

# Conditions on fronting\*

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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

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\*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, unless<sup>1</sup>
  - (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):<sup>2</sup>

- (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. [= (1)]  
DET do.PRES spinach also

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*

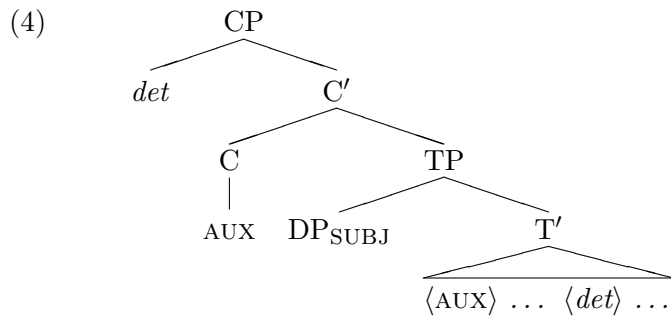
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<sup>1</sup>There are other conditions to be added to this list, including lack of *det*-fronting out of a TP or vP conjunct, but here I focus on the three below.

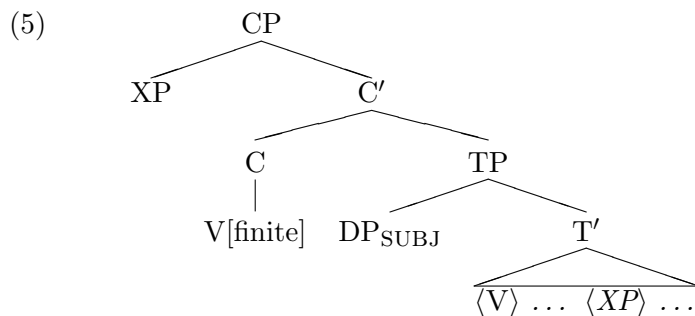
<sup>2</sup>In (2) and (3), there is a third position to consider for *det*, namely before the adverbial *også* and the negation *ikke*, respectively. This is the position of object-shifted pronominal objects. In certain instances of VP anaphora, *det* can occupy this position (see e.g. (21a)), though 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)



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

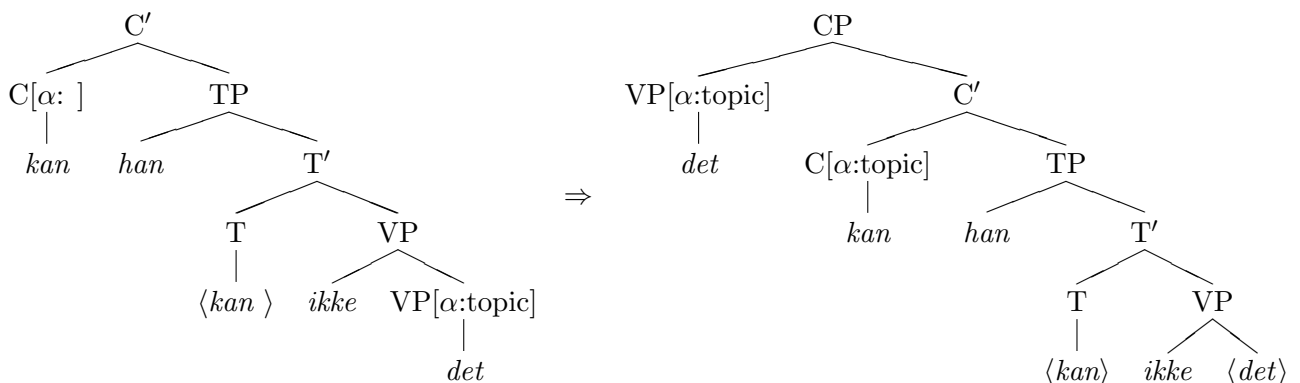
**Analytical challenge** exactly one XP must precede C and it must be “the right one”:

- (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,  $\alpha$ , that
  - requires the specifier of C to be filled: EPP/strength
  - restricts the range of elements that can fill Spec-CP: legitimate values for  $\alpha$  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  $\alpha$  feature
  - VP *det* bears [ $\alpha$ :topic] (Houser et al. 2007)
  - wh-elements bear [ $\alpha$ :wh]
  - S, DO, IO etc may carry [ $\alpha$ :topic] (default for S) or [ $\alpha$ :CT] or [ $\alpha$ :focus]
  - yes/no Q operator carries [ $\alpha$ :Q]
  - certain adverbials (may) carry legitimately valued  $\alpha$  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 hækle, 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)?
- [ $\alpha$ : ] on C must be valued and only *det* bears (legitimately valued)  $\alpha$  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:<sup>3</sup>

- (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]

<sup>3</sup>In (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 [ $\alpha$ : ], hence no trigger for *det*-fronting<sup>4</sup>

- 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 ...'

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<sup>4</sup>For some of the non-finite clauses, there might not be a C at all, which would also entail that there is no [ $\alpha$ : ].

- 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*[ $\alpha$ :topic]
    - \* when bearing a valued  $\alpha$  feature, adverbs and PPs may be first-Merged in Spec-CP preempting Move of *det*[ $\alpha$ :topic]<sup>5</sup>
    - \* *hvorfor* ‘why’ is first-Merged in Spec-CP and hence preempts Move of *det*[ $\alpha$ :topic]
  - Locality (attract closest goal):
    - \* subject DP with [ $\alpha$ :wh] or [ $\alpha$ :CT] is closer to C than *det*[ $\alpha$ :topic]
- Result of feature ranking + new principle:
  - possible values for  $\alpha$  are ranked: wh, Q > CT, focus, ... > topic
  - BEST  $\alpha$ -VALUE PRINCIPLE: when  $\alpha$  is a probe, attract the goal with the highest-ranked  $\alpha$ -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) [<sub>DP</sub> De, der ikke er interesset i at [afsløre den slags oplysninger]<sub>i</sub>], vil jo bare ikke  
 they who not be.PRES interested in to reveal that kind information.PL will DPTC just not  
 gøre **det**<sub>i</sub>.  
 do DET

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

(23) \***Det**<sub>i</sub> vil [<sub>DP</sub> de, der ikke er interesset i at [afsløre den slags oplysninger]<sub>i</sub>], 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]<sub>i</sub>, men **det**<sub>i</sub> 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].*

<sup>5</sup>If 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]<sub>i</sub>, men **det**<sub>i</sub> 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<sub>i</sub> likes Sally<sub>i</sub> [cf. (23)]  
b. \*I met Sally<sub>i</sub> and she<sub>i</sub> likes Sally<sub>i</sub>. [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*[ $\alpha$ :topic] from valuing [ $\alpha$ : ] on C, OR
2. let *det*[ $\alpha$ :topic] value [ $\alpha$ : ] 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 [ $\alpha$ : ] 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]<sub>i</sub>, gør samfundet **det**<sub>i</sub> 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**<sub>i</sub> gør samfundet også, hvis den slags [bryder sammen]<sub>i</sub>  
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]<sub>i</sub> og **det**<sub>i</sub> gør samfundet også, hvis den slags [bryder sammen]<sub>i</sub>  
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]<sub>i</sub> og **det**<sub>i</sub> 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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