

Conditions on fronting*

Line Mikkelsen, UC Berkeley

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1 Introduction

- Danish VP anaphor *det* (3sg neuter pronoun, glossed DET)

(1) Broccoli indeholder masser af C-vitamin og [**det** gør spinat også].
broccoli contains lots of c-vitamin and DET does spinach also
Broccoli contains lots of vitamin C and spinach does too.

– licensed by finite auxiliary, including special support aux *gøre* ‘do’ (Houser et al. 2006)

- general purpose VP anaphor in the language:
 - used in wide range of syntactic contexts: main and subordinate clauses, finite and non-finite clauses, declaratives, interrogatives, conditionals
 - no restrictions on semantics of antecedent
 - used frequently and in all registers
- interacts with verb second:
 - VP anaphor *det* may front to clause-initial position (as in (1))
 - finite auxiliary licenser in “second position”, immediately after **det**

Goals of this talk

1. examine the empirical conditions under which *det* fronts
2. sketch a feature-driven analysis of *det*-fronting
3. assess the empirical success of this analysis
4. identify the challenges posed by *det*-fronting for any feature-driven approach

*This talk is based on joint work with Michael Houser, Ange Strom-Weber, and Maziar Toosarvandani on the Danish Verb Phrase Anaphora project (<http://linguistics.berkeley.edu/~danish/>). The grammatical examples are mostly culled from corpora and other texts. In the glosses DEF = definite, DET = VP anaphor, DPTC = discourse particle, INF = infinitive, PL = plural, PRES = present, and REFL = reflexive.

Main claims

1. *det*-fronting within a host clause H is obligatory, unless¹
 - (a) H is not verb-second, OR
 - (b) H contains another frontable element with greater priority than *det* OR
 - (c) *det*-fronting results in a violation of the Backwards Anaphora Constraint (BAC)
2. conditions (a) and (b) are part of general V2 pattern; condition (c) is specific to *det*
3. feature-driven analysis can account for:
 - *det*-fronting being obligatory when possible
 - lack of *det*-fronting in non-verb-second clauses (condition a)
 - lack of *det*-fronting in the co-presence of elements with higher priority (condition b)
4. feature-driven analysis can not account for lack of BAC-inducing *det*-fronting (condition c)

2 Obligatory fronting and feature-driven movement

In basic declarative main clauses, *det* obligatorily fronts to clause-initial position (Vikner 1988:11):²

- (2) Broccoli indeholder masser af C-vitamin og ...
broccoli contain.PRES lots of c-vitamin and
Broccoli contains lots of vitamin C and ...

a. **det** gør spinat også.
DET do.PRES spinach also

[= (1)]

b. *spinat gør også **det**.
spinach also does DET

... *spinach does too*.

- (3) Han siger han kan hækle, men ...
he says he can crochet but
He says that he can crochet, but ...

a. **det** kan han ikke.
DET can he not

b. *han kan ikke **det**.
han can not DET

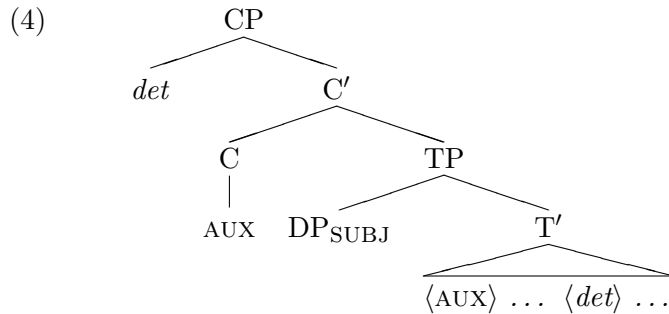
... *he can't*

¹There are other conditions to be added to this list, including lack of *det*-fronting out of a TP or vP conjunct, but here I focus on the three below.

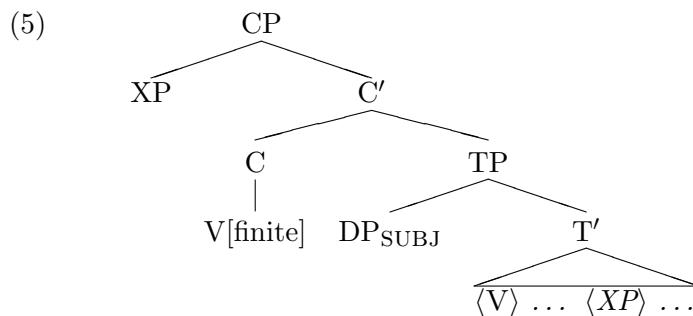
²In (2) and (3), there is a third position to consider for *det*, namely before the adverbial *også* and the negation *ikke*, respectively. This is the position of object-shifted pronominal objects. In certain instances of VP anaphora, *det* can occupy this position (see e.g. (21a)), though not in (2) or (3). For the purposes of this talk, I will not distinguish the object-shifted position from the non-shifted position, but simply refer to both as in situ or non-fronted positions.

