**Abstract**

This talk will explore a particular derivation of (embedded) V2, in terms of a cP/CP-distinction, which may be seen as a version of the CP-recursion analysis (de Haan & Weerman 1986, Vikner 1995, ...). This analysis is an alternative to a fine-grained left periphery approach (Rizzi 1997, Wiklund et al. 2007, Julien 2015, ...).

All the Germanic languages except modern English (but including e.g. Old English) are V2, i.e. in all declarative main clauses and in all wh-questions, the finite verb is in the second position, regardless of whether the first position is occupied by the subject or by some other constituent. This can be extended to yes/no-questions, provided it is assumed that the first position in such questions is empty (and such an assumption is supported by the fact that it allows an account for Greenberg's 1963:83 "Universal 11", cf. Vikner 2007).

As far as embedded clauses in the Germanic languages are concerned, V2 is never obligatory, and although it is optionally possible in many embedded clauses, this is not the case for all types of embedded clauses, as e.g. embedded questions never allow V2 (Julien 2007, Vikner 2001).

The central idea of the analysis here (cf. Nyvad, Christensen & Vikner 2017, Vikner, Christensen & Nyvad 2017) is that because embedded V2 clauses do not allow extraction, whereas other types of CP-recursion clauses do (Christensen et al. 2013a,b), CP-recursion in embedded V2 is assumed to be fundamentally different from other kinds of CP-recursion, in that main clause V2 and embedded V2 involve a CP ("big CP"), whereas other clausal projections above IP are instances of cP ("little cP").
1. Verb second (V2)

1.1 V2 in main clauses in general

All Germanic languages (with the single exception of Modern English) are "verb second" (V2), in that the finite verb always occupies the second position in the main clause (and in some embedded clauses too). In other words, in main clauses, the subject position may be preceded both by the finite verb and by some maximal projection.

(1) **Verb second = V2**

Den Besten (1977) was the first to suggest an analysis that found its canonical form in Platzack (1985) and Chomsky (1986:6), as double movement of some XP into CP-spec and of the finite verb into C°:

(2) In order to find out whether a language is V2, we have to examine main clauses, but not subject-initial ones, because here even English and French might appear to be V2:

(3) a. Da. Peter **has** sandsynligvis læst den her bog.
    b. Ic. Pétur **hefur** sennilega lesið þessa bók.
    c. Ge. Peter **hat** wahrscheinlich dieses Buch gelesen.
    d. Af. Pieter **het** waarskynlik hierdie boek gelees.
    e. En. Peter **has** probably read this book.
    f. Fr. Il **a** probablement lu ce livre.

This is an illusion, however. Only in (3)a,b,c,d does the subject occupy CP-Spec and the finite verb C°, whereas in (3)e,f, the subject presumably occupies IP-Spec and the finite verb I°.

We also cannot rely on **wh**-initial-clauses (clauses that begin with a question element) when you test for V2, as even English and French have V2 in main clause questions, as seen in (4).

(4) a. Da. Hvad for en **bog** **har** Peter læst?
    b. Ic. Hvaða **bók** **hefur** Pétur lesið?
    c. Ge. Welches **Buch** **hat** Peter gelesen?
    d. Af. Watter **boek** **het** Pieter gelees?
    e. En. Which **book** **has** Peter read?
    f. Fr. Quel **livre** **a-t-** il lu?
We need to consider non-subject-initial and non-wh-initial clauses, as in (5) & (6). Here it is clear that only the Germanic languages (with the exception of modern English) are "real" V2 languages.

Rizzi (1996:64) refers to modern English and modern French as languages with "residual V2", because "real" V2 was fairly widespread in Old English, (7)a, and Old French, (8), less so in Middle English, (9), and Middle French, (10), and it is fairly limited in modern English and modern French (where it mainly occurs in main clause questions like (4)). For more detail on the loss of V2 in English, see Fischer et al. (2000:104-137).

<table>
<thead>
<tr>
<th>CP-Spec</th>
<th>C°</th>
<th>IP</th>
</tr>
</thead>
<tbody>
<tr>
<td>(7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. OE</td>
<td>Hine</td>
<td>bebyrigde</td>
</tr>
<tr>
<td>b. En. *</td>
<td>This man</td>
<td>buried</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. En.</td>
<td>This man</td>
<td></td>
</tr>
<tr>
<td>d. Ge.</td>
<td>Ihn</td>
<td>beerdigte</td>
</tr>
<tr>
<td>e. Ge. *</td>
<td>Ihn</td>
<td></td>
</tr>
<tr>
<td>f. Da.</td>
<td>Ham</td>
<td>begravede</td>
</tr>
<tr>
<td>g. Da. *</td>
<td>Ham</td>
<td></td>
</tr>
<tr>
<td>j. Ic.</td>
<td>Hana</td>
<td>jarðaði</td>
</tr>
<tr>
<td>i. Ic. *</td>
<td>Hana</td>
<td></td>
</tr>
<tr>
<td>(8)</td>
<td>OF.</td>
<td>Longuement resgarda</td>
</tr>
<tr>
<td></td>
<td></td>
<td>watched</td>
</tr>
<tr>
<td>(9)</td>
<td>ME.</td>
<td>Thanne hath</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(10)</td>
<td>MF.</td>
<td>Si suis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(7)a = ca. 1140, the Peterborough Chronicles, Shores (1971:91)
(8) = ca. 1225, La Queste del Saint Graal, Vance (1995:174)
(9) = 1391, Geoffrey Chaucer, A Treatise on the Astrolabe, Skeat (1872:6)
(10) = ca. 1456, Jehan de Saintré, Vance (1989:160)
The single CP-analysis of V2, (2), is thus that the finite verb in V2 main clauses occupies the same position that the complementiser (e.g. that, if, because) occupies in an embedded clause, namely C°:

<table>
<thead>
<tr>
<th>CP-Spec</th>
<th>C°</th>
<th>IP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Da. a. ...</td>
<td>at bornene</td>
<td>har set den her film.</td>
</tr>
<tr>
<td>b.</td>
<td>Denne film</td>
<td>har børnene</td>
</tr>
<tr>
<td>Ic. a. ...</td>
<td>að börnin</td>
<td>hafa séð þessa mynd.</td>
</tr>
<tr>
<td>b.</td>
<td>Þessa mynd</td>
<td>hafa börnin</td>
</tr>
<tr>
<td>Ge. a. ...</td>
<td>dass die Kinder</td>
<td>diesen Film gesehen haben.</td>
</tr>
<tr>
<td>b.</td>
<td>Diesen Film</td>
<td>haben die Kinder</td>
</tr>
<tr>
<td>Af. a. ...</td>
<td>dat die kinders</td>
<td>hierdie film gesien het.</td>
</tr>
<tr>
<td>b.</td>
<td>Hierdie film</td>
<td>het die kinders</td>
</tr>
<tr>
<td>En. a. ...</td>
<td>that the children have seen this film.</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>None of these films</td>
<td>have the children ___ seen __________.</td>
</tr>
</tbody>
</table>

A further indication that the finite verb in main clauses occupies the same position as the complementiser does in embedded clauses may be found in conditional clauses, where the subject is preceded either by a complementiser (e.g. if) or by the finite verb (e.g. had), but not by both:

<table>
<thead>
<tr>
<th>C°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Da. a. Hvis jeg havde haft mere tid, ...</td>
</tr>
<tr>
<td>Ic. b. Ef ég hafði haft meiri tíma, ...</td>
</tr>
<tr>
<td>Ge. c. Wenn ich mehr Zeit gehabt hätte, ...</td>
</tr>
<tr>
<td>Af. d. As ek meer tyd gehad het, ...</td>
</tr>
<tr>
<td>En. e. If I had had more time, ...</td>
</tr>
<tr>
<td>Da. a. Havde jeg ___ haft mere tid, ...</td>
</tr>
<tr>
<td>Ic. b. Hefði ég ___ haft meiri tíma, ...</td>
</tr>
<tr>
<td>Ge. c. Hätte ich mehr Zeit gehabt ____, ...</td>
</tr>
<tr>
<td>Af. d. Het ek meer tyd gehad ____, ...</td>
</tr>
<tr>
<td>En. e. Had I ___ had more time, ...</td>
</tr>
<tr>
<td>Da. a. * Havde hvis jeg ___ haft mere tid, ...</td>
</tr>
<tr>
<td>Ic. b. * Hefði ef ég ___ haft meiri tíma, ...</td>
</tr>
<tr>
<td>Ge. c. * Hätte wenn ich mehr Zeit gehabt ____, ...</td>
</tr>
<tr>
<td>Af. d. * Het as ek meer tyd gehad ____, ...</td>
</tr>
<tr>
<td>En. e. * Had if I ___ had more time, ...</td>
</tr>
<tr>
<td>Da. a. * Hvis havde jeg ___ haft mere tid, ...</td>
</tr>
<tr>
<td>Ic. b. * Ef hafði ég ___ haft meiri tíma, ...</td>
</tr>
<tr>
<td>Ge. c. * Wenn hätte ich mehr Zeit gehabt ____, ...</td>
</tr>
<tr>
<td>Af. d. * As het ek meer tyd gehad ____, ...</td>
</tr>
<tr>
<td>En. e. * If had I ___ had more time, ...</td>
</tr>
<tr>
<td>Da. * ville jeg have lavet et endnu længere hand-out.</td>
</tr>
<tr>
<td>Ic. * myndi ég hafa gert ennþá lengri úthendu.</td>
</tr>
<tr>
<td>Ge. * hätte ich ein noch langeres Thesenpapier gemacht.</td>
</tr>
<tr>
<td>Af. * sou ek ’n nog langer uitdeelstuk gemaak het.</td>
</tr>
<tr>
<td>En. * I would have made an even longer hand-out.</td>
</tr>
</tbody>
</table>
Consider finally the following examples from two V2-languages, Danish and German. (20)a,b and (21)a,b again show that Danish and German are V2-languages, which is why the finite verb cannot occur to the right of the subject. (20)c and (21)c show that only one verb may undergo V2. (20)d and (21)d show that only a finite verb may undergo V2 (and not the infinitive spise/essen ‘eat’).

\[
\begin{array}{|c|c|c|c|c|c|c|}
\hline
\text{CP-spec} & \text{C°} & \text{TP-spec} & \text{AdvP} & \text{V°} & \text{V°} & \text{DP} \\
\hline
(20) & a. & Derfor & jeg & desværre & burde & spise mindre chokolade. \\
 & b. & Derfor & burde & jeg & desværre & spise mindre chokolade. \\
 & c. & *Derfor & burde & spise jeg & desværre & mindre chokolade \\
 & d. & *Derfor & spise jeg & desværre & burde & mindre chokolade. \\
\hline
\end{array}
\]

Therefore (ought) (eat) I unfortunately (ought) (eat) less chocolate

\[
\begin{array}{|c|c|c|c|c|c|c|}
\hline
\text{CP-spec} & \text{C°} & \text{TP-spec} & \text{AdvP} & \text{DP} & \text{V°} & \text{V°} \\
\hline
(21) & a. & Deswegen & ich & leider & weniger & Schokolade essen sollte. \\
 & b. & Deswegen sollte & ich & leider & weniger & Schokolade essen. \\
 & c. & *Deswegen sollte & essen ich & leider & weniger Schokolade sollte. \\
 & d. & *Deswegen & essen ich & leider & weniger & Schokolade sollte. \\
\hline
\end{array}
\]

