

## The Licensing of CP-recursion and its Relevance to the Germanic Verb-Second Phenomenon

Sabine Iatridou and Anthony Kroch  
University of Pennsylvania

### 1. Introduction

Since the work of den Besten (1977, 1983), the standard generative analysis of the verb-second phenomenon has involved movement of the tensed verb to  $C^0$ , immediately following a topic that has been fronted to [SPEC, CP], as in (1):

(1)  $[_{CP} \text{topic}_i [_C \text{verb}_j [_{IP} \dots t_i \dots t_j]]]$

One of the central predictions of this analysis is that v/2 should be limited to clauses in which the  $C^0$  position is empty at d-structure, as in matrix sentences and in a limited range of subordinate clauses. In German, Dutch and the mainland Scandinavian languages, this prediction is largely borne out, confirming the analysis; but in other Germanic languages the prediction fails. Thus, in Yiddish and Icelandic verb-second word order is acceptable in a wide range of subordinate clauses, as illustrated in (2) and (3) (Rögvaldsson and Thráinsson 1990, Braun p.c.):

- (2) a. *Ég fer, ef það getur enginn gert þetta.* (Icelandic)  
I go if there can no one do this  
'I am leaving if no one can do this.'
- b. *Jón efast um að á morgun fari María snemma á fætur.* (Ice.)  
John doubts that tomorrow gets Mary early up
- (3) a. *Ir muzt klingen in shpitol oyb di doktershe vilt ir dergreykh*n (Yiddish)  
you must call in hospital if the doctor-FEM want you reach  
'You must call the hospital if you want to reach the doctor.'
- b. *Es hot undz alemen gekhidesht vos nekhtn iz gekumen aza groyser oylem.* (Yi.)  
it has us all-OBL bewildered what yesterday is come such-a large audience  
'It surprised all of us that such a large audience came yesterday.'

Two approaches to the above data have been pursued in recent literature. Under one (Diesing 1990, Santorini 1989, Thráinsson 1985), the sentences in (2) and (3) have been treated as evidence that the landing site of the fronted verb in these languages is INFL rather than  $C^0$ , with the topic correspondingly moving to [SPEC, IP], as in (4):

(4)  $\text{verb } [_{CP} [_C \text{that } [_{IP} \text{topic } [_I, \text{verb } [_{VP} \dots t \dots t ]]]]]]$

Under the other (de Haan and Weerman 1985, Vikner 1991b), these sentences are taken as instances of CP-recursion, with the embedded clause verb moving to the lower  $C^0$  while the relevant complementizer occupies the upper one, as in (5):

(5)  $\text{verb } [_{CP} [_C \text{that } [_{CP} \text{topic } [_C \text{verb } [_{IP} \dots t \dots t ]]]]]]$

The difference between these analyses is subtle, given the abstract character of functional

projections and the difficulty of distinguishing them from one another. However, we have found that a careful analysis of CP-recursion will allow us to distinguish the two approaches. In other work (Iatridou 1991b), we have argued that CP-recursion is limited in its distribution to environments where the recursive CP is governed by a selecting verb and further that only semantically vacuous CPs recurse. These results, which hold for modern English, suggest an obvious test of the competing hypotheses regarding Germanic v/2: If the occurrence of embedded v/2 is limited to those cases where our diagnostics tell us CP-recursion should be possible, then the de Haan and Weerman/Vikner analysis receives support. If, on the other hand, we find that embedded v/2 also occurs outside these environments, then we have evidence against the CP-recursion analysis.

In what follows we will show that our CP-recursion diagnostics distinguish two classes of languages: those where embedded v/2 is unrestricted and those where it is limited to contexts in which the embedded clause is, among other things, governed by a lexical verb.<sup>1</sup> We will further demonstrate that embedded v/2 in the latter languages occurs only in contexts where CP-recursion is expected on independent grounds, while, in the former languages, v/2 occurs freely outside the range of environments that license CP-recursion. From this result, we will conclude that, although embedded v/2 is a reflex of CP-recursion in some languages, in other languages it is not. Having made this point, we will go on to use the facts of CP-recursion in Germanic, combined with our previously analyzed data from English, to propose a detailed analysis of the licensing conditions on CP-recursion that can explain why this configuration should exist at all.

## 2. The Standard Analysis Of Germanic Verb Second

Den Besten (1977, 1983) argues that the fronting of the tensed verb in a German or Dutch verb-second clause is to the position of the complementizer, C<sup>0</sup> in current terms. The movement is a structure preserving substitution in the sense of Emonds (1970, 1976) and can occur only when the C<sup>0</sup> position is empty. This analysis accounts elegantly for the pattern of occurrence of verb fronting in these languages and has been standardly assumed by most authors for at least the past decade. In most matrix clauses the verb can front because C<sup>0</sup> is empty while in most subordinate clauses the verb cannot front because C<sup>0</sup> contains an overt complementizer. Hence the contrast in (6):

- (6) a. Gestern ist Hans zu Hause geblieben. (German)  
       yesterday is H. at home stayed  
       'Yesterday Hans stayed at home.'
- b. Ich glaube, daß gestern Hans zu Hause geblieben ist. (Ger.)  
       I believe that yesterday H. at home stayed is  
       'I believe that Hans stayed at home yesterday.'

The crucial evidence supporting this analysis is the behavior of those subordinate clauses which lack complementizers and those matrix clauses which contain them. As the examples below illustrate, it is the presence or absence of the complementizer, not the matrix/subordinate status of the clause that determines whether verb fronting to second position can occur:

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<sup>1</sup>The two classes of languages defined by our diagnostics are identical in extension to Vikner's (1991) "generalized" and "limited" embedded v/2 languages. The analysis we give, however, is quite different.

- (7) a. Wenn wir klug wären, hätten wir nicht miteinander gestritten. (Ger.)  
 if we smart were had we not with-one-another fought  
 'If we had been smart, we wouldn't have fought with each other.'
- b. Wären wir klug, hätten wir nicht miteinander gestritten. (Ger.)  
 were we smart had we not with-one-another fought  
 'If we had been smart, we wouldn't have fought with each other.'
- (8) a. Er sagte, [daß er kommen würde]. (Ger.)  
 he said that he come would
- b. Er sagte, [er würde kommen]. (Ger.)  
 he said he would come
- (9) a. Daß er auch immer zu spät kommen muß! (Ger.)  
 that he also always too late come must  
 'Why does he always have to come too late?'
- b. Er muß auch immer zu spät kommen. (Ger.)  
 he must also always too late come  
 'He always HAS to come too late.'

