then have the following structure:

(31) Sw. María lovade [c* att] [p PRO inte läsa boken ]
   Maria promised to not read book-the

One salient difference that has the right characteristics is complementiser deletion. The Icelandic infinitival marker, att, cannot delete, but the Swedish infinitival marker, att, may:

(32)

a. Sw. María lovade att PRO läsa artikel
   c. ic. *Maria lofaöi aö PRO lesa greinina
b. Sw. María lovade PRO läsa artikel
d. ic. *Maria lofaöi PRO lesa greinina

María promised to read article-the

((32a,b) based on Holmberg (1990:238, (3b)))

If we suppose that complementiser deletion is simply absent from Icelandic, but present in Swedish either at S-structure or LF, then complementiser deletion will be able to rescue PRO from government by a complementiser in Swedish where only CP-recursion can in Icelandic. In those cases where C* is filled at S-structure, we might conjecture that complementiser deletion will apply at LF. Supposing that the anti-government requirement on PRO need be satisfied only at LF, we then predict that Swedish control infinitives can both have att in C* (at S-structure) and fail to invoke CP-recursion in just those cases where att can delete at LF.

This analysis would then have Swedish display at LF what surfaces in English infinitivals:

(33) En. a. *Sally wants [p for [p PRO to go]]
   b. Sally wants [p [p PRO to go]]

In lieu of CP-recursion, English here exploits the possibility of for-deletion to rescue PRO from government.

One immediate difficulty for this view is that it requires an account of the difference between the phenomena illustrated by (33) in English and (32a,b) in Swedish. As (33a) indicates, we cannot allow the anti-government requirement to be satisfied at LF in English, as the strategy being explored here would require of the Swedish (32a). If LF Complementiser Deletion were sufficient, then it should be possible to create an LF from (33a) by Complementiser Deletion that would be identical to the grammatical (33b), incorrectly predicting (33a) to be acceptable.

Another difficulty for this account is that it would require positing
complementiser deletion at LF in configurations where, judging from S-structure conditions on complementiser deletion, we would not expect it to be possible. For example, as in English, complementiser deletion is blocked in Swedish in CPs that are complements to nouns, and yet it is possible to find an infinitival clause in this position in Swedish:

(34) a. Sw. Att Christian saknade förmåga att skämmas, visste hon
   b. *Att Christian saknade förmåga att skämmas, visste hon
   That Christian lacked ability (to) be-ashamed, knew she
   ((34a) from Hulthén (1944:270))

Similarly, it is not possible to find complementiser deletion overtly in CPs that are complements to adjectives in Swedish. Yet, once again, it is possible to find an infinitival in this position:

(35) a. Sw. Sigyn var alls inte ovillig att svara
   b. *Sigyn var alls inte ovillig att svara
   Sigyn was at-all not unwilling (to) answer
   ((35a) from Hulthén (1944:276))

The same difficulty reemerges in Romance. Just as in Swedish, complementisers are unable to delete from the clausal complements to nouns, but infinitival clausal complements to nouns and adjectives can host PRO subjects:

(36) a. Fr. Jean a peur de manquer le train
   b. *Jean a peur de manquer le train
   Jean has fear (to) miss the train
   (37) a. It. Gianni ha paura di perdere il treno
   b. *Gianni ha paura di perdere il treno
   Jean is ab le (to) speak English
   (38) a. It. Gianni cerca qualcuno con cui di parlare
   b. *Gianni cerca qualcuno con cui parlare
   John looks-for someone with whom (to) talk
   (based on Kayne (1984:105, 9, 10, 20, 21))

Because we can see no reason why the conditions on complementiser deletion should differ at S-structure and LF, we will abandon this solution to the problem that Swedish and French infinitives pose. PRO can exist in the infinitives of these languages even in contexts where the infinitive marker is unable to delete. Thus, these languages must exploit another means of protecting PRO from government by these infinitival markers.