Therefore (should) (eat) I unfortunately less chocolate (eat) (should)

Here is how V2 works in three Danish main clauses under the single CP-analysis of V2 in (2) (with the added assumption of the subject being base-generated in VP-spec):

(22) Da. a.

\[ \text{SUBJECT-INITIAL V2} \]

b.

\[ \text{NON-SUBJECT-INITIAL V2} \]

a. = Erik eats never cheese / b. = Cheese eats Erik never
1.2 V2 in English main clauses

As some of the examples above show, English has to have V2 in main clause questions, even though it is the only Germanic language not to have V2 in all main clauses:

<table>
<thead>
<tr>
<th>CP-Spec</th>
<th>C°</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. En.</td>
<td>* Which book has Peter ___ read _____ ___ ?</td>
</tr>
<tr>
<td>b. En.</td>
<td>* Which book har Peter has read _____ ___ ?</td>
</tr>
<tr>
<td>c. Da.</td>
<td>Hvad for en bog har Peter ___ læst _____ ___ ?</td>
</tr>
<tr>
<td>d. Ic.</td>
<td>Hvaða bók hefur Pétur ___ lesið _____ ___ ?</td>
</tr>
<tr>
<td>e. Ge.</td>
<td>Welches Buch hat Peter ___ ___ gelesen ___ ?</td>
</tr>
<tr>
<td>f. Af.</td>
<td>Watter boek het Pieter ___ ___ gelees ___ ?</td>
</tr>
</tbody>
</table>

(23)

English also has to have V2 with topicalised negative elements:

<table>
<thead>
<tr>
<th>CP-Spec</th>
<th>C°</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. En.</td>
<td>Never have the children ___ seen such a bad film.</td>
</tr>
<tr>
<td>b. En.</td>
<td>* Never the children have seen such a bad film.</td>
</tr>
<tr>
<td>d. Ic.</td>
<td>Aldrei hafa börnin ___ set sòð svona slæma mynd.</td>
</tr>
<tr>
<td>e. Ge.</td>
<td>Nie haben die Kinder so einen schlechten Film gesehen _.</td>
</tr>
<tr>
<td>f. Af.</td>
<td>Nooit het die kinders so 'n slegte film gesien ___ nie.</td>
</tr>
</tbody>
</table>

(25)

Two things indicate that only-expressions like only in America are negative (or at least non-veridical):

I. The interpretation of only in America is "nowhere except in America", cf. also how this is expressed in e.g. French by means of a negative particle and but:

(27) Fr. Des histoires comme la miene n' arrivent qu' en Amérique.

Stories like the mine not arrive but in America

II. Like negative expressions, expressions like only in America may trigger so-called "negative polarity items" like anybody, ever, at all, ...

(28) En. a. Only in America might such a thing _____ happen at all.
   b. * In America such a thing might happen at all.
   c. In America such a thing might not happen at all.
1.3 V2 in embedded clauses

The standard form of an embedded clause is an IP inside a CP:

(29) Da.

\[
\text{STANDARD EMBEDDED CLAUSE (I.E. NON-V2)}
\]

However, sometimes it is also possible to have what has been called "embedded main clauses": embedded clauses with main clause word order, i.e. with V2. Vikner (1995:80-87) and many others analyse such clauses as cases of a CP inside another CP.

(30)a is embedded **subject-initial** V2, whereas (30)b is embedded **non**-subject-initial V2, cf. (22)a,b above.

That (30)a is embedded V2 rather than e.g. V°-to-I°-movement can be seen from the fact that exactly those contexts that allow (30)a also allow (30)b (and vice versa). This is explained if (30)a and (30)b are the same phenomenon: embedded V2.

Notice that all three types of embedded clauses (non-V2 = (29), subject-initial V2 = (30)a, and non-subject-initial V2 = (30)b) are also possible if the clause containing the matrix verb *vide* 'know' is itself an embedded clause.

(You can exchange *Ved Bo at ...* 'Knows Bo that ...' in (29)/(30)a,b with *Jeg er bange for at Bo ikke ved at ...* 'I am afraid for that Bo not knows that ...', and all three types remain well-formed.)

According to Freitag & Scherf (2016:11-12), this is an indication that the embedded clauses in question are truly embedded and not just "superficially connected to the matrix clause" (and F&S show that in German, clauses like (30)a,b are not possible if the matrix clause is itself not V2).
Knows Bo that Erik eats never cheese?

Knows Bo that cheese eats Erik never?
Embedded V2 is realised in different ways in Danish, English and German.

Embedded V2 in English is only possible with a negative element in CP-spec (cf. section 1.2 above), whereas in Danish and German, there is no such restriction.

(31) **En.** I think ...

<table>
<thead>
<tr>
<th></th>
<th>C°</th>
<th>C°</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>...</td>
<td>(that) Max would never read papers on the train. -V2</td>
</tr>
<tr>
<td>b.</td>
<td>* ... that papers would</td>
<td>Max ____ never read on the train. V2</td>
</tr>
<tr>
<td>c.</td>
<td>* ... papers would</td>
<td>Max ____ never read on the train. V2</td>
</tr>
<tr>
<td>d.</td>
<td>... that under no circumstances would</td>
<td>Max ____ ever read papers on the train. V2</td>
</tr>
<tr>
<td>e.</td>
<td>* ... under no circumstances would</td>
<td>Max ____ ever read papers on the train. V2</td>
</tr>
</tbody>
</table>

In English and Danish, the complementiser *that/at*, which is optional in normal embedded clauses, is **obligatory** with embedded V2.