The pattern found in the SOV languages German and Dutch is largely replicated in a class of SVO Germanic languages; namely, the mainland Scandinavian languages. In Danish, Swedish and Norwegian verbs ordinarily front out of their based-generated position at the left edge of VP only when the C<sup>0</sup> position is empty (but see the discussion to follow). Thus, we find the following pattern in conditional clauses (we use Danish examples to illustrate the Mainland Scandinavian pattern):

- (10) a. Hvis jeg havde haft mere tid, ville jeg have læst flere bøger (Danish)  
 if I had had more time, would I have read more books
- b. Havde jeg haft mere tid, ville jeg have læst flere bøger (Da.)  
 had I had more time, would I have read more books

If a sentence contains the negation particle, which is generated immediately to the left of VP, we find it preceding the tensed verb only when the sentence is introduced by an overt complementizer or complementizer substitute, as in (11) below. If there is no overt complementizer, as in (12), the verb moves to C<sup>0</sup>, and hence it precedes negation (Vikner 1991b):

- (11) a. (Vi ved) at Peter ikke drikker kaffe. (Da.)  
 (We know) that Peter not drinks coffee
- b. Mon børnene ikke har set filmen? (Da.)  
 I-wonder children-the not have seen film-the
- (12) a. Børnene har ikke set filmen. (Da.)  
 b. Filmene har børnene ikke set.

### 3. Exceptions to the Standard Analysis

#### 3.1 Two apparent exceptions

The extent and regularity of the above pattern has justly impressed itself on Germanic syntacticians, who have, in consequence, held that verb-fronting in Germanic is always to the C<sup>0</sup> position. There are cases, however, where this simple position runs into difficulties. In the verb-final West Germanic language Frisian, for example, verb-second word order can occur in subordinate clauses introduced by overt complementizers, as in the following examples, taken from de Haan and Weerman (1985:84):

- (13) a. Pyt sei dat hy my sjoen hie. (Frisian)  
 Pyt said that he me seen had
- b. Pyt sei dat hy hie my sjoen.  
 Pyt said that he had me seen
- c. Pyt sei dat my hie er sjoen. (de Haan p.c.)<sup>2</sup>  
 Pyt said that me had he seen  
 'Pyt said that he had seen me.'

De Haan and Weerman argue that these cases are only apparent exceptions to the standard analysis because there is recursion on CP (S-bar in the notation of the time) in such sentences. This recursion introduces a second C<sup>0</sup> position which becomes the landing site for the fronting verb. They point out that such recursion is limited in scope, occurring with verbs like 'say' and 'believe' but not with 'regret'<sup>3</sup> or other negated or inherently negative matrix verbs, or with verbs taking irrealis complements. Thus, the following sentences allow only verb final order (de Haan and Weerman 1985, de Haan p.c.):

- (14) a. Pyt betreuret dat er my sjoen hie.  
 Pyt regrets that he me seen had
- b. \*Pyt betreuret dat hy hie my sjoen  
 Pyt regrets that he had me seen
- (15) a. Ik leau net dat hy him wol rede kin.  
 I believe not that he him save can
- b. \*Ik leau net dat hy kin him wol rede.  
 I believe not that he can him save

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<sup>2</sup>The form 'er' in Frisian is the clitic form of the subject pronoun 'hy'.

<sup>3</sup>In this paper, we will assume that the factive verb 'regret' belongs with other negative verbs. It is more likely, however, that the whole class of factive verbs, negative and positive, behave alike in disallowing CP-recursion. If so, we would have to say that factives are introduced by a contentful complementizer to preserve our analysis. Hegarty (1992) proposes, on syntactic and pragmatic grounds, that such a complementizer exists. Indeed, he argues that the relevant class of verbs is a superset of the factives, whose complements exhibit distinct syntactic properties when they express familiar content. He argues that the class of verbs which block CP-recursion in Danish, as listed in Vikner (1991), consists of these verbs and negative verbs.

- (16) a. Pyt betwivelet dat er my sjoen hie.  
Pyt doubts that he me seen had
- b. \*Pyt betwivelet dat hy hie my sjoen.  
Pyt doubts that he had me seen
- (17) a. Pyt woe sizze dat er my sjoen hie.  
Pyt wanted to-say that he me seen had
- b. \*Pyt woe sizze dat hy hie my sjoen.  
Pyt wanted to-say that he had me seen

The authors further say that CP-recursion occurs in just those environments and with just those verbs that allow deletion of the overt complementizer<sup>4</sup>. They provide no account of this correlation, but it suggests that CP-recursion occurs only when the embedded clause is governed by a local L-marking verb<sup>5</sup>. As one would expect under this account, clauses not governed by a lexical head (adjunct clauses and sentential subjects, for example) do not allow embedded v/2 (de Haan p.c.):

- (18) Adjunct clauses:
- a. Ik sil fuortgean, at jo dizze film net sjen wolle.  
I will leave if you this film not see want
- b. \*Ik sil fuortgean, at jo wolle dizze film net sjen.  
I will leave if you want this film not see
- (19) Sentential subjects:
- a. Dat jo dizze film net sjen wolle, fernuvert my/is ferfelend.  
that you this film not see want surprises me/is annoying
- b. \*Dat jo wolle dizze film net sjen, fernuvert my/is ferfelend.  
that you want this film not see surprises me/is annoying

A further interesting fact discussed by de Haan and Weerman, which will prove to be of special interest to us, is that extraction out of CP-recursive structures is blocked, as is illustrated by the

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<sup>4</sup>In addition to complements of bridge verbs, there is another environment in which de Haan and Weerman find apparent embedded v/2 - degree word complements like (i):

- (i) hy is sa meager dat hy kin wol efter in reid skûlje  
he is so skinny that he can behind a cane hide

This environment does not behave like other cases of CP-recursion with regard to the diagnostics we develop and so it poses a problem for our analysis. However, it seems that in Frisian the complementizer 'that' is homonymous with a coordinating particle found in a certain type of result clause and even in some matrix clauses. If examples like (i) are analyzed as containing this particle, they become irrelevant to our concerns. Needless to say, further work on these cases is indicated. It is interesting to note, however, that in Danish, which otherwise patterns like Frisian, embedded v/2 is not possible in examples equivalent to (i) (Vikner p.c.)

<sup>5</sup>As Stowell (1981) points out, such government is required for complementizer deletion.

following contrast:

- (20) a. Hy sei [<sub>CP</sub> dat dizze oersetting net maklik lêst.]  
 he said that this translation not easily reads
- b. Hokker oersetting sei hy [<sub>CP</sub> dat net maklik lêst?]  
 which translation said he that not easily reads
- (21) a. Hy sei [<sub>CP</sub> dat dizze oersetting lêst net maklik.]  
 he said that this translation reads not easily
- b. \*Hokker oersetting<sub>i</sub> sei hy [<sub>CP</sub> dat [<sub>CP</sub> t<sub>i</sub> lêst net maklik?]  
 which translation said he that reads not easily

In a case that seems quite parallel to Frisian, Vikner (1991b) argues that embedded v/2 in Danish and the other Mainland Scandinavian languages also involves CP-recursion. He points out that embedded v/2 in that language is limited to the complements of 'bridge' verbs, as in (22):

- (22) Peter troede at den film havde Marie også set. (Da.)  
 Peter thought that that film had Mary also seen

Negative verbs like 'doubt', 'deny' and 'regret,' and negated bridge verbs are all incompatible with embedded v/2, just as in Frisian (Vikner 1991b, Reinholtz 1992):

- (23) a. \*Jeg tvivler på at den film har Maria set.  
 I doubt on that this film has Maria seen
- b. \*Peter benægtede at den film havde Maria set.  
 Peter denied that this film had Maria seen
- c. \*Peter beklagede at den film havde Maria set.  
 Peter regretted that this film had Maria seen
- (24) a. \*Peter mente ikke at den film havde Maria set.  
 Peter believed not that this film had Maria seen
- b. \*Peter påstod ikke at den film havde Maria set.  
 Peter claimed not that this film had Maria seen

Furthermore, as in Frisian, irrealis complements do not allow v/2 (Vikner p.c.):

- (25) a. John ville bare sige at Peter havde set mig igår.  
 J wanted just say that P had seen me yesterday
- b. \*John ville bare sige at igår havde Peter set mig.
- (26) a. John ville ønske at Peter havde snakket med chefen igår.  
 J would wish that P had talked with the-boss yesterday
- b. \*John ville ønske at igår havde Peter snakket med chefen.
- (27) a. John insisterer på at Peter snakker med chefen imorgen.  
 J insists on that P talks with the-boss tomorrow
- b. \*John insisterer på at imorgen snakker Peter med chefen.