4.2 The infinitival marker is in CP-Spec

4.2.1 Kayne (1991) on French "de" and Italian "di"

In Kayne (1984), it was argued that the French infinitival marker de ‘to’ is in C (cf. (8) above), as opposed to English to, which is in I. Four supporting arguments are given: 1. de is impossible in raising (its presence would cause a that-trace violation (1984:106)); 2. de is impossible in ECM (also that-trace violation (1984:107, 111)); 3. de must precede negation, (1984:108), and 4. de is not compatible with a wh-element in CP-spec (explained by the so-called ‘douly filled Comp filter’ (1984:105)).

To Kayne (1991:667), de cannot possibly be in C, as it would govern PRO in IP-spec. To avoid losing the above generalisations, Kayne (1991:668) suggests that de is in CP-spec. This also gives a better account for the fourth property, the incompatibility with a wh-element in CP-spec:

(38) a. Fr. Jean cherche quelqu’un avec qui de parler
   b. Fr. Jean cherche quelqu’un avec qui parler
   c. It. Gianni cerca qualcuno con cui di parlare
   d. It. Gianni cerca qualcuno con cui parlare
   John looks-for someone with whom (to) talk
   (based on Kayne (1984:105, 9, 10, 20, 21))

de/di and avec qui/con cui could not both be in CP-spec.

It seems to us, however, that the assumption that de/di is in CP-spec is rather problematic. One problem is that adjunct extractions out of control infinitives are predicted to be impossible as CP-spec is already filled by de/di, i.e. the infinitival constructions, (39), would be expected to behave like wh-islands, (40). This is not borne out:

(39) a. Fr. Comment as -tu promis [cp Xi de cuire les légumes Xi]?
   b. It. Come hai promesso [cp Xi di cucinare la verdura Xi]?
   How have (you) promised to cook the vegetables?
   (40) a. Fr. Comment voudrais -tu savoir [cp quoi, cuire Xi Xi]?
   b. It. Come vorresti sapere [cp che cosa, cucinare Xi Xi]?
   How would (you) know what to cook?

We therefore abandon an account that relies on the hypothesis that de/di nevertheless are in CP-spec (The question how PRO in IP-Spec can then escape government from de/di in C will be discussed in section 4.4 below). In the following subsection we shall see that the same argumentation holds for Swedish.

4.2.2 The consequences of Kayne (1991) for Swedish "att"

Kayne (1991:677, Fn 75) suggests that Icelandic að (in control infinitives) could either be in C, in which case the infinitive would have to be adjoined to I-bar to protect PRO from being governed (parallel to what Kayne (1991:673) assumes for Italian), or it could be in CP-spec (for arguments against the latter option, cf. Thráinsson (1993:192-196)). Swedish control att, however, would have to be in CP-spec, as the verb
clearly does not move anywhere, hence if *att were in C', nothing would protect PRO in IP-spec from being governed by *att in C'.

However, as discussed above for the French and Italian (39) and (40), adjunct-extractions out of control infinitivals would be predicted to be impossible as CP-spec is already filled (by *att), i.e. the infinitival construction, (41a), would be expected to behave like a wh-island, (41b), which is not borne out:

\[
\text{(41) Sw. a. } \text{På vilken sätt, har du lovad} [\text{CP } \text{att tillägga grönsaker} \text{?}]
\]
\[
\text{In which way have you promised to cook vegetables-the?}
\]
\[
b. \text{*På vilken sätt, skulle du vilja veta} [\text{CP vilka grönsaker, har han tillagat} \text{?}]
\]
\[
\text{In which way should you want (to) know which vegetables he has cooked?}
\]

Furthermore, if *att is in CP-spec, what would stop the infinitive from moving to C'? If this were so, *att could never govern PRO, as PRO is in IP-spec.\(^{12}\)

As a first argument for *att being in C', it is often pointed out that it occurs to the left of negation and sentence adverbials.\(^{13}\) This however only shows that it is higher than Danish or Norwegian \(\text{at}\), i.e. that it is either in \(\Gamma'\) or in C'.