(32) **Da.** a. Jeg tror ... 

<table>
<thead>
<tr>
<th></th>
<th>C°</th>
<th>C°</th>
</tr>
</thead>
<tbody>
<tr>
<td>I think</td>
<td>(at) Max aldrig læser aviser i toget. -V2</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>Jeg tror</td>
<td>at i toget læser</td>
</tr>
<tr>
<td>c.</td>
<td>* Jeg tror</td>
<td>i toget læser</td>
</tr>
</tbody>
</table>

In German, the complementiser *dass 'that', which is obligatory in normal embedded clauses, is **impossible** with embedded V2.

(34) **Ge.** a. Ich glaube ... 

<table>
<thead>
<tr>
<th></th>
<th>C°</th>
<th>C°</th>
</tr>
</thead>
<tbody>
<tr>
<td>I think</td>
<td>dass Max nie im Zug Zeitungen liest. -V2</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>* Ich glaube dass</td>
<td>im Zug liest</td>
</tr>
<tr>
<td>c.</td>
<td>Ich glaube</td>
<td>im Zug liest</td>
</tr>
</tbody>
</table>

(35) **Ge.** Ich glaube ... 

<table>
<thead>
<tr>
<th></th>
<th>C°</th>
<th>C°</th>
</tr>
</thead>
<tbody>
<tr>
<td>I think</td>
<td>unter keinen Umständen würde Max im Zug Zeitungen lesen ____. V2</td>
<td></td>
</tr>
<tr>
<td>...</td>
<td>under no circumstances would Max in-the train papers read</td>
<td></td>
</tr>
</tbody>
</table>
Some kind of recursive CP-analysis, (30)a-b, is therefore only necessary for embedded V2 in English and Danish, not for embedded V2 in German:

(36)

![Diagram of CP-Recursion](image)

(embedded V2
(in Danish and English)

One major difference between main clause V2 and embedded V2 is that whereas main clause V2 is **obligatory**, no embedded clause type allows **only** V2 (provided the language has a difference V2 vs. non-V2 at all, i.e. excluding general embedded V2 languages, but according to e.g. Walkden 2016, Wiklund et al. 2009, general embedded V2 is much less likely to exist than assumed in Vikner 1995).

Three conditions seem to be necessary for embedded V2 to be possible (e.g. Vikner 2001:226, ...) - whereas the non-V2 option is always possible, even when these conditions are not observed, as shown below:

(37)  

| a. An embedded V2 clause requires certain matrix verbs (verbs of saying and believing, or ...). |
| b. An embedded V2 clause requires the matrix verb not to be negated. |
| c. An embedded V2 clause has to occur in object position. |

(Trying to find the common denominator in (37)a-c leads Julien 2015 and many others to say that assertion is the key to embedded V2, but see also e.g. Freitag & Scherf 2016.)

Even though the following three have no CP-recursion, the conditions in (37) also hold:

1. for embedded V2 in German,
2. for embedded non-V2 topicalisation in English, and
3. for optional at/that in English and Danish.

(Following the spirit - if not the letter - of McCloskey 2006 and Biberauer 2015 might lead to positing an empty higher CP in at least the first two of these three cases.)

**Summary so far**

- V2 is the double movement of an XP into CP-Spec and of the finite verb into C°.
- V2 takes place in main clauses, obligatorily.
- In modern English, V2 requires that CP-spec contains either a negative element or a wh-element.
- In the other Germanic languages, V2 is not constrained in any such way.
- V2 takes place in certain types of embedded clauses as well, but only optionally.
- Embedded V2 requires that/at in English and Danish, but does not allow dass in German.
1.4 Main clause yes/no-questions: V1 or V2?

In all the Germanic languages, main clause yes/no-questions are V1 ("verb first"), i.e. they have a finite verb in clause-initial position. If we assume that the empty CP-Spec contains an invisible wh-element (an empty operator), these examples are parallel to the examples in the previous section, i.e. they are really "V2" rather than "V1":

<table>
<thead>
<tr>
<th>CP-Spec</th>
<th>C°</th>
</tr>
</thead>
<tbody>
<tr>
<td>(38) a. En. [wh ___] Has Peter ___ read this book ?</td>
<td></td>
</tr>
<tr>
<td>b. Da. [wh ___] Har Peter ___ læst den her bog ?</td>
<td></td>
</tr>
<tr>
<td>c. Ic. [wh ___] Hefur Pétur ___ lesið þessa bók ?</td>
<td></td>
</tr>
<tr>
<td>d. Ge. [wh ___] Hat Peter dieses Buch gelesen ___ ?</td>
<td></td>
</tr>
</tbody>
</table>

Assuming an empty wh-element in CP-spec in (38) might seem to be just a trick (an ad hoc assumption) to save the analysis of the previous sections that all main clauses in the Germanic languages (except English) are V2. However, if the assumption of an empty wh-element in CP-spec in (38) has other consequences, then it is not ad hoc. Here are three reasons why it is not ad hoc:

(39) a. It correctly predicts that verb-initial main clauses are interpreted as yes/no-questions.
   b. It correctly predicts that verb-initial main clauses trigger do-support.
   c. It accounts for the link between inversion in yes/no-questions and clause-initial wh-elements in wh-questions noted in part b of Greenberg's (1963:83) "Universal 11".

As for (39)a, the strings of words in (38) may clearly only be interpreted as questions.