- (28) a. John ville foretrække at Peter ville snakke med chefen imorgen.  
 J would prefer that P would talk with the-boss tomorrow  
 b. \*John ville foretrække at imorgen ville Peter snakke med chefen.

Nor can embedded v/2 occur in sentential subjects and adjunct clauses (Vikner p.c.):

- (29) a. At han ikke vil se denne film overraskede mig.  
 b. \*At denne film vil han ikke se overraskede mig  
 'That he will not see this film surprised me.'
- (30) a. Jeg går hjem hvis han ikke vil se denne film.  
 b. \*Jeg går hjem hvis denne film vil han ikke se  
 'I will go home if he will not see this film.'

Finally, just as in Frisian, extraction from clauses with embedded v/2 is blocked in Danish (Vikner 1991b):

- (31) a. \*Hvilken film sagde hun at i skolen havde børnene allerede set?  
 Which film said she that in school had children-the already seen  
 b. Hvilken film sagde hun at børnene havde allerede set?  
 Which film said she that children-the had already seen

In sum, Frisian and Danish exhibit clear counter-examples to the strong correlation between complementizer absence and embedded verb second found in German and Dutch. However, students of these languages have argued that such counter-examples should not be taken to undermine the analysis of verb-second word order as movement to  $C^0$ . Rather, they say, the languages allow CP-recursion, and the recursion on CP provides additional embedded  $C^0$  and [SPEC, CP] positions into which the finite verb and the topic can move. Pursuing the discussion in the literature, we have found that Frisian and Danish exhibit a clear pattern in the occurrence of embedded verb second. It is found only in clauses governed by an L-marking non-negative, non-irrealis bridge verb, and it creates an island for extraction. In other environments, embedded verb second is not possible, raising the question of whether CP-recursion itself is limited to this environment, as well as the question of how one would analyze languages where embedded v/2 occurred outside of the licensing environment required in Frisian and Danish. These questions are addressed in the rest of our paper.

### 3.2. Two Real Exceptions to the Standard Analysis

In contrast to Frisian and Danish, Yiddish and Icelandic allow v/2 in an extremely wide range of subordinate clauses (Diesing 1990, Rögnvaldsson and Thráinsson 1990). Thus, we find v/2 word order freely in complements of all verbs, negative or positive, irrealis or realis, in adjunct clauses, and in sentential subjects. Here are some illustrative examples in Icelandic (Vikner 1991b, Thráinsson p.c.)<sup>6</sup>:

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<sup>6</sup>Embedded v/2 is also possible in Complex NPs in Icelandic:

- (i) Ég trúi ekki þeirri fullyrðingu að Maríu hafi hann aldrei séð  
 I believe not that claim that Mary(A) has he(N) never seen

(32) *v/2* under a negative verb:

- a. Jón efast um að á morgun fari María snemma á fætur.  
John doubts on that tomorrow will Mary get up early
- b. Jón harmar að þessa bók skuli ég hafa lesið.  
John regrets that this book have I read

(33) *v/2* under a negated verb:

Jón sagði ekki að á morgun mundi María fara snemma á fætur.  
John said not that tomorrow would Mary go early on feet  
'John didn't say that tomorrow Mary would get up early.'

(34) *v/2* in an irrealis complement:

Ég vil að á morgun fari María snemma á fætur.  
I want that tomorrow go Mary early on feet

(35) *v/2* in an adverbial adjunct:

Ég hef áhyggjur af þessu af því að Maríu hefur hann aldrei séð.  
I have worries of this for it that Mary(A) has he never seen  
'This worries me because Mary he has never seen'

(36) *v/2* in sentential subjects:

- a. Að Maríu hafi hann aldrei séð er kannski líklegt.  
that Mary(A) has he(N) never seen is perhaps likely
- b. Að Guðmundi skuli enginn vilja hjálpa veldur mér áhyggjum.  
that Gudmund(D) shall nobody want help(inf) causes me worries  
'It worries me that nobody wants to help Gudmund.'

Parallel examples in Yiddish are also easy to find (Vikner 1991b; Braun p.c.):

(37) *v/2* under negative verbs:

- a. Jonas tsveyfelt az morgen vet Miriam fri oyfshteyn.  
Jonas doubts that tomorrow will Miriam early get-up
- b. Jonas bedoyert az zayn bukh hob ikh geleyent.  
Jonas regrets that his book have I read

(38) *v/2* under a negated verb:

Ikh meyn nit, az morgn zol er kumen tsu der khasene.  
I think not that tomorrow should he come to the wedding

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This possibility is also expected under the account we will give.

(39) v/2 in an irrealis complement:

Er fodert/bashteyt/vil az morgn zol ikh geyn in krom.  
he demands/insists/wants that tomorrow should I go to store

(40) v/2 in adverbial adjuncts:

a. Ikh vel avekgeyn oyb morgn kumt moyshe.  
I will away-go if tomorrow comes Moyshe  
'I will leave if Moyshe's coming tomorrow.'

b. Lomir khapn a shmues oyb itster hot ir a bisl tsayt.  
let's grab a chat if now have you a little time  
'Let's chat if you have some time now.'

(41) v/2 in sentential subjects:

Dos vos nekhtn iz gekumen aza groyser oylem hot undz alemen gekhidesht.  
that which yesterday is come such-a large audience has us all-OBL bewildered  
'(The fact) that such a large audience came yesterday surprised all of us.'