\(^{12}\)Another question is then why PRO is not governed by the matrix verb in (44) (or in the Danish and Norwegian (45a,b)). We would like to suggest the existence of an empty CP-level in these examples, caused by control verbs selecting CPs rather than IPs.

\(^{13}\)Notice that the very same possibility has to be impossible in (19b). An empty extra CP-level would also be able to protect PRO in the lower CP-spec from government by the matrix verb, incorrectly predicting it to be grammatical.

**Note:** *Petur* promised to (read) not (read) book-the

Data like (43a) also present a very serious problem for the approach in section 4.1: Here also *att* may not be deleted. PRO would therefore have to be governed at all levels, leaving us without an account for the difference between Swedish and Icelandic.

### 4.3 Swedish 'att' is in \(\Gamma'\)

We believe that the French and Swedish cases have separate solutions. In this section, we sketch our proposal for Swedish.

The structure in (31) above, with *att in C*, is the one which is generally assumed, cf. e.g. Platzack (1986b:123), Holmberg (1986:154), Beukema & den Dikken (1989:66) and Sigurðsson (1989:52). We would like to suggest, however, that Swedish *att* is in \(\Gamma'\) rather than in C:

\[
\text{(42) Sw. a. Maria lovade} [\text{CP } \text{att [eer] [IP PRO inte läsa boken ]}]
\]
\[
b. \text{*Maria lovade} [\text{CP } \text{att [eer] [IP PRO inte läsa boken ]}]
\]
\[
\text{Maria promised to (read) not (read) book-the}
\]

Finally, in infinitival relative clauses, CP-spec would have to contain both *att and an empty operator (cf. that the French version of (43) cannot contain de, but \(\text{at}\)):}

\[
\text{(43) Sw. a. Jag har ett försälag, [CP OP1 att [IP PRO göra dig t1]]}
\]
\[
b. \text{*Jag har ett försälag, [CP OP1 att [IP PRO göra dig t1]]}
\]
\[
\text{I have a suggestion to make you}
\]

((43a) from Thorell (1973:345))

That *att/\(\text{at}\)* appears lower than \(\Gamma'\) is clear from the fact that they have to follow sentence adverbials like often be sarcastic.

\[
\text{(i) En. a. } \text{I believe John to be often sound sarcastic}
\]
\[
b. \text{*I believe John to be often sound sarcastic}
\]
\[
c. \text{I believe John to often be sarcastic}
\]
\[
d. (?) \text{I believe John to be sarcastic}
\]

(from Pollock (1989:382, 39a-d))

\[
\text{(ii) Da. a. Maria har lovad} \text{ ofte at vande blomsterne}
\]
\[
b. \text{Maria har lovad ofte at vande blomsterne}
\]
\[
\text{Maria has promised (to) often (to) water flowers-the}
\]

However, it is unlikely that the assumptions about ordering (\(\Gamma'\) - negation - \(\Gamma'\) - sentence adverbial - VP) made in Pollock (1989), Belletti (1990) and Chomsky (1991) carry directly over to Danish (and the other Scandinavian languages). As pointed out by Hansen (1980:58), among others, negation follows rather than precedes the sentence adverbial(s) in Danish. It follows from this that \(\Gamma'\) and \(\Gamma\) (or alternatively \(\Gamma'\) and \(\Gamma^*\)) cannot be kept apart by appealing to the position of negation and sentence adverbials.
As a second argument for *att* being in $C'$, it is pointed out that it is impossible to have *att* e.g. in ECM and in raising constructions (cf. e.g. Platzack (1986:127)). It would however appear that this is not uniformly the case. According to Hulthén (1944:248), Holmberg (1986:159) and Platzack (1986b:135, fn2) *att* is also possible here, at least in colloquial Swedish and in various dialects. When *att* occurs in ECM constructions, it cannot be in $C'$, as Holmberg (1986:159) points out, because it follows the embedded subject:

(46) Sw. a. Jag anser *att* Peter vara dum
   b. Jag anser *att* Peter vara dum
   I consider (to) Peter (to) be stupid
   (based on Holmberg (1986:159, (61b)))

Furthermore, *att* has to be in $I^*$ rather than further down, as it precedes the negation:

(47) Sw. a. Han måste anse *att* Peter inte vara lika klok som jag
   b. Han måste anse *att* Peter inte vara lika klok som jag
   He must consider Peter (to) not (to) be as clever as I
   (based on Holmberg (1986:123, (127)))

However, also in raising examples like (49a), *att* has to be in $I^*$. Otherwise we would expect a *that-trace* violation, i.e. we would expect the movement of the subject from IP-spec of the embedded clause (cf. (48a)) into the matrix clause to be impossible. However, as opposed to Icelandic, Swedish does show *that-trace* effects, indicating that *att* in (49a) is not in $C'$, whereas *att* in (50b) is:

(50) a. Ic. Hver, sagðir þu að $t_1$ hefði komið ?
    b. Sw. *Vem*, sa du att $t_1$ hade kommit?
    Who said you that had come? (from Holmberg (1986:123, (127)))

We thus conclude that *att* in Swedish control infinitival is in $I^*$.

### 4.4 French PRO is lower than IP-spec

We still have to provide an analysis of the infinitival markers *de* and *di* in French and Italian. It's clear that CP-recursion is not required in these infinitives, and yet we do not feel that there is evidence suggesting that these elements are anywhere but in $C'$. In particular, the data from Kayne (1984) discussed in section 4.2.1 suggest that *de* and *di* are part of the C-projection. And, as also discussed in section 4.2.1, the absence of island effects suggests that they are not in CP-spec, which leaves only $C'$.

We would like to suggest that the difference between French and Icelandic, and the rest of Germanic, is the position of PRO. Recall that one of the two features of Icelandic that force CP-recursion in infinitival clauses is that PRO is driven from its D-structure (VP-internal) position into the specifier of the highest functional projection. There, for it to escape government by the complementiser, CP-recursion must be invoked. We suggest that in French, by contrast, PRO is not forced to move into the specifier of the highest functional projection, and that as a result it is possible for a complementiser to be present in non-finite clauses without invoking CP-recursion.

That this is a feature which distinguishes French from the Scandinavian languages and English is suggested by the relative freedom with which French (and even more so, the other Romance languages) allows postverbal subjects. That postverbal subjects in Romance are lower than preverbal ones is generally acknowledged to be responsible for their greater freedom of extraction. In particular, the possibility of postverbal subjects to be extracted across a complementiser is credited to their being governed by the main verb (cf. e.g. Rizzi (1982:146-148)). In modern terms, this can be seen as a consequence of postverbal subjects remaining in a VP-spec (to the right of V-bar) (cf. Giorgi & Longobardi (1991:172), Koopman & Sportiche (1991), etc.). Thus, if we assume, following Pollock (1989), Belletti (1990) and Chomsky (1991), that $I^*$ is split into Agr$^{S'}$ and $T^*$, subjects of finite clauses have the option in French of positioning themselves as shown:

(51) \[
\begin{array}{c}
\text{Agr}\text{S}^* \\
\text{Agr}\text{S}' \\
\text{TP} \\
\text{T}^* \\
\text{V}^* \\
\text{V} \\
\text{subject} \\
\text{object}
\end{array}
\]

From (51), an S-structure is reached by moving the verb through $T^*$ into $\text{Agr}\text{S}'$.