Structural interpretation

- fronted *det* in Spec-CP
- finite auxiliary in C
- subject in Spec-TP



- (4) instantiates general verb second structure, found in main clauses (den Besten 1983, Travis 1984, Vikner 1995, Zwart 1997, Platzack 2000, Brandner 2004, Zwart (2005) and others)



- $XP \in \{\text{wh-phras e, adverbial (adverb, PP, CP), yes/no Q-operator, direct object, indirect object, subject, CP-argument, PP-argument, object of P, non-finite VP, VP proform (det), predicate complement} \dots \}$

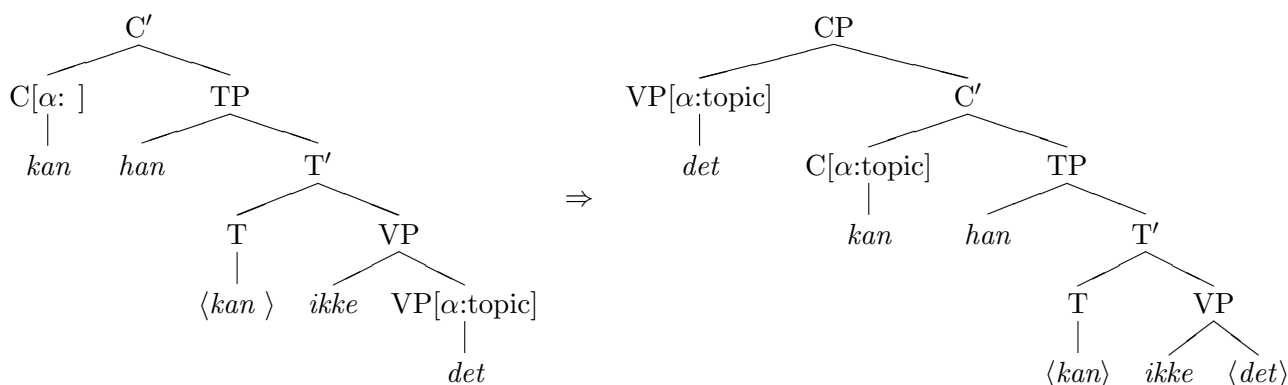
Analytical challenge exactly one XP must precede C and it must be “the right one”:

- (6)
- Hvem** gav du nøglerne til?
 who gave you keys.DEF to
Who did you give the keys to?
 - Nøglerne** gav jeg til Astrid.
 keys.DEF gave I to Astrid
The keys I gave to Astrid.
 - ***Hvem nøglerne** gav du til?
 who keys.DEF gave you to
 - ***Nøglerne hvem** gav du til?
 keys.DEF who gave you to
 - ***Nøglerne** gav du til **hvem**?
 keys.DEF gave you to who

Sketch of feature-driven analysis

- C hosts an unvalued feature, α , that
 - requires the specifier of C to be filled: EPP/strength
 - restricts the range of elements that can fill Spec-CP: legitimate values for α include wh, Q, (non-contrastive) topic, contrastive topic (CT) and focus (see Diderichsen 1966, Jørgensen 2000, Heltoft 2003)
 - among several candidates for Spec-CP, selects the appropriate one
- XP bears a legitimately valued α feature
 - VP *det* bears [α :topic] (Houser et al. 2007)
 - wh-elements bear [α :wh]
 - S, DO, IO etc may carry [α :topic] (default for S) or [α :CT] or [α :focus]
 - yes/no Q operator carries [α :Q]
 - certain adverbials (may) carry legitimately valued α feature
- mechanics:
 - unvalued features must be valued in the course of the derivation
 - valued features impose no requirements
 - a strong/EPP-laden feature must be valued locally (sisterhood or Spec-head relation)
- deriving *det*-fronting in (7a) (= (3a)):

- (7) Han siger han kan hække, men ...
 he says he can crochet but
He says that he can crochet, but ...
- a. **det** kan han ikke.
 DET can he not



- why is *det*-fronting obligatory in (2) & (3)?
- [α :] on C must be valued and only *det* bears (legitimately valued) α feature

3 Three cases of *det* in situ

While *det*-fronting is obligatory in basic main clauses, there are at least three environments in which *det* is not fronted (contra Vikner 1988:11):

- First two conditions (a and b) are shared by other frontable elements and part of V2 pattern
- Third condition (condition c) is not part of V2, but due to anaphoric status of *det*

3.1 Condition a: non-V2 clauses

det-fronting is impossible in non-V2 clauses, including:

- non-finite complement and adjunct clauses:

- (8) Kriminalassistenten ved, at kvinden taler dansk, og beder hende flere gange om
 police.assistant.DEF knows that woman.DEF speaks Danish and asks her several times about
The police officer knows that the woman speaks Danish and several times asks her . . .