These examples show clearly that the requirement of government by a bridge verb head that we found in Danish and Frisian does not hold for Yiddish or Icelandic. Furthermore, both languages allow at least some cases of v/2 in embedded questions, which Danish and Frisian do not. Here the facts are delicate because the wh- movement in the embedded clause sometimes seems to interfere with topicalization. However, there is a clear contrast. Danish and Frisian never allow v/2 in embedded questions while Yiddish and Icelandic do allow it, at least in some cases. The importance of this difference will become clear when we turn to a discussion of the licensing conditions on CP-recursion in the section to follow. The contrast is illustrated in the following examples (Vikner 1991b, Thráinsson 1985 and p.c., Heycock 1991, de Haan p.c.):

(42) Icelandic:

a. ?Enginn veit hvort í ferðinni ætluðu þeir að skjota hreindýr eða kanínur.  
Nobody knows whether on the trip intended they to shoot reindeer or rabbits

b. ?Stína gat ekki munað hvar veskinu hefði hún týnt.  
Stina could not remember where the purse had she lost

c. Ég spurði hvar henni hefðu flestir aðdáendur gefið blóm.  
I asked where to-her had most admirers given flowers

(43) Yiddish:

a. Ikh veys nit ven in tsimer iz a ku geshtanen.  
I know not when in the room is a cow stood

b. Ikh veys nit far vos in tsimer iz di ku geshtanen.  
I know not why in the room is the cow stood

(44) Danish:

- a. Jeg ved ikke hvorfor koen har stået i værelset.
- b. \*Jeg ved ikke hvorfor i værelset har koen stået.  
I know not why the cow has stood in the room

(45) Frisian:

- a. ik wyt net werom't er it jild stelle wol.
- b. \*ik wyt net werom't hy wol it jild stelle.  
I know not why that he will the money steal

Not surprisingly, Yiddish and Icelandic differ from Danish and Frisian as to whether embedded  $v/2$  creates an island for extraction up to the matrix CP. In both of the latter languages, such clauses clearly do create islands; but in the former languages, they do not. The situation is again complex because Yiddish and Icelandic do not behave entirely alike. In Yiddish we apparently find no island effect, at least for argument extraction, as the following example shows (Santorini 1989):

- (46) Vos hot er nit gevolt az in shul zoln di kinder leyenen.  
what has he not wanted that in school should the children read

In Icelandic, parallel examples are ordinarily no better than marginal (Vikner 1991b, Thráinsson p.c.); but it is possible to construct examples where the extraction is acceptable:

- (47) Hvaða blað sagði hún að á morgnana gæti hún bara rennt yfir  
which paper said she that in the morning could she only skim over
- en á kvöldin reyndi hún að lesa vandlega?  
but in the evening tried she to read carefully

Furthermore, Icelandic examples in which the topic position is filled by the expletive 'það' also allow extraction:

- (48) Þessa bók held ég að það muni ekki nokkur maður kaupa.  
this book think I that there will not any man buy

The interpretation of such examples with 'það' is difficult as it depends on whether the expletive should be considered to fill the same position as a lexical topic phrase. In this paper, we will adopt the position of Rögnvaldsson and Thráinsson, namely that the subordinate clause in an example like (48) above is an instance of topicalization. From this example and example (47), we conclude, therefore, that extraction out of  $v/2$  clauses is possible in Icelandic. Of course, the fact that extraction is less free in Icelandic than in Yiddish remains unexplained and indicates that further descriptive work is needed.

The failure of parallelism between Yiddish and Icelandic on the one hand and Danish and Frisian on the other is just what we would expect if embedded  $v/2$  were due to CP-recursion in the latter languages but not in the former. If, as Diesing and Santorini have argued for Yiddish and Rögnvaldsson and Thráinsson have argued for Icelandic, topicalization in these languages is movement to [SPEC, IP] and  $v/2$  is movement to  $I^0$ , with the structure in (4) above, then one would expect  $v/2$  not to require special licensing in embedded contexts, nor would one expect  $v/2$  word order to create a syntactic island. On the other hand, CP-recursion has always been considered a marked phenomenon; and since it introduces additional structure, it has the

potential to add barriers to extraction. In languages where embedded v/2 depends on CP-recursion, therefore, v/2 word order might well be subject to special limitations. In the following section, we explore the licensing of CP-recursion and show that it fits the cases of Danish and Frisian remarkably well, at once confirming the de Haan and Weerman/Vikner account of these languages and demonstrating, contra Vikner, that it should not be extended to Yiddish and Icelandic.

#### 4. The patterning of CP-recursion

##### 4.1 Embedded "if-then" conditionals

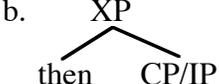
To determine the validity of the CP-recursion analysis of embedded v/2, we must find a case or cases where the evidence clearly supports the postulation of a CP-recursion structure and study the conditions under which the structure is licensed. One such case is that of embedded "if-then" conditionals in English.<sup>7</sup> We will show that "if-then" conditionals like (49a) have the structure in (49b), so that when they are embedded, they must generate a CP-recursion structure. Then we can investigate the conditions under which such embedding is found:

- (49) a. If it rains then I will visit you.  
 b. [[if it rains] <sub>CP</sub> then [<sub>IP</sub> I will visit you]

Conditional 'then' is ordinarily followed by a full clause. Sometimes this clause is a CP as in (50) below, but in examples like (49a) above it is more plausible to say that the clause is an IP.

- (50) a. If it rains then what shall we eat?  
 b. If he's right then what a fool I've been!

An obvious question that arises is whether 'then' is adjoined to the clause that follows it, as in (51a) or whether it is contained in a maximal projection that embeds the clause, as in (51b):

- (51) a.   
 (adjunction)
- b.   
 (subordination)

The two structures differ on a particular point: the intervening projection XP in (51b) will block government of the CP by a higher verb, whereas the adjunction segment in (51a) will not. In other words, phenomena that are sensitive to government, for example selection and extraction, should distinguish between the two structures.

Verbs like ask and wonder select for a CP with a [+WH] head. In turn, this [+WH] head requires an appropriate specifier for agreement, this being any wh- phrase (including the null counterpart of 'whether' following Larson (1985)). Since selection is satisfied under government, the verb must govern the CP containing the wh- head and phrase. Elements that are adjoined to a projection do not constitute a barrier to government of that projection from a higher verb (Chomsky (1986a) and others). For example, Clitic Left Dislocation structures do not block the selection between the higher verb and an embedded CP (Cinque 1991, Iatridou 1991a):

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<sup>7</sup>The discussion in this section is largely based on data and suggestions made in Collins (1989) and Iatridou (1991b).

- (52) Anarotieme ton Kosta pios ton idhe. (Modern Greek)  
 I-wonder the Kostas who him saw  
 'I wonder who saw Kostas.'

In English, it is somewhat harder to find elements adjoined to a clause; but it is plausible to suppose that 'only' and 'even' are adjoined to their associates in examples like the following:

- (53) a. I saw even/only John.  
 b. He said even/only that John is sick.  
 c. He asked only what John ate.  
 d. He asked even how much I spend on my nieces.

Under this treatment, the acceptability of (53c, d) suggests that adjoined elements do not block government. As we would expect, a sentence-initial 'if'-clause, which we can assume is adjoined to its consequent, does not block selection:

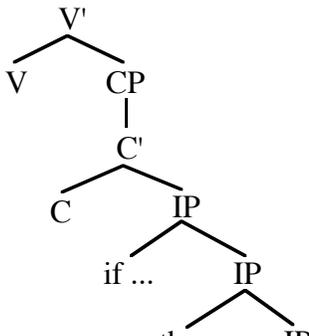
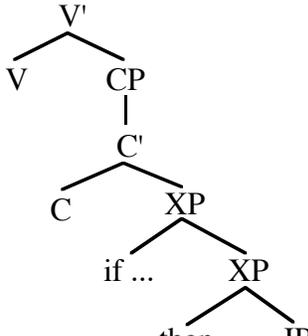
- (54) a. Every boy wonders if his mother comes what he will eat.<sup>8</sup>  
 b. Every boy wonders if he flunks his courses what is going to happen.