As for (39)b, given that an initial wh-element (or an initial negative topic) is needed to trigger subject-auxiliary inversion and do-support, (40)b, assuming an empty wh-element in the first position of a main clause yes/no-questions will correctly predict subject-auxiliary inversion and do-support in (41)b:

(40) En. a. Yesterday Joe bought three books.
   b. When did Joe buy three books ?

(41) En. a. Joe bought three books.
   b. [wh ___] did Joe buy three books ?

As for (39)c, let us have a closer look at the link between inversion in yes/no-questions and clause-initial wh-elements in wh-questions noted in the second half of Greenberg's (1963:83) "Universal 11".

(42) Universal 11 (Greenberg 1963:83)
   a. Inversion of statement order [in interrogative word questions] so that verb precedes subject occurs only in languages where the question word or phrase is normally initial.
   b. This same inversion occurs in yes-no questions only if it also occurs in interrogative word questions.

(43) "Translation":
   a. Subject-verb inversion occurs in wh-questions only if the language has clause-initial wh-elements.
   b. Subject-verb inversion occurs in yes/no-questions only if it occurs in wh-questions.
Inference:

Subject-verb inversion occurs in yes/no-questions only if the language has clause-initial wh-elements.

To see what exactly Greenberg means, let us take a step back (cf. also Vikner 2007:471-474). He presupposes that languages may differ with respect to the following two things:

I. Languages may or may not have clause-initial wh-elements (e.g. English does, Turkish does not):

(45) a. English   What had Harry read ?  
     b. Turkish  Hasan ne oku -du ?

II. Languages may or may not have subject-verb inversion in yes/no-questions (e.g. English does, Turkish does not):

(46) a. English   Has Alfred gone to the cinema ?
     b. Turkish   Ahmet cinema-ya git -ti mi ?

If these two different properties could combine freely, we would expect languages of all four possible types:

(45)a + (46)a  =  e.g. English
(45)b + (46)b  =  e.g. Turkish
(45)a + (46)b  not attested
(45)b + (46)a  not attested

This is not the case, however. As Greenberg (1963:83) observed, a language has subject-verb inversion in yes/no-questions, (46)a, only if it has clause-initial wh-elements, (45)a.

This is where the potentially ad hoc assumption from above comes in, i.e. the assumption of an empty wh-element in the initial position of main clause yes/no-questions in e.g. English.

If we assume that there is an empty wh-element in the initial position of main clause yes/no-questions in e.g. English, then yes/no-questions with subject-verb inversion as in (46)a are parallel to questions with clause-initial wh-elements, (45)a, in that in both types, the initial element is a wh-element. The observation that (46)a only occurs in languages that also have (45)a is thus explained, as both are examples of the same structure, clause-initial wh-elements. It is therefore also to be expected that a language which does not have initial wh-elements, like Turkish in (45)b, will not have subject-verb inversion in yes/no-questions either, (46)b.

The conclusion is therefore that the assumption of an empty wh-element in the first position of a main clause yes/no-questions is not ad hoc, and that the V1 order in main clause yes/no-questions in Germanic is really another set of cases of V2.
2. CP and cP

2.1 Introduction

Chomsky (2000) suggests that syntactic derivation proceeds in phases and that the syntactic categories vP and CP are phases. A phase has two parts: A phase edge, which consists of the head and the specifier(s), and the phase domain, which is the complement of the phase head. Chomsky's (2000) Phase Impenetrability Condition (PIC) says that only the edge of a phase is syntactically transparent, whereas the phase domain is opaque to further syntactic operations, and the only way an element can be extracted from a phase is via an intermediate phase edge position. In this way, long extraction proceeds successive-cyclically from phase edge to phase edge – from escape hatch to escape hatch.

According to Chomsky (2005, 2007), Internal Merge operations such as A-bar movement are triggered by an edge feature on the phase head (in Chomsky 2000, this feature is called a P(eripheral)-feature, in Chomsky 2001 a generalised EPP-feature), argued to be an irreducible primitive of UG. In what follows, this feature will be referred to as an OCC (“occurrence”) feature (following Chomsky 2005:18), which provides an extra specifier position that does not require feature matching. OCC offers an escape hatch allowing an element to escape an embedded clause.

The availability of this generic edge feature OCC together with the availability of multiple specifier positions, however, in principle permits any element from within the phase domain to move across a phase edge, and so island effects should not exist (as also observed by Boeckx 2012:60-61).

If instead of multiple specifiers, CP-recursion is possible, the Danish data presented below may be captured in a uniform manner. We will explore a particular derivation of (embedded) V2, in terms of a cP/CP-distinction, which may be seen as a version of the CP-recursion analysis (de Haan & Weerman 1986, Vikner 1995, Bayer 2002, Walkden 2017, …). Because embedded V2 clauses do not allow extraction, whereas other types of CP-recursion clauses do (Christensen et al. 2013a,b, Christensen & Nyvad 2014), CP-recursion in embedded V2 is assumed to be fundamentally different from other kinds of CP-recursion, as captured in the following analysis from Nyvad, Christensen & Vikner (2017) and Vikner, Christensen & Nyvad (2017):

(47) a. a CP with V2 (headed by a finite verb) = CP ("big CP")
     b. a CP without V2 (headed by a functional element) = cP ("little cP")

The idea is to attempt a distinction parallel to the vP-VP distinction (Chomsky 1995:347), with cP being above CP (cf. Koizumi 1995:148 who posits a CP-PolP corresponding to our cP-CP, and de Cuba’s 2007 independent proposal that non-factive verbs select a non-recursive cP headed by a semantic operator removing the responsibility for the truth of the embedded clause from the speaker).