- a. ***det** at gøre.
 DET to do
- b. at gøre **det**.
 to do DET

to do so

[complement clause]

- (9) Vi kendte deres position og tog ud for at befri dem.
 we knew their position and went out for to liberate them
We knew their position and went out (in order) to liberate them.

- a. ***[Det for at kunne gøre]**, bevægede vi os lige ind i bagholdet.
 DET for to can.INF do moved we us directly into ambush.DEF
- b. **[For at kunne gøre det]**, . . .
 for to can.INF do DET

(In order) to do so/that, we moved directly into the ambush.

[purpose clause]

- finite adjunct clauses:³

- (10) Man ved ikke hvordan det er at få børn
 one knows not how it is to have children
One doesn't know what it's like to have children

- a. ***det** før man gør.
 DET until one does
- b. før man gør **det**.
 until one does DET

until one does.

[temporal clause]

³In (10)–(12), *det*-fronting could result in four different word orders, depending on i) whether the initial element (i.e. temporal *før* ‘until’, conditional *hvis* ‘if’, and comparative *ligesom* ‘as’) is analyzed as C or some higher head, and ii) whether *det*-fronting is assumed to trigger V2. All four orders are consistently ungrammatical. For ease of exposition, I only give one fronted version for each examples, the one where the initial element is treated as C and where there is no V2.

(also antecedent of conditional (11), *as*-clause (12), relative clause, reason clause, and concessive clause)

- (11) Den amerikanske antikrigsbevægelse tør ikke kritisere udsendte soldater i Afghanistan
 the American anti.war.movement dare.PRES not criticize out.sent soldiers in Afghanistan
 og Irak.
 and Iraq

The US anti-war movement doesn't dare criticize soldiers stationed in Afghanistan and Iraq.

- a. ***[Det** hvis de gør], bliver de stemplet som upatriotiske af højrefløjen.
 DET if they do become they stamped as unpatriotic by right.flank.DEF

- b. [Hvis de gør **det**], ...
 if they do DET

[If they do], they are labelled as unpatriotic by the conservatives. [antecedent of conditional]

- (12) Die Linkspartei ... burde have været forbudt
 Die Linkspartei ought have been forbidden
 Die Linkspartei *ought to have been illegalized*

- a. ***det** ligesom nazistpartiet blev efter Anden Verdenskrig.
 DET as nazi.party.DET became after second world.war

- b. ligesom nazistpartiet blev **det** efter Anden Verdenskrig.
 as nazi.party.DET became DET after second world.war

as the nazi party was after World War Two.

[*As*-clause]

Question How can we tell that these clauses are non-V2 independently of *det*-fronting?

- V2 → medial adverbs follow finite V:

- (13) Man (*faktisk) får **faktisk** børn.
 one actually has actually children.
One actually has children.

- non-V2 → medial adverbs precede finite V:

- (14) a. ... før man **faktisk** får (*faktisk) børn.
 before one actually has (actually) children
 ... *before one actually has children.*
 b. ... før man **faktisk** gør (*faktisk) det.
 before one actually does actually DET
 ... *before one actually does.*

Finite complement clauses if embedding predicate allows V2 (Iatridou and Kroch 1992), alternation between V2 with *det*-fronting (15a) and non-V2 without *det*-fronting (15b):

- (15) Adel forpligter og der er noget der tyder på at ...
 nobility commits and there is something that indicate on that

- a. **det** gør en titel som cand.oecon også.
 DET does a title as MBA also

- b. en titel som cand.oecon også gør **det**
 a title as MBA also does DET
- c. ***det** en titel som cand.oecon også gør
 DET a title as MBA also does

Generalization *det*-fronting is impossible in non-V2 clauses.

Analytical proposal the C in non-V2 clauses does not contain [α :], hence no trigger for *det*-fronting⁴

- valued features impose no requirements on the syntactic derivation \rightarrow *det* can remain in situ and be interpreted there.