Clearly, the adjoined 'if'-clause, as expected, does not block government of the embedded clause by the higher verb. However, if 'then' is inserted, the judgments change drastically:

- (55) a. \*Every boy wonders if his mother comes then what he will eat.  
 b. \*Every boy asks himself if he flunks his courses then what will happen.

The ungrammaticality of (55) indicates that the presence of 'then' blocks government of the embedded clause by the higher verb. Hence, (51b) is the correct structure for the consequents of conditions introduced by 'then' rather than (51a).

A second source of evidence supporting (51b) over (51a) are the extraction possibilities out of the consequent of a conditional. Consider in more detail the two structures we have been discussing:

- (56) a.  b. 

If extraction from the IP below 'then' in a conditional is possible, the more plausible structure is (56a), because 'then', from its adjoined position, creates no barriers. If, on the other hand,

<sup>8</sup>These examples use quantifiers in the matrix clause that bind a variable inside the 'if' clause to rule out the otherwise possible parenthetical structure.

extraction is degraded, (56b) is the better structure, because the projection XP, not being L-marked, will be a barrier for extraction<sup>9</sup>. As mentioned above, adjunction does not create barriers. For example, extraction from a CLLD construction (Cinque 1991, Iatridou 1991a), illustrated in the following example, makes the point clearly:

- (57) Pos ipes oti to podhilato tha to ftiaksi o Kostas. (Modern Greek)  
 how you said [that [the bicycle will it fix Kostas]]  
 'How did you say that Kostas will fix the bicycle?'

The adjunction of 'to podhilato' ("the bicycle") to the embedded IP does not block movement of 'pos' ("how") from within it. Thus, we expect that an embedded conditional containing a sentence-initial 'if'-clause without 'then' will permit extraction; and (58) below confirms this expectation. However, in a case like (59), where the consequent is introduced by 'then', extraction is blocked, again providing evidence for the structure in (51b)/(56b) over (51a)/(56a):

- (58) a. What does John think that if his mother comes the guests will eat?  
 b. How/where did Mary say that if her mother visits the car will be fixed?
- (59) a. \*What does John think that if his mother comes then the guests will eat?  
 b. \*How/where did Mary say that if her mother visits then the car will be fixed?

A further set of data which also shows that the presence of 'then' blocks extraction involves movement of the 'if'-clause itself (examples from Collins 1989):

- (60) a. It is if Bill comes home that Mary will leave.  
 b. \*It is if Bill comes home that then Mary will leave.
- (61) a. It is if Bill comes home that John said that Mary would leave.  
 b. \*It is if Bill comes home that John said that then Mary would leave.

The above patterns allow us to conclude that (51b)/(56b) is the correct structure for conditionals with 'then'; that is, 'then' is contained within a projection that embeds the consequent clause. If we now ask what the category label of this projection is, the simplest answer would be "CP," since the projection introduces a clause; and this is what we will assume. But if the consequent clause in a conditional with 'then' is a CP projection, it follows directly that whenever such a conditional is embedded, an instance of CP-recursion will result:

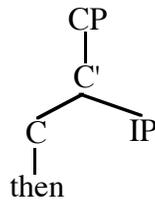
- (62) John believes [<sub>CP</sub> that [<sub>CP</sub> if it rains then the party will be cancelled.]]

A last question we might ask regarding the structure of conditionals is whether 'then' is the specifier or the head of the CP that contains it; that is, is the structure of the consequent as in (63a) or (63b):

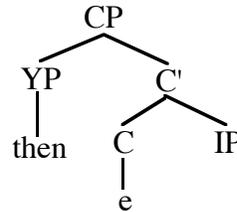
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<sup>9</sup>Depending on one's version of the ECP several refinements of this idea are possible. Basically, the point is that in (56b) if the moved element is permitted to go to the [SPEC, XP] it will not be able to leave that position. However, we will argue shortly that not even that movement is possible because 'then' occupies the [SPEC, XP].

(63) a.



b.

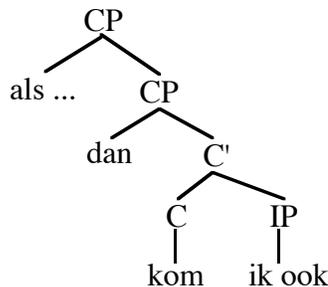


To us, (63b) seems more appealing because it is consistent with 'then' being a pro-form, and puts it on a par with pronouns, proper names, adverbs and other elements that are exhaustively dominated by a maximal projection. Moreover, it is hard to imagine what could serve as a specifier or complement to 'then', as the word does not require auxiliary elements to obtain its semantic value. A stronger argument in favour of (63b) comes from comparison of English with languages like Dutch and German, where v/2 clearly involves movement of the verb to C<sup>0</sup>. In these languages, 'dan(n)' ("then") is immediately followed by the verb, pointing to (65) as the structure of (64):

(64) Als Jan komt dan kom ik ook. (Dutch)

If John comes then come I too

(65)



If we take this cross-linguistic point as relevant to English, we have two reasons to believe that 'then' is the specifier of the projection that immediately contains it <sup>10,11</sup>.

We now turn to the question of the licensing conditions on CP-recursion, using the conditional with 'then' as a test context. Example (62) above shows that CP-recursion is possible in

<sup>10</sup>This makes conditionals with 'then' a case where v/3 is permitted, parallel with left dislocations like:

- (i) Den Hans, den kann ich nicht leiden.  
the H., him can I not stand  
'Hans, him I can't stand.'

<sup>11</sup>The 'if'-clause can adjoin to the projection containing 'then' when the latter is present in English, Dutch and German. When 'then' is absent, in Dutch and German the 'if'-clause occupies the [SPEC, CP] and is of course immediately followed by the verb:

- (i) Als Jan komt, kom ik ook  
if J. comes come I too  
'If Jan comes, I'll come too.'

In English, a sentence-initial 'if'-clause does not trigger v/2, indicating either that it is not in the

complements to bridge verbs; but the following examples show that when a CP appears in any position other than immediately governed by a matrix verb, CP-recursion is degraded.

- (66) Adverbial adjunct:  
Mary is happy, now that if she does a good job (\*then) she gets recognition.
- (67) Sentential subject:  
That if John is hungry (\*then) he yells at Bill bothers Mary.
- (68) Complex NP:  
John reported the rumor that if it rains (??then) the party will be cancelled.
- (69) Extraposition:  
He admitted it that if it rains (?then) the party will be cancelled.
- (70) Topicalized sentence:  
That if John is hungry (\*then) he yells at Bill Mary knows.
- (71) Relative clause:  
I saw the man who if it rains (\*then) my mother gives shelter to.

CP-recursion is also heavily degraded when the CP is a complement to a negative or a negated verb or a verb that takes an irrealis complement:

- (72) Negative verb:  
I regret/doubt/am surprised that if it rains (\*then) the party will be cancelled.
- (73) Negated verb:  
I don't think that if it rains (??then) the party will be cancelled.
- (74) Irrealis verb:  
I insist that if you are questioned, (\*then) you answer honestly.