C° like v° is a functional head, whereas C° like V° should be a lexical head. The latter admittedly only works partially, in that C° is only lexical to the extent that it must be occupied by a lexical category, i.e. a finite verb (including auxiliaries, even if they are often taken to be functional).
2.2 C°

Although CP-spec is the position that attracts topics, also in embedded clauses, its sister C° does not have a topic-feature inherently, but only acquires such a feature through verb movement (cf. e.g. Rizzi 1996 and Bayer 2002). The fact that C° (or c°) does not inherently have a topic feature (which is very different from e.g. the way c° may have a wh-feature) is surely related to the fact that topicalisations are never selected for, i.e. there are verbs that select only embedded questions, but there are no verbs that that select only embedded topicalisations. This assumption, that C° only acquires a topic feature through verb movement, also accounts for why topics only occur in CP-spec if there is a verb in C°.

Where we thus say that the C° associated with the CP-spec that attracts topics only acquires its topic feature through verb movement, e.g. Julien (2015:146) argues that the topic C° is a normal C° that may also contain first-merged elements like så 'then' in contrastive left dislocations, (49)a:

\[
\text{man ikke kan sige noget pænt,} \\
\text{one not can say anything nice}
\]

However, the fact that e.g. så also occurs in the first position in V2 clauses with no dislocation means that it is a rather unlikely head element, → (49)b. We also hesitate to draw conclusions about the syntax of embedded V2 from contrastive left dislocations, as they are also possible in non-V2 embedded clauses (although we have no account for why this is strongly degraded in Swedish and Norwegian, cf. Johannesen 2014: 407):

\[
\text{Det er en skam at den her artikel den aldrig er blevet udgivet.} \\
\text{It is a shame that this here article it never is been published}
\]

In most Germanic languages (e.g. Danish or English, see also section 2.4 below), embedded V2 is only possible if there is another level above CP, viz. a cP with at/that in c°. It is this higher at/that which prevents extraction from CP-spec (as a kind of that-trace violation, perhaps derived in terms of anti-locality as in Douglas 2017), i.e. (51)d:

\[
\text{(Lego-film-the) said Andrea (that) (Lego-film-the) had Kai already seen}
\]

(51)a,c are both excluded because CPs with a topicalisation must be inside a cP. For some reason, German embedded topicalisation lack this higher that, and they allow extraction via CP-spec, (52)c:

\[
\text{(The Lego-film) has Andrea said (that) (the Lego-film) has Kai already seen}
\]
CP may thus be a phase in German (and perhaps also in Danish and English), irrespective of whether or not it is inside a cP, and then it would follow that CPs are strong islands (cf. Holmberg 1986:111, Müller & Sternefeld 1993: 493ff, Sheehan & Hinzen 2011:444), provided there is no OCC escape hatch for CP, as opposed to the escape hatch to be suggested for cP in section 2.3 below:

(53) Da. a. Sagde Andrea at måske havde Kaj allerede set Lego-filmen?
   b. *Lego-filmen sagde Andrea at måske havde Kaj allerede set __________?
      (Lego-film-the) said Andrea that maybe had Kaj already seen (Lego-film-the)

A different approach that might explain the absence of an escape hatch is to say that embedded V2 clauses are not really embedded at all, but instead there is a radical break/restart at the beginning of an embedded V2 clause, similar to what happens at the beginning of a new main clause (as argued e.g. by Petersson 2014). Then extraction out of an embedded V2 clause like (53)b/(54)b would correctly be ruled out, but this would also incorrectly rule out all other potential links across the edge of embedded V2 clauses (see also Julien 2015:157-159), so that e.g. the following c-command difference should not exist, as co-reference should (incorrectly) be ruled out in both (55)a and (55)b:

(55) Da. a. *Han₁ sagde at [CP den her bog ville Lars₁ aldrig læse.]
   b. Hans₁ mor sagde at [CP den her bog ville Lars₁ aldrig læse.]
      He/His mum said that this here book would Lars never read

Both (55)a,b would be expected to be just as impossible as such links across a main clause boundary:

(56) Da. a. *I går mødte jeg ham₁ i busseen. [CP Lars₁ havde lige købt en paraply.]
   b. I går mødte jeg hans₁ mor i bussen. [CP Lars₁ havde lige købt en paraply.]
      Yesterday met I him/his mum in bus-the Lars had just bought an umbrella

2.3 c° with OCC

(57) c° may have a feature that may cause movement to cP-spec, and such a feature can either be a so-called occurrence-feature or a slightly more standard type feature as e.g. a wh-feature.

Chomsky (2005:18-19) suggests an OCC (“occurrence”) feature, which provides an extra specifier position "without feature matching", i.e. the XP moves into the spec of $c°_{[occ]}$ without itself having an OCC-feature. A $c°_{[occ]}$ thus offers an escape hatch which allows an XP to escape an embedded clause. Only those XPs that move into a cP-spec because of OCC will be able to move on, because they are the only XPs whose feature make up has not been altered/valued/checked as a result of the movement into cP-spec.