3.2 Condition b: competing elements

A second class of *det* in situ are made up of V2 clauses where another element occupies Spec-CP:

- wh-phrase in Spec-CP

(16) Jeg kan ikke hækle, men
 I can not crochet but who
I can't crochet, but

- a. **hvem** kan egentlig **det** nu om dage?
 who can actually DET now about days
- b. ***det** kan **hvem** egentligt nu om dage.
 DET can who actually now about days

who actually can these days?

- (17) a. [Sampson] "... Selv vores historie er kompliceret. Kender De til den?"
 even our history is complicated. Know you to it?
Even our history is complicated. Do you know about it?
- b. [Toftlund] "Ikke synderligt."
 not particularly
- c. [Sampson] "Næh, **hvorfor** skulle De også **det**?" sagde han og fortsatte: "...
 Well, why should you also DET said he and continued
 'Why should you, he said and continued ...'
- d. *"Næh, **det** skulle De også **hvorfor**?" sagde han og fortsatte: "...
 Well, DET should you also WHY said he and continued
 'Why should you, he said and continued ...'

⁴For some of the non-finite clauses, there might not be a C at all, which would also entail that there is no [α :].

- Q-operator in Spec-CP

(18) Han spørger om Dan har hentet bilen.
 he ask.PRES whether Dan has fetched car.DEF
He asks whether Dan has picked up the car.

- a. Har han **det**?
 has he DET
- b. ***Det** har han?
 DET has he.

Has he?

- contrastive topic subject in Spec-CP:

(19) En del af dem klarer sig, ...
 a part of them deal.with REFL
Some of them survive, ...'

- a. andre gør **det** ikke.
 others do DET not
- b. ?**det** gør andre ikke.
 DET does others not

- (“epistemic”??) adverb in Spec-CP:

(20) Ved I hvor det ligger?
 know you.PL where it lies
Do you know where it is?

- a. Selvfølgelig gør vi **det**.
 of.course do we DET
- b. ??**Det** gør vi selvfølgelig
 DET do we of.course

Of course we do.

(also *måske* ‘perhaps’)

- “connective” PP in Spec-CP:

(21) I min generation er vi opdraget til at mene at vi lever i den bedste af alle
 in my generation be.PRES we raised to to believe that we live.PRES in the best of all
 verdener, og ...
 worlds and

In my generation we are raised to believe that we live in the best of all possible worlds and ...

- a. ud fra de alternativer der findes, gør vi **det** nok også.
 out from the alternatives that exist.PRES do we DET probably also
- b. ?**det** gør vi nok også, ud fra de alternativer der findes
 DET do we probably also out from the alternatives that exist.PRES

compared with the existing alternatives, we probably do.

Generalization wh-elements, polar Q operator, contrastive subjects, certain adverbials and PPs take priority over *det* for fronting to Spec-CP.

Two analytical possibilities

- Product of independently motivated principles and assumptions (Houser et al. 2007):
 - Merge over Move:
 - * polar Q operator is first-Merged in Spec-CP and hence preempts Move of *det*[α :topic]
 - * when bearing a valued α feature, adverbs and PPs may be first-Merged in Spec-CP preempting Move of *det*[α :topic]⁵
 - * *hvorfor* ‘why’ is first-Merged in Spec-CP and hence preempts Move of *det*[α :topic]
 - Locality (attract closest goal):
 - * subject DP with [α :wh] or [α :CT] is closer to C than *det*[α :topic]
- Result of feature ranking + new principle:
 - possible values for α are ranked: wh, Q > CT, focus, ... > topic
 - BEST α -VALUE PRINCIPLE: when α is a probe, attract the goal with the highest-ranked α -value

3.3 Condition c: BAC violation

Det stays in situ when fronting it would result in *det* preceding and commanding its antecedent.

Case 1 Antecedent of *det* inside subject (below)

Case 2 Antecedent of *det* inside antecedent clause of conditional (appendix)

- If antecedent of *det* is in a relative clause contained inside the subject, *det* cannot front:

(22) [_{DP} De, der ikke er interesset i at [afsløre den slags oplysninger]_i], vil jo bare ikke
 they who not be.PRES interested in to reveal that kind information.PL will DPTC just not
 gøre **det**_i.
 do DET

The people who are not interested in revealing that kind of information just wouldn't do so.