It is also unacceptable inside a wh- island:

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[SPEC, CP] or, alternatively, that it is, but English not being a productive v/2 language, verb movement to the C position does not occur. If, indeed, there is an option in English, then in the cases where extraction from the consequent is possible, the option of adjunction is chosen. This is not possible for German and Dutch where, as predicted, extraction from the consequent (even without 'then' ) is not permitted. Compare the ungrammatical (ii) to the acceptable English translation:

- (ii) \*Was sagte Johann wenn Maria kommt wird er essen?  
What said John if Mary comes will he eat  
'What did Mary say that if John comes, he will eat?'

(75) Wh Island<sup>12</sup>:

He asked whether if it rains (??then) the party will be cancelled.

In other words, just those environments in which CP-recursion with conditional 'then' is licensed in English are also those in which embedded v/2 is licensed in Danish and Frisian. As promised, therefore, we have provided evidence to support the CP-recursion analysis of embedded v/2 for Danish and Frisian and, at the same time, to reject it for Yiddish and Icelandic. The exactness of the parallel between the behavior of embedded conditional 'then' in English and embedded v/2 in Danish/Frisian shows that there is real empirical content to the notion of CP-recursion. It is not just a notational device for reconciling exceptional cases with the standard analysis of Germanic v/2. Indeed, as we have seen, it does not cover all of the exceptional v/2 cases.

#### 4.2 Double 'que' in Iberian Romance

Another case where surface syntax indicates the presence of CP-recursion is the Iberian Romance double 'que' in complement clauses. Consider, for example, the following sentence in Galician (Juan Uriagereka p.c.):

(76) Di que, dado que a terra e redonda, que non e posible circundala.

(he) says that, since the earth is flat, that it is not possible to circumnavigate it

Here we see an adjunct adjoined to a CP introduced by 'que', the 'that' complementizer in Galician; and its presence licenses the occurrence of a higher CP, whose presence is indicated by a second 'que'. If we ask what happens when we employ the double 'que' construction in the diagnostic environments discussed above, we find the following results (Juan Uriagereka p.c.): Double 'que' is excluded in environments where the complement clause is not governed by a verb, as in (77)-(78), and degraded when the verb is negated<sup>13</sup>, negative, or irrealis, as in (79)-(81).

(77) Double 'que' in a nominal complement:

?\*o rumor de que, dado que a terra e redonda, que e posible circundala  
the rumor that, since the earth is round, that it is possible to circumnavigate it

(78) Double 'que' in a sentential subject:

\*Que, dado que a terra e redonda, que sea posible circumnavegala, e probable.

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<sup>12</sup>There is something that needs to be added about the cases in (71) and (75). These sentences are probably double violations, because in addition to the conditions on CP-recursion not being met, the movement of the WH-word over 'then' should also not be possible since the embedded CP is a barrier for extraction. Interestingly, we can tease the two violations apart by using a resumptive pronoun:

(i) He is the kind of guy who if you give him a good argument (\*then) he'll accept it.

This sentence does not suffer from the island violation that (71) and (75) do, yet the sentence remains degraded because CP-recursion is not licensed.

<sup>13</sup>According to Uriagereka (p.c.), the use of double 'que' is completely acceptable with negated verbs when their complements are in the indicative instead of the subjunctive, as in (i):

(i) Non di que, dado que a terra e redonda, que non e posible circundala.  
(he) doesn't say that, since the earth is flat, that it is possible to circumnavigate it

that, since the earth is flat, that it is possible to circumnavigate it, is likely.

- (79) Double 'que' under a negated verb:  
 ?Non di que, dado que andamos tarde, que sallamos cedo.  
 he doesn't say that, since we are late, that we should go early
- (80) Double 'que' under a negative verb:  
 ?Nega que, ainda que siga fumando, que quera desfacer a sua vida.  
 he denies that, even if he still smokes, that he may want to screw up his life.
- (81) Double 'que' in an irrealis complement:  
 ?Quere que, xa que vas falar con el, que o chames primeiro.  
 he wants that, since you are going to talk to him, that you call him first

Thus, the distribution of double 'que' is quite parallel to that of embedded "if-then" conditionals; and since the analysis of double 'que' as CP-recursion is so natural, this parallelism further strengthens the account we have given.<sup>14</sup> We conclude, therefore, that CP-recursion is a real syntactic structure subject to specific licensing conditions and hence that it deserves and requires a theoretically grounded analysis, which we will try to provide in the last section of this paper.

## 5. Toward a grammatical analysis of CP-recursion

CP-recursion is best analyzed by asking how a second CP can be licensed and why only a verb can effect such recursive licensing. Given that a verb licenses its complements under government, we may state the constraint on CP-recursion, to a first approximation, as in (82), or schematically as in (83):

(82) CP-recursion is possible only under CPs that are governed by a verb.

(83) [V [CP<sub>1</sub> [CP<sub>2</sub>]]]

The constraint in (82) was proposed by Iatridou (1991b) and independently by Authier (1992). The environment specified is, of course, also the one where extraction out of a CP is licensed; and so we expect to find CP-recursion patterning with extraction, which is what the facts of the first three sections of this paper have revealed. Recall that CP-recursion turned out to be blocked in adjuncts, sentential subjects, relative clauses, and complex NPs, all standard island contexts in which extraction is blocked because the embedded CP is not the governed argument of a verb. In addition, however, we found further contexts that blocked CP-recursion; namely, indirect questions, complements to negative and negated verbs, and irrealis complements. In these cases,

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Apparently, the negative complementizer is not obligatory under negation in Galician. When it occurs, the clause appears in the subjunctive and blocks CP-recursion; when it doesn't the clause appears in the indicative and CP-recursion is possible. Galician appears to behave exactly like Spanish and Basque with regard to the optionality of the negative complementizer. See Laka (1990) for further details.

<sup>14</sup>Another case of CP-recursion where our account may illuminate the licensing of the recursion is that of wh- constructions in Slavic. Consider the following contrasts in Polish from Embick and Doran (1992):

the embedded CP is governed by a matrix verb and extraction of arguments, though not of adjuncts, is possible.<sup>15</sup> Thus, (82) is a necessary, but not a sufficient condition for CP-recursion, which patterns like adjunct extraction.

We can see why only a verb (or perhaps any +V lexical category) should be able to license a second CP complement. We know that verbs have special licensing powers, since government by a verb prevents a CP from being an island for argument extraction; that is, government by a verb (and not by any –V category) voids the barrierhood of a CP for extraction. If we say simply that government by a verb also voids the barrierhood of a CP for licensing, we derive immediately the limitation of CP-recursion to complements of verbs. In cases both of extraction and of CP-recursion, the CP governed by the verb is in some sense made "transparent" and thereby loses its ability to block relations that cross it.