What this phenomena indicates is that subjects in French are not forced to move into Agr$^{S'}$ spec in finite clauses; we see no reason why this should be different for the PRO subjects of infinitival clauses. It is most likely not possible for PRO to remain in VP-spec, however, as this position is governed by the verb which has moved into or
through $T^\circ$. We suggest then that PRO does move in infinitives, but not as far as AgrSP-spec. Instead, in cases where there is only a main verb, it raises to TP-spec. In this position it will not be governed by the verb, because verbs in infinitival clauses do not move into Agr$S^r$.

The situation in French compound tenses is somewhat more complex. Here, the auxiliary verb is able to move into Agr$S^r$, cf. Pollock (1989:373). Thus, PRO cannot in these cases move into TP-spec because this position is now governed by the auxiliary verb. This shown in the diagram below.

\[
\begin{align*}
\text{CP} & \quad \text{C}^r \\
\text{C}^r & \quad \text{AgrSP} \\
\text{AgrSP} & \quad \text{Agr}^r \\
\text{Agr}^r & \quad \text{TP} \\
\text{être} & \quad (\ast \text{PRO}) \\
\text{T}^r & \quad \text{VP} \\
\text{V}^r & \quad \text{object} \\
\text{vu} & \quad \text{to be seen}
\end{align*}
\]

Instead, we adopt Belletti's (1990:84) suggestion that there are two functional projections between the D-structure position of the auxiliary verb and the D-structure position of the main verb. If the main verb moves only to the lower of these two, then PRO can move to the specifier of this functional projection and remain ungoverned:

If PRO can find an ungoverned position among the specifiers of the functional projections that make up clauses in Romance, then because it is not forced to move into AgrSP-spec, there is no pressure to invoke a recursive CP to protect PRO from government by a complementiser. This would account for the difference between Icelandic and French.

5. Summary

The infinitival markers *at* in Danish, *d* in Norwegian, *att* in Swedish, and *að* in Icelandic are governors. How can PRO avoid being governed?

1. **Danish/Norwegian**: *at/d* are not in C$^r$ and PRO is therefore safe in IP-spec. *at/d* are not in $I_1$ either, but further down, in V$^r$ or maybe in T$^r$. This is why they follow sentence adverbials and negation. The infinitive itself remains in V$^r$.

2. **Swedish**: *att* is not in C$^r$, although this is often assumed, but in $I_1$. Therefore PRO is safe in IP-spec, and therefore *att* precedes sentence adverbials and negation. The infinitive itself remains in V$^r$.

3. **Icelandic**: Although *að* is in C$^r$, PRO is not in IP-spec, but rather in the lower CP-spec. This lower CP is a barrier. The lower C$^r$ may not stay empty (for the same reason that causes V2), and therefore the infinitive has to move there.

---

14Cf. Pollock (1989:374, (16d,c)):

\[
\begin{align*}
\text{Agr}^r & \quad \text{Mes}^r \\
\text{fr. a.} \ & \text{Ne posséder pas de voiture en banlieue} \\
\text{b.} \ & \text{Ne pas posséder de voiture en banlieue} \\
\text{... rend la vie difficile} \\
\text{(to own) not (to own) a car in the-suburbs ...}
\end{align*}
\]

Here (as throughout) we employ the terminology of Belletti (1990) and Chomsky (1992) rather than Pollock's (1989) own.

15The analysis proposed above for French will not work for Italian, as the infinitive in Italian would seem to move to $I_1$ (or Agr$S^r$), cf. Belletti (1990:71) and Rizzi (1993:21-22). This description of the Italian data goes directly against the fundamental idea of this paper, namely that only those verbs move to $I_1$ which have a reason to do so, i.e. the ones that merge with a (strong) finite inflection. We will have to leave this for further research.
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Kyle Johnson
Department of Linguistics
South College
University of Massachusetts
Amherst, MA 01003
U. S. A.
E-mail: johnson@coins.cs.umass.edu

Sten Vikner
Institut für Linguistik/Germanistik
Universität Stuttgart
Postfach 106037
D-70049 Stuttgart
Germany
E-mail: vikner@rus.uni-stuttgart.de