(23) ***Det**_i vil [_{DP} de, der ikke er interesset i at [afsløre den slags oplysninger]_i], jo bare
 DET will they who not be.PRES interested in to reveal that kind information DPTC just
 ikke gøre.
 not do

- if we have a different antecedent for *det*, fronting is possible

(24) Nogle [klager over behandlingen]_i, men **det**_i vil de, der ikke er interesset i at [afsløre
 Some complain about treatment.DEF but DET will they who not be.PRES interested in to reveal
 den slags oplysninger] jo bare ikke gøre.
 that kind information DPTC just not do
*Some people complain about the treatment, but those who are not interested in revealing that
 kind of information just wouldn't do so [= complain about the treatment].*

⁵If we assume that these adverbs and PPs may also Merge earlier in the derivation (i.e. lower in the structure) we might be able to account for the (marginal) possibility of *det*-fronting with the adverb or PP surfacing in a lower position.

→ the presence of a relative clause inside the subject does not preempt *det*-fronting

→ *det* may be fronted across a potential antecedent (that is, across a VP)

• if we have an identical antecedent in a different structural position, fronting is also possible:

- (25) Nogle [afslører den slags oplysninger]_i, men **det**_i vil de, der ikke er interesseret i at
Some reveal that kind information but DET will they who not be.PRES interested in to
[afsløre den slags oplysninger] jo bare ikke gøre.
reveal that kind information DPTC just not do
*Some people reveal that kind of information, but those who are not interested in revealing that
kind of information just wouldn't do so [= reveal that kind of information].*

→ if there is a BAC-compliant antecedent available, *det*-fronting is possible

→ there is no equivalent of Principle C for VPs:

- (26) a. *She_i likes Sally_i [cf. (23)]
b. *I met Sally_i and she_i likes Sally_i. [cf. (25)]

→ the ungrammaticality of (23) is due to the lack of an accessible antecedent for *det*, not due to a version of Principle C for non-pronominalized VPs (Sag 1976:346ff, Johnson 2001:448–9).

Generalization *det* stays in situ when fronting would result in a BAC violation

Analytical challenge To derive (22), we need to either

1. prevent *det*[α :topic] from valuing [α :] on C, OR
2. let *det*[α :topic] value [α :] on C, but prevent Move of *det* to Spec-CP.

Option 1 Could we appeal to subject being CT in (22) and thereby preempting *det*-fronting? We could, but we would then have to say that the lexically and syntactically identical subjects in (24) and (25) are not CT.

Option 2 If *det* can value [α :] on C non-locally in (22), why can't it do so everywhere?

- (27) Broccoli indeholder masser af C-vitamin og ...
broccoli contain.PRES lots of c-vitamin and
Broccoli contains lots of vitamin C and ...
- a. **det** gør spinat også. [= (1)]
DET do.PRES spinach also
- b. *spinat gør også **det**.
spinach also does DET
- ... *spinach does too.*

4 Conclusion

- *det* is both a frontable XP for V2 and an anaphor, and hence subject to general restrictions on both.
- difficult to capture both kinds of restrictions within a single analysis
- feature-driven analysis deals reasonably well with conditions a and b, but not condition c
- OT analysis could potentially account for conditions b and c – and for their interaction! – but condition a becomes mysterious
- Next steps:
 - feature-driven analyses of other look-ahead phenomena
 - better understanding of conditions a and b → better understanding of general V2 phenomena

Appendix: Another case of BAC-governed *det* in situ

If *det* is in consequent of conditional and the antecedent of *det* is inside antecedent of conditional, then *det* cannot front:

(28) ... og hvis den slags [bryder sammen]_i, gør samfundet **det**_i også
and if that kind break.PRES together does community.DEF also
... and if those kinds of things (= public restroom and sewage systems) break down, the community does too.

(29) *og **det**_i gør samfundet også, hvis den slags [bryder sammen]_i
and DET does community.DEF also if that kind break.PRES together

- again, if we have a different antecedent for *det*, fronting is possible

(30) Menneskene [forsvinder]_i og **det**_i gør samfundet også, hvis den slags [bryder sammen]_i
people.DEF disappear and DET does community.DEF also if that kind break.PRES together
The people disappear and the community does too if those kinds of things (= public restroom and sewage systems) break down.

- finally, if we have an identical antecedent in a different structural position, fronting is also possible, showing that this is a matter of providing an accessible antecedent for *det*, as opposed to an analogue of Principle C for VPs (cf. Sag and Johnson)

(31) Infrastrukturen [bryder sammen]_i og **det**_i gør samfundet også, hvis andre ting
infra.structure.DEF break.PRES together and DET does community.DEF also if other things
bryder sammen.
break.PRES together.
The infrastructure breaks down and the community does too if other things break down.

Comparing the two cases

- in the conditional case, *det* competes with the *if*-clause for Spec-CP, hence fronting of *det* forces the *if*-clause to occur to the right of the consequent.
- in the relative clause case, the subject can remain in Spec-TP leaving Spec-CP free for *det*, hence no further reordering is required.

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