$c°_{[occ]}$ may be above another cP, and then the cP-layer headed by a $c°$ carrying an OCC-feature is transparent to selection in the same way as e.g. NegP is in constituent negation (e.g., she ate not the bread but the cake) or quantificational layers (as in she ate all/half the cake), cf. the notion of extended projections, Grimshaw (2005). (Presumably, $c°_{[occ]}$ may also occur inside another cP, and here nothing further would need to be said.)
2.4 \(\text{c}^\circ\) with other features, e.g. \textit{wh}

(58) a. \[ \begin{array}{c}
\text{cP} \\
\text{wh} \\
\text{c}^\circ_{[\text{wh}]} \\
\text{cP/CP/IP} \\
\end{array} \]

b. \[ \begin{array}{c}
\text{cP} \\
\text{OP} \\
\text{c}^\circ_{[\text{OP}]} \\
\text{cP/CP/IP} \\
\end{array} \]

We take the basic distinction between CP and cP to be whether or not there is verb movement into the head, but we want this to go hand in hand with other basic distinctions between the two, e.g. that \(\text{C}^\circ\) is the potential host of the topic feature, whereas \(\text{c}^\circ\) is the relevant/necessary head for the outside context, e.g. as the highest head of embedded questions or of relative clauses ( = in the terms of Rizzi 1997:283, cP is 'facing the outside' whereas CP is 'facing the inside').

In other words, we want to link the difference \(\text{c}^\circ/\text{C}^\circ\) not just to individual features (much like the difference between different heads in the C-domain is linked to features in the cartographic approach, Rizzi 1997, Wiklund et al. 2007, Julien 2015, Holmberg 2015 ...) – but we also want to link the difference to whether or not the head is the landing site of verb movement.

Spec-\(\text{cP}_{[\text{wh}]}\) in (58)a is where the \textit{wh}-phrase in an embedded question occurs, and spec-\(\text{cP}_{[\text{OP}]}\) in (58)b is where we find the empty operator that may occur in e.g. \textit{som}-relative clauses in Danish (and in \textit{that}-relative clauses in English).

It appears that a \textit{wh}-element that has moved into such a spec cannot move on from here:

(59) Da. a. Spurgte Andrea [\(\text{cP}\) hvilken film \(\text{c}^\circ_{[\text{wh}]}\) Kaj allerede havde set]?
b. *Hvilken film spurgte Andrea [\(\text{cP}\) _____ \(\text{c}^\circ_{[\text{wh}]}\) Kaj allerede havde set]?

(Which film) asked Andrea (which film) Kaj already had seen

This may be because the embedded clause in (59)b with an empty spec and an empty \(\text{c}^\circ\) can no longer identified as a \textit{wh}-clause, as is required of an object clause of the verb \textit{ask} (cf. clausal typing, Cheng 1991).

Following Rizzi & Roberts (1989:20), Vikner (1995:50), Grimshaw (1997:412), the reason why there can be no verb movement into \(\text{c}^\circ_{[\text{wh}]}\) is that this would change the properties of the selected head (i.e. \(\text{c}^\circ_{[\text{wh}]}\)), and therefore this head would no longer satisfy the requirements of the selecting matrix expression. In fact, according to McCloskey (2006:103), a head modified in this way (by movement into it) is not an item that could possibly be selected by a higher lexical head (it is not part of the "syntactic lexicon"), which would lead to the prediction that there could not be movement into heads of complements of lexical heads (which may very well be too strong, cf. that it would have consequences for many other cases, e.g. N\(^0\)-to-D\(^0\) movement in Scandinavian would have to be something like N\(^0\)-to-Num\(^0\) movement).

If on the other hand, there is a cP (with the declarative complementiser \textit{at} in \(\text{c}^\circ\)) above the CP in which V2 takes place, then this problem does not arise. The selected clause is a cP, its head is a \(\text{c}^\circ\) containing a complementiser, and the C\(^\circ\) into which there is verb movement is situated lower down inside the cP.

Embedded topicalisation in German might be an exception to the above, as it seems to have embedded V2 into the highest selected complementiser head, see (52)a,c, (54)a above. Perhaps German simply does not allow a cP on the outside of another cP or CP, but only on the outside of an IP. This would also predict that German would allow less island violations than other Germanic languages, a
prediction which is not so easy to check, but which may hold, generally speaking. (However, the questions then remains why embedded V2 would then not simply be impossible in German, or at least as rare as it would seem to be in Dutch.)

Embedded questions in Afrikaans and embedded yes/no-questions in some variants of English (including Irish English) also seem to be exceptions to the above, as they also seem to have embedded V2 into the highest selected complementiser head. However, for these cases, an "invisible" cP above the embedded V2 CP has been suggested, e.g. in McCloskey (2006: 101) and in Biberauer (2015:12-13). As pointed out in McCloskey (2006:90), such structures are not always islands.

(60) IE. a. She asked the stewards \[
\{cP \; c^° \; [c\neg\{WH}\] was any member of the committee in the hall\}].
\textit{from James Joyce, Dubliners, McCloskey (2006:87, (1h))}

b. 'That’s the job \[cP \; OP_{1} \; that \; I \; asked \; her \; \{cP \; t_{1} \; c^° \; [c\neg\{WH}\} \; would \; she \; apply \; for \; t_{1}\}].
\textit{McCloskey (2006:90, (9b))}

Having an "invisible" cP on the outside of a CP might also be a possible analysis for those Danish examples with embedded V2 but not preceded by at which do occur sometimes:

(61) Da. … men jeg vidste \[cP \; c^° \; [CP \; hun \; ville \; ikke \; sige \; det \; til \; min \; far]\].
\textit{… but I knew \textit{\textit{she would not say it to my dad}}}
\textit{Jensen & Christensen (2013;55, (ii))}

2.5 \(c^°\) without features

(62) \[
\begin{array}{c}
\text{at} \\
\text{CP/IP} \\
\end{array}
\]
\text{It is also possible for a } c^° \text{not to have any features, in which case no movement will take place into spec-CP.}  

This is possible both when such a \(c^°\) is the sister of an IP and when it is the sister of a CP - see also (51)b and (29)-(30) above:

(63) Da. a. Sagde Andrea at Kaj allerede havde set Lego-filmen?  
b. Sagde Andrea at Lego-filmen havde Kaj allerede set?  
\textit{Said Andrea that (Lego-film-the) (had) Kaj already (had) seen (Lego-film-the)}

Because such an \(at/that\) has no special features, it may also occur below other complementisers, when these are selected from above, e.g. below a \textit{wh-} or a relative cP-layer. As an extra complementiser, \(at\) is preferred over other complementisers, which have more content:

(64) Da. … \textit{hvis at} det ikke havde været så sorgeligt.
\textit{if that it \textit{not had been so sad}}
\textit{(Tom Kristensen, 1921, cited in Hansen 1967, III: 388, in Vikner 1995:122, (149c), and in Nyvad 2016:368, (10))}
2.6 Predictions concerning extraction

The above suggestions (especially the OCC escape hatch in cP discussed in section 2.3 above) make the prediction that extraction is possible almost everywhere (i.e. except topic islands), which is much more general than usually assumed (including in Vikner 1995). However, it turns out that such unexpectedly acceptable examples include extractions from relative clauses:

(65) Da. a. Pia har engang mødt en pensionist som havde sådan en hund.
"Pia has once met a pensioner that had such a dog"

b. Sådan en hund har Pia engang mødt ...
"Such a dog has Pia once met"

\[
\begin{align*}
\text{[DP en [SP pensionist ] [cP __1 c°[OCC] [cP OP2 [c° som ] [IP __2 havde __1.]]]} \\
\text{a pensioner that had}
\end{align*}
\]
(Christensen & Nyvad 2014:35, (13c,d))

... and extractions from embedded questions (wh-islands):

(66) Da. a. Hvilken båd foreslog naboen ...
"Which boat suggested neighbour -the"

\[
\begin{align*}
\text{[cP __1 c°[OCC] [cP hvor billig2 c°[WH] [IP vi skulle sælge __1 __2?]]}
\end{align*}
\]
how cheaply we should sell

b. Hvor billig2 foreslog naboen ...
"How cheaply suggested neighbour -the"

\[
\begin{align*}
\text{[cP __2 c°[OCC] [cP hvilken båd1 c°[WH] [IP vi skulle sælge __1 __2?]]}
\end{align*}
\]
which boat we should sell

(Christensen, Kizach & Nyvad 2013a:63)

(67) Da. Om morgenen skulle jeg give dem medicinen, noget brunt stads, ...
"In morning-the should I give them medicine-the, some brown stuff,

\[
\begin{align*}
\text{[cP OP1 som [IP jeg ikke ved [cP __1 c°[OCC] [cP hvad2 c°[WH] [IP __1 var __2.]]]]}
\end{align*}
\]
that I not know what was


... as well as extractions from adverbial clauses:

(68) Da. ... men det bliver han så vred ...
"but that becomes he so angry when one says"

\[
\begin{align*}
\text{[cP __1 c°[OCC] [cP OP [c° når] [IP man siger __1.]]]
\end{align*}
\]
(Knud Poulsen, 1918, cited in Hansen 1967, I: 110)
3. Conclusions

Where section 1 described V2 in its many different forms, section 2 attempted to derive the properties of the left periphery, based on a simplified cP-CP version of the whole CP-complex. In this way, we attempted to unify a whole range of different phenomena related to extraction and embedding, while acknowledging that extraction in Danish is considerably less restricted than has often been assumed.

We have tried to give a unified account of a wide range of phenomena to do with clausal embedding and with extraction in Danish based on the idea of CP-recursion. As pointed out by Johnson & Vikner (1994), a CP-recursion analysis does not differ crucially from analyses where there is another functional projection between the CP-layer and the IP-layer. Based on the data presented here, one or more functional projections are needed between the topmost XP and the IP in the embedded clause, because the two alternatives, having multiple specifiers or abandoning the notion of successive-cyclic movement, are empirically problematic: Assuming multiple specifiers (to the exclusion of CP-recursion) would not provide targets for the movement of the subject/topic and the finite verb in embedded V2 structures in Danish, and without the assumption of CP-recursion, the positions of the base-generated heads in complementiser stacking would remain unaccounted for. Also, note that even a theory without the OCC-feature and without successive-cyclic movement would still require one or more head positions between the topmost XP and IP, due to the option of stacking complementisers, (64), and of having embedded V2 under a complementiser, (51)b.

The CP-recursion that takes place in syntactic environments involving movement out of certain types of embedded clauses seems to be fundamentally different from that occurring in embedded V2 contexts, which is why we propose a cP/CP distinction: The CP-recursion found e.g. in complementiser stacking and in long extractions requiring an OCC-feature involves a recursion of cP, (69)a, whereas the syntactic island constituted by embedded V2 involves the presence of a CP, (69)b.

The exact structure of CP-recursion may be subject to parametric variation: German does not seem to allow CP-recursion given that extraction from embedded wh-questions is ungrammatical irrespective of which function the extracted element has (unless it moves via spec-CP, (52)c), and given that embedded V2 is in complementary distribution with the presence of an overt complementiser in C°.

Whether a cartographic approach to the structure of the CP-domain in the Scandinavian languages will turn out to be more appropriate than a CP-recursion analysis (Rizzi 1997, Wiklund et al. 2007, Julien 2015, Holmberg 2015 ...), we will leave for future research to decide. Until we have data that support a fine-grained left periphery in the relevant structures in Danish, the version of of CP-recursion as argued for here would appear promising, as it captures the data presented here while making perhaps slightly less stipulations than e.g. the cartographic approach or the multiple specifier analysis.
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