The most obvious way to interpret this transparency is to say that semantically empty CPs governed by verbs delete at LF. Indeed, this deletion might be required by the Principle of Full Interpretation (Chomsky 1986b). Of course, such deletion will not be possible when the complementizer governed by a verb has semantic content. Since a complementizer with content satisfies the selection requirements of its matrix verb and these are checked at LF, deletion of such a complementizer will not be possible, preventing licensing of the lower CP. Suppose, therefore, that complementizers introducing complements to negative, negated, and interrogative verbs have semantic content. Here we follow Laka (1990), who argues, for example, that all languages have a "Negative Complementizer", which selects features of the clause that it introduces and licenses Negative Polarity Items in that clause. In some languages, this negative complementizer is lexically distinct from its affirmative counterpart, as in Basque, where the negative complementizer selected for by negative or negated verbs is 'enik', in contrast to the affirmative complementizer, 'ez'. However, the presence of a negative complementizer is also detectable in languages where there is no overt difference between the different complementizers. Thus, Laka argues that in Spanish, the negative complementizer selected for by negative or negated verbs selects in turn the dubitative subjunctive in the clause it introduces. As for the licensing of Negative Polarity Items, Laka concludes from the contrast between the sentences in (84) and (85) that the licenser of the Negative Polarity Item (NPI) 'anybody' cannot be the negative verb 'deny' or 'doubt' but must be the negative complementizer selected by these verbs.

- (84) a. The witnesses denied that anybody left the room before dinner.  
b. The professor doubts that anybody understood her explanation.

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- (i) a. *\_*Maria powiedszila, qe kto owiedza Janka?  
M. said that-indicative who visits Janek  
b. \*Kto Maria powiedszila, qe owiedza Janka?  
who M. said that-indicative visits Janek  
'Who did Maria say visits Janek?'
- (ii) a. \*Maria chce, qeby co Janek kupil?  
M. wants that-subjunctive what J. bought  
b. *\_*Co Maria chce, qeby Janek kupil?  
what M. wants that J. bought  
'What does Maria want Janek to buy?'

Here it seems that CP-recursion is licensed in indicative complements but not in subjunctive ones (compare (ia) with (iia)). It is further the case that extraction out of indicatives is ungrammatical while extraction out of subjunctives is fine (compare (ib) with (iib)). This latter fact, we have no

- (85) a. \*The witnesses denied anything.  
 b. \*The professor doubts any explanation.

Leaving aside the details of Laka's analysis, what is relevant for our purposes is her demonstration that the complementizer following negative and negated verbs has semantic content. This result forces us to say that its CP cannot be deleted at LF. The prediction then is that CP-recursion should not be possible below negative or negated verbs, just as we have seen.<sup>16</sup> The same point holds for irrealis complements. They are selected by a certain class of matrix verbs or functional heads; and if we assume that complement selection occurs under government, it must be that the complementizer introducing an irrealis complement contains features that satisfy the selectional requirements imposed by the matrix clause. These features constitute semantic content and so are incompatible with CP-recursion in the same way that negative complementizers are.<sup>17</sup>

This analysis also predicts correctly the behavior of the third type of complementizer with content, the *wh*- complementizer of embedded interrogatives. In the case of an English embedded yes-no question, the higher verb selects for 'if' or, if 'whether' is present in the [SPEC, CP], a null counterpart of 'if'. In the case of an embedded *wh*- question, the selection may be said to be for that same null counterpart of 'if' or for a bundle of relevant features in that position. But whatever the exact mechanism of selection, the CP immediately following the higher verb has specific content whose presence is required at LF; and, therefore, CP-recursion should not be possible in such environments. Again, this is what we have found. In those languages where embedded *v*/2 requires CP-recursion, it does not occur in indirect questions while in those languages where embedded *v*/2 is general, it does occur there. Now there is, of course, another reason that might exclude topicalization in embedded questions. Their structure is purportedly the one in (86):

- (86) ...V [<sub>CP<sub>1</sub></sub> *wh*-<sub>i</sub> [<sub>C'</sub> ∅ [<sub>CP<sub>2</sub></sub> topic [<sub>C'</sub> verb [<sub>IP</sub> ...*t*<sub>i</sub>...]]]]

We have argued that (86) is not an acceptable structure because CP<sub>1</sub> cannot be made transparent. The additional reason to exclude such a structure is that CP<sub>2</sub> effectively becomes an island due to the topic occupying its specifier position. As a result, movement of the *wh*- phrase to the specifier of CP<sub>1</sub> will be degraded (but see footnote 12 for a case where a resumptive pronoun can be inserted to control for the effect of movement). Even though there are two reasons to exclude (86) as a CP-recursive structure, however, our general point still stands, given that topicalization

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account for at present.

<sup>15</sup>Though irrealis complements are not ordinarily included in discussions of extraction islands, they are, in fact, islands for the extraction of at least some adjuncts. Consider, for example the contrast between the ordinary complement in (i) below and the irrealis complements in (ii) and (iii). Only in the first case can 'why' be construed with the lower verb.

- (i) Why do you think that the company hired her?  
 (ii) Why do you wish that the company would hire her?  
 (iii) Why do you desire that the company (should) hire her?

If the extracted adjunct is 'how', 'when' or 'where', irrealis complements appear to allow extraction, as (iv) indicates (Hegarty, p.c.):

- (iv) How does he insist that they stack the boxes?

in Icelandic and Yiddish does not create such an island. This fact supports the position that topicalization in these languages takes place within IP; i.e., does not involve CP-recursion. The same double violations can be said to take place when the *wh*-phrase in (86) is 'whether'. Following Larson (1985), Kayne (1991) and others, we assume that 'whether' stands in the specifier of CP<sub>1</sub>. Its movement to this position is blocked by the topic in the specifier of the second CP. The same position can be taken for the expansion with 'if', if one follows Larson (1985) in assuming that, when 'if' appears, there is a null counterpart of 'whether' that moves to the specifier of CP<sub>1</sub>.<sup>18</sup>

The interpretation of "transparency" of a CP as LF deletion seems straightforward; but there is an apparent problem with it that should be mentioned. If LF deletion is a straightforward syntactic operation, we expect it to apply whenever its conditions are met. In particular, it should be possible to have multiply recursive CP structures, as in (87), with successive LF-deletion of the highest CP:

(87) V [CP<sub>1</sub> [CP<sub>2</sub> [CP<sub>3</sub> [...]]]]

Such cases of multiple recursion have hardly been discussed (but see Vikner, 1991a), nor do they seem likely.<sup>19</sup> Contrary to appearances, however, no such multiple recursion will, in fact, arise under the LF deletion interpretation of "transparency." A CP will be deletable if it is contentless; that is, C<sup>0</sup> must contain at most a simple affirmative indicative declarative complementizer and [SPEC, CP] must be empty. Under these circumstances, however, the CP will be entirely inert syntactically. It will contain no moved constituents or traces of movement in either the head or the specifier position and it will not participate in selection relations. Therefore, multiple recursion of such CPs will have no observable effects.<sup>20</sup> Of course, our analysis does make one incorrect prediction; namely, it does not rule out examples like (88), in which 'that' complements are embedded in one another:

(88) \*I think that that (that) .... Mary visited her mother.

But this case is not bad due to multiple recursion since even one repetition of the complementizer is unacceptable. The ungrammaticality here must be due to some factor independent of those we have discussed. Perhaps what is involved is some sort of morpho-syntactic constraint against repetition of the same element (cf. the "double -ing" constraint of Ross (1972)).

In sum, we have explained why a complementizer with semantic content should block CP-

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We have no account for this fact, but note that the same asymmetry arises with factives:

- (v) Why did you point out that he left?
- (vi) How did you point out that he had stacked the boxes?

In (v), 'why' must be construed with the matrix predicate; but (vi), like (iv), is ambiguous.  
<sup>16</sup>As expected, this same pattern holds in the languages Laka studied, Spanish and Basque, where there is overt morphological evidence of the presence of a negative complementizer. Our analysis predicts that conditionals with 'then' should not be possible under the negative complementizer in Basque, as well as in embedded clauses with the dubitative subjunctive in Spanish, which is subcategorized for by the negative complementizer. Both these predictions are borne out:

recursion by supposing that the transparency of the higher CP in such cases translates formally into deletion of the complementizer and its associated projection at LF. Such deletion will allow licensing of the lower CP under government by the verb in the standard way. Since a complementizer with content satisfies the selection requirements of its matrix verb and these are checked at LF, deletion of such a complementizer will not be possible, preventing licensing of the lower CP. The degraded status of sentences with CP-recursion under negative or interrogative complementizers, then, is due to the conflict that arises between the licensing conditions for CP-recursion (the complementizer must be deleted at LF) and the selection requirements of the higher verbs (the complementizer must be interpreted at LF). This line of reasoning, however, raises an obvious question: Are there really complementizers that are semantically empty? Why should the affirmative indicative complementizer lack content while the negative complementizer and the irrealis complementizer have it? We can avoid this question with a weaker formulation that captures the same facts. Suppose that CP-recursion is possible only when the content of CP<sub>1</sub> is recoverable from that of CP<sub>2</sub>. In other words, the degraded status of CP-recursion under negative, irrealis, and wh- complementizers is still due to the lower CP not being able to satisfy the selection requirements of the higher verb; but now we are not forced to argue affirmative indicative complementizers are semantically empty. All that is required is that the lower CP also contain affirmative features. Of course, this formulation still treats affirmative indicative complementizers differently from the others, since a lower CP can be affirmative indicative by default; that is, without its content being licensed.

## 6. Appendix: On the syntax of 'even' and 'only'

In this paper we have assumed that elements like 'even' and 'only' can be adjoined to their associates and we argued that, as predicted, they do not block selection:

- (1) a. He asked even what books I like to read when falling asleep.  
b. He asked only when we would like to have dinner.

Our proposal predicts therefore, that extraction out of a CP to which 'even' or 'only' is adjoined should also be possible. But here the data become more complicated, as it appears that a factor orthogonal to the present discussion interferes. The semantic associate of 'even'/'only' is not necessarily the phrase to which the element is adjoined. It may be a subconstituent of that phrase that is marked with contrastive stress. Whether the associate is the whole phrase or a part of it, however, extraction of the associate of 'only' or 'even' is never permitted (the associate is indicated by underlining>):

- 
- (i) a. Jonek euria egiten badu (orduan) jaia seiretan hasiko dela uste du.  
John rain makes if-does (then) party at six start COMP(AFF) thought has  
'John thinks that if it rains (then) the party will start at six'
- b. Jonek ez du uste euria egiten badu (??orduan) jaia seiretan hasiko denik.  
John not has thought rain make if-does (??then) party at six start COMP(NEG)  
'John doesn't think that if it rains (??then) the party will start at six'
- (ii) a. Dudo que Maria venga/\*viene.  
I-doubt that Mary come/SUBJ/\*IND
- b. Niego que Maria sepa/\*sabe la verdad.  
I-deny that Mary know/SUBJ/\*IND the truth

- (2) a. \*Mary, John saw only.  
b. \*Who did John say even/only that Bill loves?

Indeed, the constraint is even stronger, in that extraction from *within* the associate is also not permitted:

- (3) \*Who did John say even/only that Bill loves?

The same holds if 'even' and 'only' are preverbal, showing that what is relevant is the status of the embedded CP as associate and not the position of the focus markers in the sentence. This phenomenon can also be observed at LF. Sentence (4) is ambiguous: 'somebody' may take scope over the object or be within the scope of the object. But if we introduce 'only' or 'even', the sentence will lack the reading where the object has scope over the subject:

- (4) Somebody (even/only) loves (even/only) everybody's brother.

Whatever the explanation is for this effect, the facts are clear: it is impossible to extract from within the associate of 'only' or 'even' but for reasons independent of the generalization proposed here, since extraction is blocked even when the the focus marker is not adjacent to the CP. Moreover, when a constituent other than the associate is extracted, the sentences become better for some speakers, confirming that adjunction to the CP does not block extraction:

- (5) a. Who did John (even/only) say (even/only) that Bill loves?  
b. How did John (even//only) say (even/only) that Bill fixed the car?

From the general spirit of the present proposal, the question that this raises is whether there is any effect on v/2 inside CPs that are associates of 'only' and 'even'. Since we have found that in Danish embedded v/2 (i.e. CP-recursion) is only possible in the environments from which extraction is permitted, while in Icelandic v/2 is possible also outside these environments, one might wonder whether v/2 is possible in clauses that are modified by the aforementioned elements. Indeed, Danish differs from Icelandic in this respect: v/2 is acceptable in Icelandic clauses which are associates of 'even' and 'only', but degraded in the corresponding Danish sentences:

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c. Cada chico niega/duda que si su madre viene (??entonces) el partido comience a las siete.

Each boy denies/doubts that if his mother comes (??then) the party will start at six

These examples are exactly parallel to our English examples in (72) and (73).

<sup>17</sup>As we point out in footnote 3, Hegarty (1992) argues that familiar predicates, a super set of the factives, also impose feature content on their complementizers and block CP-recursion in their complements.

<sup>18</sup>Or, as in Iatridou (1991b), following a suggestion of Pesetsky, one can assume that an embedded question CP is always of the form [wh-phrase [if [IP]] and due to some doubly filled COMP effect one of the two elements has to delete. If the wh-phrase is 'whether', either it or 'if' can delete. But with different wh-words there will be no choice in the element to be deleted, because the content of the wh-word will not be recoverable.

<sup>19</sup>The reader may wonder whether multiple wh- fronting in Slavic isn't such a case. However, even if it is, the conditions under which it is licensed may also be different from the cases we

Icelandic (Thráinsson p.c.):

- (6) Ég sagði bara að Maríu hefði hann aldrei séð.  
I said only that Mary(A) had he(N) never seen
- (7) Hún sagði jafnvel að Guðmundi hefði enginn viljað hjálpa.  
she said even that Gudmund(D) had nobody(N) wanted (to) help

Danish (Vikner p.c.):

- (8) Jeg troede kun at han ikke ville se denne film, ikke at han aldrig gik i biografen.  
I believed only that he not would see this film, not that he never went in cinema-the
- (9) ??Jeg troede kun at denne film ville han ikke se, ikke at han aldrig gik i biografen.  
I believe only that this film would he not see, not that he never went in cinema-the

The contrast between (6)/(7) and (8)/(9) is obviously fully consistent with the proposals of this paper. However, since a full analysis of such sentences depends on the correct analysis of 'even' and 'only', we will leave further exploration for a future occasion.

## 7. References

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have discussed. In particular, it may be that interrogative COMPs in Slavic need not be licensed by selection at all. If so, we would not expect our analysis to extend straightforwardly to this case. More work on the construction is clearly needed.

Another case which might seem to be an instance of multiple recursion is the embedding of a VP-ellipsis clause with fronted 'so' under conditional 'then', as in the following example:

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